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# INTERNATIONAL MARITIME SATELLITE

GOVERNMENT DOCUMENTS

# TELECOMMUNICATIONS

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## HEARING

BEFORE THE

SUBCOMMITTEE ON COMMUNICATIONS

OF THE

COMMITTEE ON COMMERCE,  
SCIENCE, AND TRANSPORTATION

UNITED STATES SENATE

NINETY-FIFTH CONGRESS

SECOND SESSION

ON

S. 2211

TO PROVIDE FOR THE ESTABLISHMENT, OWNERSHIP, OPERATION, AND GOVERNMENT OVERSIGHT AND REGULATION OF INTERNATIONAL MARITIME MOBILE SATELLITE TELECOMMUNICATIONS SERVICES, AND FOR OTHER PURPOSES

H.R. 11209

TO PROVIDE FOR THE ESTABLISHMENT, OWNERSHIP, OPERATION, AND GOVERNMENTAL OVERSIGHT AND REGULATION OF INTERNATIONAL MARITIME SATELLITE TELECOMMUNICATIONS SERVICES

MAY 8, 1978

Serial No. 95-99

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# INTERNATIONAL MARITIME SATELLITE TELECOMMUNICATIONS

MONDAY, MAY 8, 1978

U.S. SENATE,  
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,  
SUBCOMMITTEE ON COMMUNICATIONS,  
*Washington, D.C.*

The subcommittee met at 10:05 a.m. in room 235, Russell Senate Office Building, Hon. Ernest F. Hollings (chairman of the subcommittee) presiding.

## OPENING STATEMENT BY SENATOR HOLLINGS

Senator HOLLINGS. Today we will consider H.R. 11209, S. 2211, and the Senate staff working draft, all of which relate to U.S. participation in International Maritime Satellite Organization. The principal question to be addressed this morning is what should be done, or what should be the nature of U.S. involvement in the International Maritime Satellite Organization; what entity should represent the United States in such an international organization; how this U.S. representative should inter-relate with other Government communications entities; and what role governmental agencies should have in oversight and regulation over the U.S. representative entity.

Senator Inouye, who is a member of this subcommittee and also Chairman of the Merchant Marine Subcommittee, could not be here, but asked that a letter be read into the record of this hearing. It is addressed to the committee on May 4.

"DEAR CHAIRMAN HOLLINGS: I wish to commend you for scheduling hearings on legislation to provide for the establishment, ownership, operation, and governmental oversight and regulation of international maritime satellite telecommunications services. I regret that a previous commitment in my state of Hawaii prevents me from participating in the hearings today. Be assured, however, of my interest, support, and cooperation as the Subcommittee considers this most important matter.

"As a member of the Subcommittee on Communications I share your concern over such issues as insuring full and fair competition in the provision of service to users, while retaining incentives for private capital investment in the designated U.S. entity in Inmarsat.

"As Chairman of the Subcommittee on Merchant Marine and Tourism, I am especially concerned with the effect a satellite system will have on the maritime community. Specifically, I am interested in improving distress and safety of life at sea communications, efficiency in management of ships, maritime public correspondence services, and radio-determination capabilities.

"I understand that H.R. 11209 is one of the legislative proposals which the

Subcommittee will consider. Among other things, at the initiative of the House Subcommittee, that bill would amend section 222 of the Communications Act of 1934, as amended, for the limited purpose of achieving the objectives of H.R. 11209.

"I am especially puzzled by the House Subcommittee's action in this regard, inasmuch as the Chairman of that Subcommittee has refused to consider legislation, which twice passed the Senate during the past year, to amend section 222 for the limited purpose of assuring that the people of Hawaii are treated equally with their fellow Americans for purposes of sending and receiving domestic record telecommunications. As the reason for his refusal, Chairman Van Deerlin in a letter to me stated that:

"This bizarre result is one example of the problems we invite by dealing with complex communications policy in piecemeal fashion. An immediate crisis is patched over, while the larger problem is made worse.

"It seems to us on the House Subcommittee that we must deal with this and other communications problems comprehensively rather than try meeting them in fits and starts."

"In response to my request for comments on his letter, both the Chairman of the FCC and learned counsel for the state of Hawaii, Rosel Hyde, replied that the reasons given by Chairman Van Deerlin in his letter were without foundation in fact or law.

"I raise the matter at this time because H.R. 11209 is one of the measures we are considering, and Chairman Van Deerlin's apparent inconsistent attitude regarding section 222 of the Communications Act, makes it difficult for me to understand completely the ramifications and impact of H.R. 11209.

DANIEL K. INOUE,

*Chairman of the Subcommittee on Merchant Marine and Tourism.*

Senator HOLLINGS. Senator Stevens could not make it either and he has asked to have his statement included in the record.

[The statement follows:]

STATEMENT OF HON. TED STEVENS, U.S. SENATOR FROM ALASKA

Mr. Chairman, I appreciate the opportunity to hear from those interested in the Inmarsat legislation. I have closely followed the progress of Inmarsat for years and participated in one of its preparatory conferences in London. I very much support the existence and operation of Inmarsat and feel we in Congress must quickly pass legislation designating a United States participant to Inmarsat. Because other nations have already signed the Convention agreements, they have a jump on us in the planning stages. We must act now.

In addition, Alaska is particularly concerned with the outcome of this legislation. Due to the remoteness of many areas of the state, all types of communications are critical to her. But, maritime communications is particularly important. Alaska has more miles of coastline than the combined total of the continental United States. Thus, much of Alaska's industry is based on maritime activities. Better communications will greatly benefit such activities.

Mr. Chairman, I look forward with great interest to hear from our witnesses today and to subsequently report out legislation designating United States' participation in Inmarsat.

[The bills and agency comments follow:]



1 with other countries, to participate in the International Mari-  
2 time Satellite Organization (INMARSAT) whose purpose is  
3 to make provisions for the space segment necessary for im-  
4 proving maritime telecommunications and safty services.

5 (b) It is the intent of Congress that United States partici-  
6 pation in the International Maritime Satellite Organiza-  
7 tion (INMARSAT) shall be in the form of a designated pri-  
8 vate entity, subject to appropriate governmental oversight  
9 and regulation.

10 (c) It is the further intent of Congress that there shall  
11 be competition among United States common carriers in  
12 the provision of international maritime mobile satellite tele-  
13 communications services to the users.

14 DEFINITIONS

15 SEC. 3. (a) As used in this Act, and unless the con-  
16 text otherwise requires—

17 (1) the term "Commission" means the Federal  
18 Communications Commission;

19 (2) the term "common carrier" has the meaning  
20 as defined in the Communications Act of 1934, as  
21 amended; and

22 (3) the term "corporation" means the designated  
23 private entity authorized by section 5 (a) of this Act.

24 (b) Terms not defined by this Act shall have the def-  
25 initions found in chapter 1, article 1, of the Radio Regu-

1 lations of the International Telecommunication Union (1976  
2 edition).

3 IMPLEMENTATION OF POLICY

4 SEC. 4. In order to achieve the objectives and to carry  
5 out the purpose of this Act—

6 (a) the President shall—

7 (1) aid in the planning and development of  
8 the INMARSAT system and services which are  
9 developed pursuant to the Convention on the Inter-  
10 national Maritime Satellite Organization;

11 (2) establish machinery to provide for the con-  
12 tinuing review of the development and operation of  
13 the INMARSAT system and services and for is-  
14 suance of instructions and guidance to the Corpora-  
15 tion as to action to be taken in the INMARSAT  
16 Council on those matters where the United States  
17 Government has operating, statutory, policy, or  
18 other national or international interests;

19 (3) exercise such supervision over relation-  
20 ships and activities of the corporation with foreign  
21 governments or entities and with international or-  
22 ganizations as may be necessary to assure that such  
23 relationships and activities are consistent with the  
24 national interest and foreign policy of the United  
25 States;

1           (4) take all necessary steps to insure the avail-  
2           ability and appropriate utilization of INMARSAT  
3           telecommunications services for general govern-  
4           mental purposes, except where a separate system  
5           is required to meet unique governmental needs, or  
6           is otherwise required in the national interest;

7           (5) so exercise his authority as to help obtain  
8           coordinated and efficient use of the electromagnetic  
9           spectrum and orbital space and to assure the tech-  
10          nical compatibility of the INMARSAT space seg-  
11          ment with existing communications facilities both  
12          in the United States and abroad; and

13          (6) have, with respect to the corporation, as  
14          though it were a common carrier, all the powers  
15          and duties conferred on him by the war powers  
16          section of the Communications Act of 1934, as  
17          amended (47 U.S.C. 606);

18          (b) the Federal Communications Commission shall  
19          have, with respect to the corporation and noncarrier  
20          entities as may be authorized in accordance with sub-  
21          section 5(f) of this Act, as though they were common  
22          carriers, and such common carriers as may be authorized  
23          in accordance with subsection 5(e) of this Act, all the  
24          powers and duties conferred on it by the provisions of  
25          the Communications Act of 1934, as amended. When-



1 shares of stock in the corporation, upon a finding that such  
2 ownership will be consistent with the public convenience,  
3 interest, and necessity. United States common carriers who  
4 are not shareholders of the corporation shall not be provided  
5 direct access to the INMARSAT space segment.

6 (f) Five years after the date of enactment, noncarrier  
7 entities shall be eligible to acquire ownership in the corpora-  
8 tion, upon reasonable terms and conditions to be determined  
9 by the Federal Communications Commission. The corpora-  
10 tion shall be authorized by the Federal Communications  
11 Commission to provide service directly to such investors  
12 under reasonable terms and conditions to be determined by  
13 the Federal Communications Commission.

14 (g) The business activity of the corporation shall be  
15 restricted to those activities necessary to function effectively  
16 as the United States signatory to the INMARSAT Oper-  
17 ating Agreement, as the provider of INMARSAT space  
18 segment services to such common carriers and noncarrier  
19 entities as may be authorized in accordance with sections 5  
20 (c) and 5 (f) of this Act, and as owner of the United States  
21 land earth stations providing access to the INMARSAT  
22 space segment.

23 (h) The corporation is authorized to issue and to have  
24 outstanding, in such amounts as it should determine, shares  
25 of nonassessable capital stock, with or without par value,

1 which may be purchased, owned, or held only by United  
2 States common carriers and noncarrier entities in accordance  
3 with sections 5 (e) and 5 (f) of this Act.

4 (i) The capital stock of the corporation shall be eligible  
5 to be included in the rate base of the carriers by whom it is  
6 held, upon a finding by the Federal Communications Com-  
7 mission that the public interest would be served thereby.

8 (j) The corporation is authorized to issue, in addition  
9 to the capital stock authorized by section 5 (h) of this Act,  
10 nonvoting securities, bond debentures, and other certificates  
11 of indebtedness as it may determine.

12 (k) Notwithstanding the provisions of the law of any  
13 State or of the District of Columbia, the articles of incorpora-  
14 tion of the corporation shall provide for the continued ability  
15 of its board of directors to transact business under such  
16 circumstances of national emergency as the President of the  
17 United States, or the officer designated by him, may deter-  
18 mine would not permit a prompt meeting of the number of  
19 directors otherwise required to transact business.

20 (l) The corporation shall establish its headquarters in  
21 the District of Columbia.

22 PROCESS OF ORGANIZATION

23 SEC. 6. The President of the United States shall appoint  
24 incorporators, by and with the advice and consent of the  
25 Senate, who shall serve as the initial board of directors until

1 their successors are elected and qualified. Such incorporators  
2 shall arrange for an initial stock offering and take whatever  
3 actions are necessary to establish the corporation, including  
4 the filing of articles of incorporation, as approved by the  
5 President.

6 NOTICE OF FOREIGN BUSINESS NEGOTIATIONS

7 SEC. 7. Whenever the corporation shall enter into busi-  
8 ness negotiations with respect to facilities, operations, or  
9 services authorized by this Act with any international or  
10 foreign entity, it shall notify the Department of State of the  
11 negotiations, and the Department of State shall advise the  
12 corporation of relevant foreign policy considerations.  
13 Throughout such negotiations the corporation shall keep the  
14 Department of State informed with respect to such considera-  
15 tions. The corporation may request the Department of State  
16 to assist in the negotiations, and that Department shall render  
17 such assistance as may be appropriate.



1 shall develop and operate a global maritime satellite telecom-  
2 munications system. Such system shall have facilities and  
3 services which will serve maritime commercial and safety  
4 needs of the United States and foreign countries.

5 (b) It is the purpose of this Act to provide that the  
6 participation of the United States in the organization or  
7 agency specified in subsection (a) shall be through the Com-  
8 munications Satellite Corporation, which constitutes a private  
9 entity operating for profit, and which is not an agency or  
10 establishment of the Federal Government.

11 DESIGNATED OPERATING ENTITY

12 SEC. 3. (a) (1) (A) Subject to the provisions of para-  
13 graph (2), the Communications Satellite Corporation, for  
14 the purpose of providing international maritime satellite tele-  
15 communications services, may participate as the designated  
16 operating entity of the United States in—

17 (i) the International Maritime Satellite Organiza-  
18 tion; or

19 (ii) any other agency designed to provide such  
20 services.

21 (B) The corporation is hereby authorized to sign the  
22 operating agreement or other pertinent instruments of the  
23 Organization, or of the satellite telecommunications agency,  
24 as the designated operating entity of the United States.

25 (2) (A) Except as provided in subparagraph (C), the

1 corporation may not participate in any satellite telecom-  
2 munications agency under paragraph (1) (A) (ii) unless—

3 (i) (I) in the case of participation which may be  
4 undertaken only pursuant to a treaty or executive agree-  
5 ment, such treaty or executive agreement is in effect; or

6 (II) in any case in which participation does not  
7 require any treaty or executive agreement, the Presi-  
8 dent does not disapprove such participation during the  
9 period of 60 calendar days after the corporation notifies  
10 the President of such proposed participation; and

11 (ii) the Congress does not disapprove such partici-  
12 pation under paragraph (3).

13 (B) Any disapproval by the President under subpara-  
14 graph (A) (i) (II) shall be published in the Federal  
15 Register as soon as practicable after the date of such dis-  
16 approval.

17 (C) The requirements of subparagraph (A) shall not  
18 apply to any participation of the corporation in a satellite  
19 telecommunications agency if—

20 (i) such participation takes effect before Septem-  
21 ber 4, 1979;

22 (ii) the corporation signs the operating agreement  
23 of the Organization; and

24 (iii) such participation in the satellite telecommuni-  
25 cations agency is in the nature of an interim operating

1 arrangement remaining in effect only until the corpora-  
2 tion begins its participation in the Organization.

3 (3) (A) In any case in which the corporation proposes  
4 to provide international maritime satellite telecommunica-  
5 tions services through participation in a satellite telecommuni-  
6 cations agency under paragraph (1) (A) (ii), and such par-  
7 ticipation is subject to the requirements of paragraph (2)  
8 (A), the corporation shall submit a statement to each House  
9 of the Congress which shall include notice of such proposed  
10 participation, together with such other information as the  
11 corporation considers appropriate. If such participation is  
12 subject to disapproval by the President under paragraph (2)  
13 (A) (i) (II), such statement may not be submitted before  
14 the end of the period specified in paragraph (2) (A) (i)  
15 (II).

16 (B) Such proposed participation may take effect, if it  
17 otherwise may take effect under paragraph (2) (A) (i),  
18 unless either the Senate or the House of Representatives,  
19 during the period of 60 calendar days of continuous session  
20 following submission of the statement specified in subpara-  
21 graph (A), passes a resolution the matter after the resolving  
22 clause of which reads as follows: "The hereby  
23 disapproves the proposal submitted by the Communications  
24 Satellite Corporation on , 19 ." (The first blank  
25 space shall be filled with the name of the resolving House

1 and the second blank space shall be filled with the date of  
2 submission of the proposal to the Congress.)

3 (C) If neither the Senate nor the House of Representa-  
4 tives passes such resolution during such period, such pro-  
5 posal of the corporation shall not be effective before the end  
6 of such period.

7 (D) For purposes of this paragraph—

8 (i) continuity of session of the Congress is broken  
9 only by adjournment sine die; and

10 (ii) the days on which either House is not in ses-  
11 sion because of an adjournment of more than 3 days to a  
12 day certain are excluded in the computation of the 60-  
13 day period.

14 (b) The corporation—

15 (1) (A) subject to the provisions of subsection (d),  
16 may establish, own, and operate satellite earth terminal  
17 stations; and

18 (B) shall interconnect such stations, and the mari-  
19 time satellite telecommunications provided by such sta-  
20 tions, with the facilities and services of United States  
21 domestic common carriers, international common car-  
22 riers, and private communications systems, other than  
23 any common carrier, system, or other entity in which  
24 the corporation has any ownership interest, as author-  
25 ized by the Commission; and

1           (2) may establish, own, and operate the United  
2 States share of the jointly owned international space  
3 segment and associated ancillary facilities.

4           (c) The corporation shall be responsible for fulfilling  
5 any financial obligation placed upon the corporation as a  
6 signatory to the operating agreement or other pertinent in-  
7 struments, and any other financial obligation which may be  
8 placed upon the corporation as the result of a convention  
9 or other instrument establishing the Organization or the  
10 satellite telecommunications agency, as the case may be. The  
11 corporation shall be the sole United States representative  
12 in the managing body of the Organization or the satellite  
13 telecommunications agency, as the case may be.

14           (d) (1) Except as provided in paragraph (2), the cor-  
15 poration, or any United States domestic common carrier,  
16 international common carrier, or private communications  
17 system which is authorized by the Commission, pursuant to  
18 the provisions of this Act, to interconnect with a satellite  
19 earth terminal station under subsection (b), may own all  
20 or any portion of the assets of any such station.

21           (2) Any person, including any government or govern-  
22 ment agency, may be the sole owner of a satellite earth  
23 terminal station if such person, government, or government  
24 agency uses, or permits or otherwise authorizes the use of,  
25 such station for the exclusive purpose of training personnel

1 in the use of equipment associated with the operation of such  
2 station, or in carrying out experimentation relating to mari-  
3 time satellite telecommunications services.

4 (e) The Commission shall determine the operational  
5 arrangements under which the corporation shall interconnect  
6 its services and any satellite earth terminal station facility  
7 with United States domestic common carriers, international  
8 common carriers, and private communications systems, other  
9 than any common carrier, system, or other entity in which  
10 the corporation has any ownership interest, for the purpose  
11 of extending maritime satellite telecommunications services  
12 within the United States. Such determination shall be made  
13 by the Commission no later than 6 months after the date of  
14 the enactment of this Act, and the Commission shall transmit  
15 a report relating to such determination to the Congress.

16 (f) Notwithstanding any provision of State law, the  
17 articles of incorporation of the corporation shall provide for  
18 the continued ability of the board of directors of the corpora-  
19 tion to transact business under such circumstances of national  
20 emergency as the President or his delegate may determine  
21 would not permit a prompt meeting of the number of direc-  
22 tors otherwise required to transact business.

23 (g) Notwithstanding the provisions of section 222 of  
24 the Communications Act of 1934, any international com-  
25 mon carrier which is interconnected with a satellite earth

1 terminal station under subsection (b) may accept and de-  
2 liver maritime satellite telecommunications services at any  
3 point within the United States.

4 IMPLEMENTATION OF POLICY

5 SEC. 4. (a) The President shall—

6 (1) exercise such supervision over, and provide for  
7 the issuance of such instructions to, the corporation in  
8 connection with its relationships and activities with for-  
9 eign governments and international entities and other  
10 organizations (including the Organization or the satellite  
11 telecommunications agency, as the case may be) as may  
12 be necessary to ensure that such relationships and activi-  
13 ties are consistent with the national interest and foreign  
14 policy of the United States;

15 (2) coordinate the activities of Federal agencies  
16 with responsibilities in the field of telecommunications  
17 (other than the Commission), so as to ensure that there  
18 is full and effective compliance with the provisions of  
19 this Act;

20 (3) take all necessary steps to ensure the availabil-  
21 ity and appropriate utilization of the telecommunications  
22 services provided by the Organization or by the satellite  
23 telecommunications agency, as the case may be, for gen-  
24 eral governmental purposes, except in any case in which  
25 a separate telecommunications system is required to meet

1 unique governmental needs or is otherwise required in  
2 the national interest;

3 (4) exercise his authority in a manner which seeks  
4 to obtain coordinated and efficient use of the electro-  
5 magnetic spectrum and orbital space, and to ensure the  
6 technical compatibility of the space segment with exist-  
7 ing communications facilities in the United States and  
8 in foreign countries; and

9 (5) aid in the planning and development of the  
10 telecommunications system operated by the Organization  
11 or by the satellite telecommunications agency, as the  
12 case may be, and in the planning and development of  
13 services provided by the Organization or such agency.

14 (b) The Commission shall—

15 (1) institute such proceedings as may be necessary  
16 to carry out the provisions of section 3 (b) and section  
17 3 (e);

18 (2) make recommendations to the President for  
19 the purpose of assisting the President in issuing instruc-  
20 tions to the corporation under subsection (a) (1);

21 (3) grant such authorizations as may be necessary  
22 under title II and title III of the Communications Act  
23 of 1934 to—

24 (A) enable the corporation to provide to the  
25 public, pursuant to section 3 (b) (1) (B), space seg-

1           ment channels of communication obtained from the  
2           Organization or from the satellite telecommunica-  
3           tions agency, as the case may be; and

4           (B) provide for the construction and opera-  
5           tion of such satellite earth terminal stations in the  
6           United States as may be necessary to provide suf-  
7           ficient access to the space segment;

8           (4) establish procedures to provide for the continu-  
9           ing review of the telecommunications activities of the  
10          corporation as the United States signatory to the operat-  
11          ing agreement or other pertinent instruments;

12          (5) establish rules and procedures under which the  
13          Commission—

14           (A) in determining whether to modify any  
15           license for public maritime coast station services to  
16           provide for the addition of radio frequencies, shall  
17           not take into account any impact which the provi-  
18           sion of maritime satellite telecommunications serv-  
19           ices may have upon the provision of public maritime  
20           coast station services; and

21           (B) in determining whether to modify any  
22           license for maritime satellite telecommunications  
23           services to provide for the addition of frequencies,  
24           shall not take into account any impact which the  
25           provision of public maritime coast station services

1           may have upon the provision of maritime satellite  
2           telecommunications services; and

3           (6) prescribe such rules as may be necessary to  
4           carry out the provisions of this Act.

5           STUDY OF STRUCTURE AND ACTIVITIES OF COM-  
6           MUNICATIONS SATELLITE CORPORATION

7           SEC. 5. (a) The Commission shall conduct a study of  
8           the corporate structure and operating activities of the cor-  
9           poration, with a view toward determining whether any  
10          changes are required to ensure that the corporation is able to  
11          effectively fulfill its obligations and carry out its functions  
12          under this Act, the Communications Act of 1934, and the  
13          Communications Satellite Act of 1962.

14          (b) The Commission shall transmit a report to the  
15          Congress no later than 6 months after the date of the enact-  
16          ment of this Act relating to the study of the corporation  
17          conducted under subsection (a). Such report shall contain  
18          a detailed statement of the findings and conclusions of such  
19          study, any action taken by the Commission related to such  
20          findings and conclusions, and any recommendations of the  
21          Commission for such legislative or other action as the Com-  
22          mission considers necessary or appropriate.

23          STUDY OF PUBLIC MARITIME COAST STATIONS SERVICES

24          SEC. 6. (a) The Commission shall conduct a study of  
25          public maritime coast station services, with particular em-

1 phasis on high seas services, with a view toward determin-  
2 ing whether the rules and regulations of the Commission and  
3 the assignment of licenses and radio frequencies in effect on  
4 the date of the enactment of this Act should be subject to  
5 any alteration in order to establish a systematic approach  
6 for the provision of modern and effective maritime telecom-  
7 munications systems.

8 (b) The Commission shall transmit a report to the Con-  
9 gress no later than 6 months after the date of the enactment  
10 of this Act relating to the study of public maritime coast  
11 station services conducted under subsection (a). Such re-  
12 port shall contain a detailed statement of the findings and  
13 conclusions of such study, any action taken by the Com-  
14 mission related to such findings and conclusions, and any  
15 recommendations of the Commission for such legislative or  
16 other action as the Commission considers necessary or  
17 appropriate.

18 DEFINITIONS

19 SEC. 7. For purposes of this Act—

20 (1) the term "Commission" means the Federal  
21 Communications Commission;

22 (2) the term "common carrier" has the meaning  
23 given it in section 3 (h) of the Communications Act of  
24 1934;

1           (3) the term "corporation" means the Communica-  
2           tions Satellite Corporation incorporated on February 1,  
3           1963, under section 301 of the Communications Satellite  
4           Act of 1962;

5           (4) the term "operating agreement" means the op-  
6           erating agreement relating to the Organization;

7           (5) the term "Organization" means the Interna-  
8           tional Maritime Satellite Organization (INMARSAT);

9           (6) the term "satellite earth terminal station"  
10          means a complex of communications equipment located  
11          on land, operationally interconnected with one or more  
12          terrestrial communications systems, and capable of trans-  
13          mitting telecommunications to, or receiving telecom-  
14          munications from, the space segment;

15          (7) the term "satellite telecommunications agency"  
16          means any agency referred to in section 3 (a)  
17          (1) (A) (ii) in which the corporation participates as  
18          the designated operating entity of the United States;

19          (8) the term "space segment" means any satel-  
20          lite maintained under the authority of the Organization,  
21          or the satellite telecommunications agency, as the case  
22          may be, and the tracking, telemetry, command, control,  
23          monitoring, and related facilities and equipment required  
24          to support the operation of such satellite; and

1           (9) the term "State" means the several States, the  
2       District of Columbia, the Commonwealth of Puerto  
3       Rico, Guam, the Virgin Islands, the Trust Territory of  
4       the Pacific Islands, and any other territory or possession  
5       of the United States.

Passed the House of Representatives May 15, 1978.

Attest:           EDMUND L. HENSHAW, JR.,

*Clerk.*

DEPARTMENT OF STATE  
Washington, D.C., December 12, 1977.

HON. WARREN G. MAGNUSON,  
Chairman, Committee on Commerce, Science, and Transportation,  
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: Thank you for your letter of November 30 enclosing of the Department's comments a copy of S. 2211 "To provide for the establishment, ownership, operation, and government oversight and regulation of international maritime mobile satellite telecommunications services, and for other purposes."

The Department of State believes that the Bill, which is intended to make necessary provisions for participation by the United States in the International Maritime Satellite Organization (Inmarsat), is both timely and advisable. The Inmarsat Agreements, which require U.S. participation for their entry into force, have already been opened for signature, and the period for meeting membership requirements expires July 5, 1979.

It is our view that the Communications Satellite Act of 1962 does not provide sufficient authority for participation in and acceptance of obligations under the Inmarsat Agreements. We have concluded that Act contemplated only the establishment of a single commercial communications satellite system, Intelsat. Thus we believe additional legislative authority is called for in respect of Inmarsat.

Consistent with U.S. policy to look to the private sector for the provision of communications facilities and services, the Bill also provides for a single corporate entity to undertake financial, technical and operating responsibilities on behalf of the U.S. As the entity's execution of these responsibilities will affect maritime safety communications and navigation services, areas of substantial government interest, the Bill also provides for Executive Branch oversight of the entity. We believe the contemplated oversight is sufficiently broad to ensure U.S. Governmental policy objectives are suitably taken into account by the designated entity.

The Inmarsat Agreements include a provision for convening the Parties to the Inmarsat Convention once every two years. We anticipate that such meetings would be held in late 1979 and late 1981. The Department would incur the expense of U.S. participation at such meetings. We estimate the cost to send delegations in FY 80 and FY 82 would be \$5,700 and \$6,300, respectively.

The Office of Management and Budget advises that from the standpoint of the Administration's program there is no objection to the submission of this report.

Sincerely,

DOUGLAS J. BENNET, JR.,  
Assistant Secretary  
for Congressional Relations.

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FEDERAL MARITIME COMMISSION,  
OFFICE OF THE CHAIRMAN,  
Washington, D.C., December 13, 1977.

HON. WARREN G. MAGNUSON,  
Chairman, Committee on Commerce, Science, and Transportation,  
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your request for the views of the Federal Maritime Commission with respect to S. 2211, a bill to provide for the establishment, ownership, operation, and government oversight and regulation of international maritime mobile satellite telecommunications services, and for other purposes.

Inasmuch as the subject legislation does not directly affect the responsibilities or jurisdiction of the Commission, we express no views as to its enactment.

Sincerely yours,

RICHARD J. DASCHBACH,  
Chairman.

DEPARTMENT OF JUSTICE,  
ASSISTANT ATTORNEY GENERAL,  
Washington, D.C., May 26, 1978.

HON. HOWARD W. CANNON,  
Chairman, Committee on Commerce, Science, and Transportation,  
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your request for the views of the Department of Justice on S. 2211, a bill entitled the "International Maritime Mobile Satellite Telecommunications Act of 1977." This proposed legislation has been carefully reviewed.

S. 2211 has been proposed by the Office of Telecommunications Policy to provide the institutional framework for United States participation in the International Maritime Satellite Organization (Inmarsat). Inmarsat is an international consortium organized under the auspices of the Inter-Governmental Maritime Consultative Organization, a London-based, specialized UN agency responsible for promoting cooperation on technical matters affecting shipping. When deployed, the Inmarsat system will afford superior ship-to-shore and ship-to-ship communications services via space satellite evidently at distances 100 miles or more from shore; at closer ranges, existing high frequency and very high frequency radio communications systems would be employed.

This proposed legislation is modeled on the 1962 Communications Satellite Act (47 U.S.C. § 701 et seq. (1970)), which provided the legislative basis for U.S. involvement in the International Telecommunications Satellite Consortium by way of a special corporation, Comsat. Under section 5 of S. 2211, for example, a special corporation would be formed to represent U.S. interests in Inmarsat, subject to the foreign policy guidance of the President and the Department of State. Initially, this special corporation would be owned by U.S. communications common carriers, as authorized by the Federal Communications Commission. At the outset, only such carriers as invest in the corporation would be allowed direct access to the Inmarsat system. End users, therefore, would be required initially to contract for services through one or more of the carrier investors. Five years following the enactment of S. 2211, however, end users would be afforded the opportunity to invest in the special corporation at their option and thus achieve the ability to directly avail themselves of its services, under such reasonable terms and conditions as the FCC may prescribe.

S. 2211 clearly deals predominantly with foreign policy and regulatory, not competition policy topics. The Department of Justice, however, has been concerned that no unnecessary, artificial constraints on competition and customer choice be imposed in maritime communications as have been imposed with respect to general purpose international communications. Under the 1962 Communications Satellite Act, for example, the FCC has barred Comsat from retailing services directly to end users. Comsat has been relegated to the role of a "carrier's carrier," with the result that users have paid artificially inflated prices. See *Authorized Users*, 4 FCC2d 421 (1966), *reconsid. denied*, 6 FCC2d 511 (1967). In other international communications services, the range of competitive choice available to users has traditionally been constrained, with users required to deal with certain carriers and not with others. See, e.g., *ITT Worldcom, Inc. v. FCC*, 555 F. 2d 1125 (2d Cir. 1977); *Western Union International v. FCC*, 544 F. 2d 87 (2d Cir. 1976).

The threat that customers may switch their business, or vertically integrate to satisfy their requirements, clearly can have a restraining influence on the prices that suppliers charge, and provide an invaluable spur to assure supplier responsiveness to customer needs. Subscription 5(f) of S. 2211 recognizes this fact, by providing end users with the option of dealing directly with the special corporation after an initial five year start-up period.

During this initial period, users would be free to contract with any of the carriers that had invested in the special corporation; the bill does not propose to limit the ability of carriers to invest in this entity and we assume that any carrier wishing to do so would be allowed to invest subject to the overall regulation of the FCC. This appears to us to be a reasonable balance between the need to provide some incentives for private sector investment in the entity and the need to assure that the end users are afforded the benefits of competition and service choice.

Improved communications capability is important to safer and more efficient ocean shipping. S. 2211 appears to be a responsible step towards assuring that

U.S. maritime interests will have available to them the improved communications services offered via the Inmarsat system. This proposed legislation raises foreign policy and regulatory issues. In those respects, we would defer to the considered views of the Department of State and the Federal Communications Commission. Subject to those views, however, the Department of Justice has no objection to the enactment of S. 2211.

The Office of Management and Budget has advised that it has no objection to the submission of this report from the standpoint of the Administration's program.

Sincerely,

PATRICIA M. WALD,  
*Assistant Attorney General.*

Senator HOLLINGS. We are especially pleased to see our friend Charles Ferris, Chairman of the Federal Communications Commission. Welcome.

**STATEMENT OF HON. CHARLES D. FERRIS, CHAIRMAN, FEDERAL COMMUNICATIONS COMMISSION; ACCOMPANIED BY WALTER HINCHMAN, CHIEF, COMMON CARRIER BUREAU; AND ROBERT BRUCE, GENERAL COUNSEL**

Mr. FERRIS. It's good to be here, Mr. Chairman. With me today is Mr. Walter Hinchman, Chief of our Common Carrier Bureau, and Bob Bruce, our General Counsel.

I am pleased to have this opportunity, Mr. Chairman, to comment on international maritime satellite telecommunications developments. As you know, on March 15 the Commission considered a number of options for the organizational structure and operational arrangements for a U.S. operating entity to provide maritime satellite communications services. This matter is still under review; but in my statement today, I will discuss what appear to be the significant issues impacting on the provision of maritime satellite telecommunications services.

The presently operating Marisat system constitutes the first application of satellite technology to maritime communications. Through a system of three synchronous satellites, owned and operated as a joint venture by a consortium of four U.S. common carriers, Marisat provides maritime voice and record communications services to the U.S. Navy and to commercial maritime users. The Commission authorized Marisat only as a developmental program for a period of 5 years, ending in 1981. From a commercial standpoint, its primary purpose has been to demonstrate the feasibility of maritime satellite service and to establish system and operational parameters. Commercial voice and telex services began in the summer of 1976; and there are currently over 100 commercial shipboard terminals accessing the Marisat system.

The principal question regarding maritime telecommunications is how to assure the continued availability of maritime satellite communications services beyond the design life of Marisat. This question encompasses a number of subsidiary issues: One, should the United States participate in the proposed Inmarsat system, or seek some alternative arrangements for provision of international maritime satellite telecommunications services? Two, what entity should be

designated or created to participate in behalf of the United States in any such international undertaking? Three, how should that entity be related, both operationally and financially, to other U.S. telecommunications entities? And four, through what processes should governmental oversight and regulation of this entity be accomplished?

The Commission has considered some of these questions in its docket 20281 proceeding; and I have had an opportunity since joining the Commission to explore various options for maritime satellite service. In my testimony today, I will focus on some of the relevant issues which require attention. I plan to discuss the various operational arrangements by which maritime satellite service can be provided, in relation to certain fundamental policy objectives. Among those policy objectives are: One, that maritime satellite services should be provided on a rapid, efficient basis, at reasonable charges to the users; two, that the costs of any financial commitments involved in providing maritime satellite services should not be borne by the users of other international voice or data services; and three, that the users should have maximum opportunity to access the maritime satellite system.

The FCC has conducted no formal inquiry and reached no formal conclusion with regard to the basic question as to whether the United States should participate in Inmarsat. Commission staff members have participated, under the aegis of the Department of State, in some international discussions and negotiations which resulted in the Inmarsat Convention and Operating Agreement. The Commission has also assisted the Department by outlining its views concerning institutional arrangements which might be adopted for Inmarsat. Whether the United States participates in Inmarsat or in some other international joint venture, it is essential to determine which organizational structures and operating arrangements would best serve the public interest in the provision of international maritime satellite communications services. The Commission has therefore been considering how U.S. private corporations should participate in any international maritime satellite communications system.

Any U.S. participant in Inmarsat or any other international maritime system will have legal and financial obligations both as a Commission licensee and as the signatory of the international agreements establishing Inmarsat. It must also have the management experience and expertise necessary to insure that the space segment is designed effectively and efficiently. And, of course, it should be capable of operating efficiently and effectively, in conjunction with existing U.S. carriers, in rendering maritime satellite services to the U.S. public.

The Commission has been considering whether a consortium of existing U.S. carriers, a single corporation owned by carriers, or an independent corporation would best satisfy these requirements. It is generally accepted, I believe, that within the context of an international joint venture it may not be feasible to structure the entity as a loose consortium of carriers. As a consortium, the entity would have no identity or position separate from those of the carriers comprising it. This might be unacceptable to other international participants, who will expect the U.S. entity to be legally and financially

responsible. Additionally, a consortium might be unable to develop the management structure and staffing needed to represent U.S. interests in Inmarsat effectively. Some form of corporate structure may therefore be necessary.

The ownership arrangement for the U.S. entity—that is, whether it should be owned by existing U.S. carriers or directly by public shareholders—needs to be considered within the context of its likely operational relationships to other U.S. communications carriers in providing maritime satellite services. As background to discussing the U.S. entity's relationships to existing carriers, I should focus on several critical functions performed in maritime satellite services, for example, operation of the satellite system, supply and operation of the shipboard equipment, and domestic pickup and delivery of messages.

In assessing how those functions might be most effectively carried out, the Commission has taken account of the fact that maritime satellite service in the United States will essentially be an extension of existing domestic and international communications services, many of which are offered on a competitive basis by a number of carriers. I believe these domestic and international carriers should generally be able to offer maritime service, also on a competitive basis, through interconnection with the maritime satellite system.

The maritime satellite system itself, however—including the associated Earth station—will likely have to be operated as a single, integrated system if it is to satisfy both U.S. and international service requirements at an acceptable cost. It is not likely that competition can or will exist in the establishment and operation of the satellite system itself. The fundamental public policy issue, therefore, is how to insure that the integrated satellite system is operated effectively and efficiently, while simultaneously preserving the present competitive environment for the pickup and delivery of maritime and other communications services. In addition, it is important to maintain the present practice of providing shipboard terminal equipment competitively independent of the other aspects of maritime communications service.

Any operating arrangement which impairs competition in the pickup and delivery of traffic and the provision of shipboard equipment should not be established. For example, if one of the competitive suppliers were accorded monopoly status over a satellite system essential to other suppliers, a potential for favoritism and anti-competitive practices could exist. If a group of competing carriers were allowed to own and control the satellite entity, these carriers might collude to divide the market and might discriminate against nonowners. Even if ownership were offered to all interconnecting carriers, a potential for arbitrary market segmentation or joint marketing would remain. Cooperation in owning and operating the satellite segment might extend to rates and services offered the public, and choice and innovation in the marketplace for maritime services might be significantly lessened.

It therefore may be desirable to designate an operating entity which neither owns nor is owned by any carrier which participates in the competitive pickup and delivery of maritime communications

services within the United States. This entity would serve as the sole U.S. participant in any international joint maritime satellite venture. It would interconnect with existing and future U.S. communications networks which the Commission may authorize to pick-up and deliver maritime communications traffic within the United States.

This interconnection could be accomplished through either "carrier's carrier" or "participating carrier" arrangements. If the satellite entity were operated as a "carrier's carrier," it would merely provide transmission capacity under some form of lease arrangement to U.S. carriers authorized to offer maritime satellite communications services. The latter would then be responsible for providing end-to-end service between the U.S. customer and the ship. Comsat presently provides satellite transmission capacity to the U.S. international service carriers for overseas communications in this manner.

As a "carrier's carrier" the entity would be isolated from any involvement in the retail marketplace. This might remove some incentives for innovation and efficiency. More significantly, it could burden users with unnecessary investment and operating expenses. If maritime satellite service is to be economically viable, the most efficient use of the satellite system must be achieved, probably through on-demand sharing of system capacity not only among U.S. users and carriers, but among international participants as well. Under a "carrier's carrier" arrangement, discrete capacity would likely be dedicated to particular carriers on a long-term basis. This may not be an efficient way in which to serve an occasional use market with high-cost facilities, and will probably not be an acceptable operating mode in the context of an international maritime satellite system.

Under a "participating carrier" mode of operation, the satellite entity would retain full responsibility for that portion of the overall communications service involving transmission between U.S. Earth stations and ships. Domestic pickup and delivery would be the responsibility of other U.S. carriers authorized to connect their domestic and international systems with the satellite system. The satellite entity would receive and assemble all this traffic, both inbound and outbound, at the Earth station and route it over the satellite facilities in the most efficient manner.

In this way, satellite circuits will be efficiently utilized; and at the same time, customers will have the flexibility of choosing any authorized domestic or international carrier to access the maritime satellite system. Duplication of administrative and operating expenses by all concerned would be minimized. The satellite entity would be engaged in and have responsibility for serving the public directly, even though it would do so through interconnection with other carriers and the filing of joint tariffs. A "participating carrier" arrangement is the method by which the Bell System interconnects with independent telephone companies and by which all U.S. international carriers interconnect with the U.S. domestic network and with their overseas correspondents.

Whatever the role and structure of the U.S. operating entity and its relationship to other U.S. carriers, there will exist a continuing need for governmental oversight. As a private corporation providing

communications services for hire, it will be a common carrier subject to the provisions of the Communications Act and regulation by the Commission. Before it can invest in facilities or provide maritime satellite service, it must obtain authorizations from the Commission both to construct and to operate these facilities. It will also be required to file and justify public tariffs for the services it offers. Since it will be dealing with foreign correspondents, including representatives of foreign governments, it will be confronted with issues which could involve U.S. foreign policy.

Traditionally, governmental oversight of U.S. commercial communications organizations, whether engaged in domestic or international services, has been vested primarily in the Federal Communications Commission. The U.S. Department of State has a limited although important role with respect to foreign policy matters. In addition, in the Communications Satellite Act of 1962, which created Comsat for the purpose of participating in a similar international joint venture, the Congress, provided a role for the executive branch in overseeing this entity. Such a role may well have been appropriate in the context of a totally new and yet unproven technology having potentially major foreign policy and national interest implications. I question, however, whether similar considerations apply in the case of maritime satellite communications, and whether this departure from conventional oversight procedures should even be extended to this activity, much less expanded in scope.

Communications satellite technology is now a well-established medium of communications which must find its niche among many other technologies, both new and established. Similarly, maritime satellite communications service will be an offering of interest to a limited, though certainly important, segment of the international public. And as I have indicated, operation of the maritime satellite system itself is but one of several activities necessary to the rendition of an overall communications service. Given these circumstances, a return to more conventional oversight procedures—with the FCC exercising primary jurisdiction over all technical, operational, economic, and other regulatory aspects of the undertaking, and the Department of State carrying out its traditional foreign policy responsibilities—might better serve the public interest. The wisdom of this traditional oversight role is, I believe, to insulate the Commission and the executive branch from the day-to-day pressures of international politics.

In any event, as I previously noted, I do not believe that there should be a significant expansion of the executive's role, including some significant overlap with the Commission's statutory duties and responsibilities, as has been suggested in some bills presently pending before the Congress.

Mr. Chairman, that concludes my prepared statement. I will be pleased to respond to any questions the subcommittee may have.

Senator HOLLINGS. Mr. Ferris, what is the benefit to the public between a participating carrier and a carrier's carrier? You come down on the side of a participating carrier, and seem to infer a public benefit. Can you describe that for us?

Mr. FERRIS. I think the participating carrier method provides for the most efficient use of the available capacity of the satellite in this type of transmission. Under the carrier's carrier method of operation, represented by Comsat, only responsibility on the part of the satellite entity, taking traffic from the Earth station to the satellite and bringing it back down to an Earth station, in this case the ship, is to provide a service—a leased capacity to the retail marketer. In the Comsat case the carriers, the domestic carriers, rent space or lease capacity, which is dedicated to their use, and they use it as efficiently as they deem best.

When you have the type of capacity and quantity of traffic present in Comsat's current arrangement, that might be a desirable mode of operation. With respect to Inmarsat, however, where you're not going to have a great deal of traffic going across the satellite to any one ship at sea, it might not be the most efficient use to have each carrier leasing a channel which would sit idle when there was no traffic. Under the participating carrier method, the domestic carriers receive all of the traffic, transmit it to the satellite entity and the entity collates it and transmits it in the most efficient manner across the satellite.

To me, the participating carrier method more effectively utilizes the capacity of the satellite, and I think would protect against overcapitalization by having excess capacity which was dedicated but not used by domestic carriers when not required.

Senator HOLLINGS. Intelsat provides the space segment for Inmarsat, will the fact that comsat is the U.S. designated entity to both organizations create a conflict of interests situation for Comsat?

Mr. FERRIS. The duplication of Intelsat and Inmarsat?

Senator HOLLINGS. Yes.

Mr. FERRIS. I think that goes to the basic question, which I don't think we, as I said in my statement, have focused on: What should be the entity to provide maritime communications? It could very well be Intelsat, dedicated capacity on the Inmarsat satellites. That could provide a service similar to that Inmarsat might provide, with some modifications. I think that Intelsat's present coverage would not provide the full capacity to the west coast and South America. But with modifications of satellite placement, I think it could be provided. Once again, however, that is a question as to what should be the entity. I think there have been proposals if you do create an Inmarsat entity and you agree to that. I don't think that eliminates the potential for an arrangement whereby Inmarsat's entity would not own satellites and instead would arrange with Intelsat for the use of some capacity on its satellites to provide these types of services.

But we certainly haven't addressed those questions and I think to some degree that is a good example of where the State Department rather than the FCC should take the initiative in determining what the nature of the entity should be in the first instance.

Senator HOLLINGS. When you recommend the participating carrier approach, who is going to pay for the excess capacity under the participating carrier arrangement?

Mr. FERRIS. The users.

Senator HOLLINGS. Now, I understand that the FCC initially determined that maritime satellite services should be open to participation by a consortium rather than a single entity. What led the FCC to change its mind?

Mr. FERRIS. Do you mean the example of the Marisat example when it was set up?

Senator HOLLINGS. Right.

Mr. FERRIS. Well, the Marisat example was a consortium of U.S. carriers. It was a domestic entity. It was put up primarily for the U.S. Navy's use, and the commercial use sort of piggybacked on the primary mission of the U.S. Navy. And the use of commercial capacity in Marisat was to a great extent experimental. I think, however, the experience and history of the first couple of years in working out those arrangements would probably be the best argument as to why the consortium arrangement should not be opted for in this case. I think it experienced tremendous difficulties before it could become operational in working out the arrangements between the participating U.S. carriers.

I think that domestically it provided a great difficulty. When you expand the problems experienced on the domestic level to the international scope and you have the U.S. carriers inter-relating with the international carriers, I think it probably would be unsatisfactory to them as well as to us.

Senator HOLLINGS. If H.R. 11209 were to be enacted, should Comsat be allowed to own, manufacture, lease and sell on-board ship satellite terminals?

Mr. FERRIS. I would say no, only because if you're going to give the operating entity—and that proposal, I think, does designate Comsat as the entity—if that were passed and designated Comsat, you are giving Comsat the monopoly as the participating carrier for the Earth stations and satellite-to-satellite shipboard linkage. It isn't now in the business of manufacturing equipment. I do understand that the Marisat arrangement provides for the purchase of shipboard equipment. I think this involves an arrangement whereby Comsat could use its financial capacity to provide some form of capital formation to shipboard users so that they could put it on an installment contract, so to speak, and let the shipboard purchaser purchase this equipment, which is about \$60,000 for shipboard equipment. That type of arrangement might be satisfactory in capital formation, but I don't think it is desirable from the standpoint of ownership or manufacture of the equipment. I think that these capacities should be separated from the monopoly aspect of the participating carrier.

Senator HOLLINGS. Under H.R. 11209, can the carriers lease channel capacity if they so choose?

Mr. FERRIS. I would think that would not be the case under the participating carrier approach. A principal advantage of the participating carrier is that it would result in the most efficient use of that channel capacity. This could not be accomplished by leasing and dedicating channels to any particular retail user. So I think that the principal basis of the participating carrier notion is that of efficiency, and I think leasing would be inconsistent with this feature, Mr. Chairman.

Senator HOLLINGS. Many of the carriers cite the success of the Marisat program as a precedent for allowing joint ownership of Inmarsat. The Commission has had the same Marisat experiences, but recommends a different type of entity. Can you explain the difference of opinion?

Mr. FERRIS. Well, I think what I've recommended in my statement is that, taking the Marisat experience—the commercial aspect of which, as I said, was somewhat of an afterthought to the primary mission—and venturing into a long-term arrangement, might not be the best protection for users on a nonexperimental basis. The recommendations that have been made today, I think, would advise against the type of potential anticompetitive activity that might evolve when you have that type of consortium arrangement. There might be other carriers that enter this field—the common carrier field—in the future that don't exist now; and I don't think they should be foreclosed from any arrangement.

But even if you had the capacity for allowing new carriers to come in to share in the consortium, I still think you run the risk of having the market carved up between the existing carriers; and I think the ultimate loser could be the user of the service.

Senator HOLLINGS. Under H.R. 11209, there is provision for joint ownership of the Earth stations. The staff working draft allows Comsat total ownership. From a regulatory and a public-interest viewpoint, is one proposal better than the other?

Mr. FERRIS. I would favor the operating entity, the satellite operating entity, owning the Earth stations, rather than have the Earth stations owned jointly, in a joint venture by the retail domestic users.

I think that the notion of the participating carrier or the allocation of those costs, the rules, the anticompetitive tendencies that would be avoided, I think, apply to the ownership of the Earth stations, as well as to other aspects. And I would favor the non-joint-venture ownership of the Earth stations, as well.

Senator HOLLINGS. Senator Schmitt?

Senator SCHMITT. Thank you, Mr. Chairman.

Mr. Ferris, I am confused at the difference between a carrier's carrier and a participating carrier. I understand that before I came in you took a crack at distinguishing those terms.

Mr. FERRIS. I don't know how successfully, but I did.

Senator SCHMITT. Do you have anything you would like to add, or maybe Mr. Hinchman would like to add something.

Mr. FERRIS. Well, since I took my crack, I will sit on that, and I will let Walter take a shot at it.

Mr. HINCHMAN. Mr. Schmitt, I think the distinction is best made in terms of the way most of the telecommunications industry operates today, and it operates on a participating-carrier basis, where the carrier has responsibility, ownership, and operating responsibility for those facilities within its geographic area of service.

This is the way the Bell System interconnects with the independent telephone industry. It is the way the U.S. carriers interconnect with their overseas correspondents, as well as the way the international carriers connect with the domestic carriers in the United States.

Each carrier provides the service within its geographic area, and then it either files a joint tariff with the other carrier to provide a

through-service, or it may file an end-on tariff, where you have one tariff for the service up to a certain point of interconnection, and then a separate tariff beyond that. Typically, that is not the way it is done. It is done on a through-tariff basis.

A carrier's carrier, on the other hand, was created primarily to deal with the international situation in the Comsat Act. And under that arrangement, Comsat simply provides capacity to other carriers who provide a through-service.

In the international point-to-point service arena, I think there are some good arguments, maybe, for the carrier's carrier approach. At each end of Comsat's service offering, which in the international arena is just a transmission capacity, a bulk capacity, you have domestic networks. Those domestic networks have to be configured to work with each other. The switching and all, that A.T. & T. establishes in the United States, has to work with the switching arrangements abroad.

And so, I think that the reasoning that said "create a carrier's carrier just to provide transmission capacity and let those entities at each end work out the network arrangements" probably made more sense.

In the case of Inmarsat—or the International Maritime Satellite Service—there is no foreign correspondent, there is no network at the other end of this service; there is simply the shipboard user, individual consumers who need to connect back into a domestic network.

So, I think there is a distinction there in the role of a carrier's carrier versus a participating carrier. So, I suppose we are suggesting that we go back to the more conventional way of carrier interconnection, which is the participating carrier arrangement.

Senator SCHMITT. Now, under that arrangement, would the users be able to lease private lines from their place of business to the Earth station?

Mr. HINCHMAN. I believe that is what the Commission would consider, that they use any kind of domestic communication services, including leased private lines, to access the satellite system.

Senator SCHMITT. But you would see no need for a requirement that that leased capacity be available under this arrangement?

Mr. HINCHMAN. For the domestic lease capacity, we do see that that would be a mode of operation, that the leasor could use a lease-a-channel to get to the Earth station. I think that, given the very little demand that seems to exist for maritime satellite traffic and the questionable economic viability of the whole undertaking, I believe that the Chairman's position was that in the satellite portion we should not see dedicated leased capacity, but that the total capacity should be used as efficiently as possible by the satellite entity.

Senator SCHMITT. In the area of services, such as navigational and safety aids, would the provision of such services be compatible, compatible with the kind of arrangement you are recommending?

Mr. FERRIS. I think so. I see no incompatibility at all.

Senator SCHMITT. Now, those services have been traditionally provided under Government sponsorship; is that not correct? How would you see them financed? In the same way?

Mr. HINCHMAN. That is something which I think has not been very clearly addressed in any of the discussions about Inmarsat. I think we would see that the Government probably should continue to fund those types of activities, whether it be a participating carrier or another kind of carrier.

Senator SCHMITT. With some kind of a lease arrangement, presumably, for the capacity requirement, is that correct?

Mr. HINCHMAN. Yes.

Senator SCHMITT. Now, would you comment on the following argument that the carriers make, that the designation of Comsat would be contrary to the FCC position requiring Comsat to conduct its non-Intelsat activity through a separate subsidy in order that the Intelsat revenues not be used to subsidize Comsat's other, more speculative, ventures.

Do you see any merit in that argument?

Mr. HINCHMAN. Senator Schmitt, I believe that is—

Senator SCHMITT. You guys can judge who best should answer the questions.

Mr. FERRIS. Well, I will judge that Walter is best.

Mr. HINCHMAN. Senator Schmitt, I believe that is one of the reasons that we are being asked in the legislation that is now pending to study the structure of Comsat.

The Commission, you understand, has not taken a position that Comsat should be the designated entity. The Commission is really only saying that it should be an entity that is not involved in the domestic competitive environment.

But I believe that one of the reasons for studying the structure of Comsat that is in the pending legislation is to determine whether Comsat or Comsat General should do that and how that should be broken out within the Comsat organization.

Senator SCHMITT. Well, you all have a fairly good feeling for the structure of Comsat—or you should. Do you see any inherent reason why it would not be compatible?

Mr. HINCHMAN. I think we would have a concern, as the Commission has had in the past, that the Inmarsat activity not be subsidized from the international ratepayers of the Intelsat system, and I think either through Comsat internal accounting procedures or through some requirement of a separate subsidy or going through Comsat General would be the way the Commission would decide to resolve that problem.

Senator SCHMITT. Well, in the long term, do you see anything incompatible with the merger of Intelsat and Inmarsat, particularly if Inmarsat is not able to carry its load economically, that a merger might well be the way to continue the service? Is that not correct?

Mr. FERRIS. Well, I think that goes to the basic question, which I mentioned in my statement, Senator, which I think should be addressed: What is the best entity? We, at the Commission, have not focused on whether Inmarsat is the best entity for providing these maritime services. Intelsat is an option that could provide these services by modification of their birds to provide this type capacity. But those are questions which I think the State Department and the Congress should address, rather than the Commission.

Senator SCHMITT. Basically, that option is temporarily foreclosed, is it not, if we are going to participate in the Inmarsat?

Mr. FERRIS. If we go ahead with Inmarsat.

Senator SCHMITT. Well, the world is probably going to go ahead with Inmarsat.

Mr. FERRIS. Well, I think to some degree there are some parties that are not in Intelsat who would prefer another arrangement, like Inmarsat where they have some of the action. And I think that to some degree is what is driving this entity of Inmarsat.

But I think even if Inmarsat was selected and we did commit ourselves to it, I don't think it forecloses Inmarsat as an entity, having an arrangement with Intelsat with respect to the hardware, and providing the services that Intelsat guarantees.

Senator SCHMITT. I don't think the options are lost, either. Now, the carriers also complain that designating Comsat will limit them to land-line interconnection revenues comprising only 5 percent of total revenues. Do you anticipate that this will discourage them from serving the maritime market with these services?

Mr. FERRIS. I don't see why it would discourage them. Hopefully, it still would be a profitable service, ultimately. I can't see it. Maybe Walter can provide a dimension on that, Senator.

Mr. HINCHMAN. Senator Schmitt, once again, the services that are going to be provided will be very much the same services that those carriers are now providing to customers with fixed point-to-point requirements. They have the networks in place; they have the terminal equipment in place to provide those services in many instances. And it's hard to see why they would not go after that market, no matter how small the revenues are, because the costs are essentially already there and in place.

Senator SCHMITT. And unless we foreclose them from doing so, they presumably could also compete to provide shipboard terminal capacity, is that correct?

Mr. HINCHMAN. That is correct.

Mr. SCHMITT. Now, it has been claimed, according to some things that I've read—and I believe it's true—that the public coast stations lose money. Why is that?

Mr. FERRIS. Not all lose money. I think some do make money. Down on the gulf coast, they make money, I think, to some degree. And I will let Walter amplify. I don't think they have been given a great deal of attention by the operators. I think they've got very inefficient equipment. I think it is antiquated equipment. I think to some degree it hasn't been given much emphasis.

Senator HOLLINGS. Well, let me ask a question at this point: What is going to happen with the smaller operator, the smaller vessel operator, who can't afford the satellite services? Isn't that tied into the coast stations' losing money?

Mr. FERRIS. That service still would be provided by the coast stations by the present method of communicating, which is certainly not as efficient, and you can't reach them nearly as quickly as you can under this type of a system. So, there would be an overlap of the two functions, and I suppose one could say that this system, the Inmarsat system, was a cream-skimming operation, because it was going to take

the big users and the larger shippers would be using the system, and the coastal stations would be left with the dregs and, therefore, it would become less efficient and less of a moneymaker and there would be less incentive to have an efficient capacity in the coastal stations.

Mr. HINCHMAN. Senator, as you know, we have an investigation underway on the whole public coast station question. We have recently authorized a closure of some public coast stations. The basic public coast station requirement could probably be met with a far smaller number of more modern stations, and that is what this investigation is really about—to try to close some of those obsolete stations, to consolidate and make it a more efficient operation. And we believe that they can continue to function in that type of an environment, economically.

Senator SCHMITT. You are saying, then, that your study has reached a point where you believe that, even with the activation of Inmarsat, that the coast stations can be economical, and I guess expanding traffic along the coastlines of the small fleet owners and the small owners?

Mr. HINCHMAN. Not necessarily all the existing coast stations, but we believe a public coast station network can be economically viable. It might be a smaller network of stations with not the duplication that now exists in the public coast stations.

Senator SCHMITT. Are not the carriers in some disagreement with you on whether that is possible?

Mr. HINCHMAN. I'm not sure. They're certainly in disagreement with the Commission's prior actions in forcing them to keep those coast stations open. I don't know that there is any complete study, and that is really what we're trying to do, to determine the number of public coast stations really required to handle this requirement and what its economics will be.

Senator SCHMITT. Well, I think that is a very important part of the bill, and also a very important part of the total picture—just how do we continue, hopefully on an economical basis, to serve the local traffic of small fleet owners as well as other types of traffic along our coastlines.

Now, under a participating-carrier concept, with Comsat being the designated entity, who would control the segment from the satellite to the ship, if it is: first, a U.S. vessel; and second, a foreign-flag vessel?

Mr. HINCHMAN. I believe the Earth station operator would control the link to the ship, whether it be a foreign-flag vessel, or a U.S. vessel. If a U.S. vessel were communicating with a European point directly, for example, I would think that it would be a European entity that would control the link to that ship.

Now, there's one thing about controlling, and another thing about who gets the credit in the Inmarsat organization for the use, because I believe the current plan is that the United States would get the credit for all utilization by U.S.-flag ships. But that doesn't necessarily mean the U.S. entity would control that link on a particular call.

Senator SCHMITT. So, the credit would be based on who receives the communication?

Mr. HINCHMAN. I think that is the way it is being discussed now in Inmarsat. These matters have not been finalized within Inmarsat,

itself. There are preparatory study committees working on this, but I believe that is the way it is now contemplated, that the credit would go to the organization representing the ship's flag.

Senator SCHMITT. And you see no inherent difficulty, whether Comsat is designated or some other carrier is designated?

Mr. FERRIS. I think it is a problem in either case, Senator. I think it has to be worked out, who gets the credit. But I don't think the satellite entity would make a difference in the resolution of that problem.

Mr. HINCHMAN. Senator, I think it would be very difficult to conceive of an operating entity actually providing or in some way controlling that link from the ship up to the satellite, which was then going to be handled, say, by a foreign correspondent from the satellite down, because the entity would not—if you are talking about some other carrier, for example, then the operating entity having the responsibility for that link could not, in fact, operationally control that link anyway. That link will have to be controlled, I believe, by the Earth station operator, wherever that Earth station operator is located.

Senator SCHMITT. Would nonmobile structures or nonmobile communications point at sea, such as drilling platforms, be served by Inmarsat?

Mr. FERRIS. I did not envision that at all, but I don't see any inconsistency in having that capacity. As a matter of fact, it will be very beneficial.

Senator SCHMITT. And they are presently served by coast station networks, is that correct?

Mr. FERRIS. They have their own frequencies, in many cases, from the coast out to the station, and I think probably this might not be the most economical use of those frequencies, because I think they apply for frequencies now and get them, and the present charges to Marisat are significant; and I don't know if this would be competitive, but I don't see any conceptual incompatibility to having them linked into the system if it were more economical.

Mr. HINCHMAN. Those services are also provided by domestic satellite entities now, Senator; and I believe the idea here is that there would not be any exclusive right on the part of Inmarsat to serve those, but certainly they could be served by Inmarsat facilities or by domestic satellite facilities or other radio facilities.

Senator SCHMITT. The Inmarsat convention is not clear on this point.

In the convention, paragraph 1 defines "ship" as a vessel of any type operating in a marine environment. It includes, inter alia, hydrofoil boats, air-cushion vehicles, submarines, floating craft, and platforms not permanently moored.

That does not appear to include stationary platforms.

Mr. FERRIS. If the convention were modified, I don't see why that would be a problem, if they were. It might be an economic problem, but I don't see why they could not be included.

Senator SCHMITT. Well, that is probably something we ought to look into. Certain aspects of the drilling business at sea would be permanently moored and others would not be.

The final question I have for the moment is that if we designated Comsat the participating carrier along the lines of your recommendation, would you very briefly summarize the advantages and the disadvantages that would accrue to the public?

Mr. FERRIS. Of the participating carrier?

Senator SCHMITT. Yes; but with Comsat as the designated participating carrier.

Mr. FERRIS. Well, in my testimony I did not actually make the recommendation that Comsat should be.

Senator SCHMITT. I know that, but I'm extending your testimony. If we took that action what would be the effect?

Mr. FERRIS. I would think that the advantage of the participating carrier would be—over the carrier's-carrier concept—the most efficient use of the satellite capacity, the notion that you would not have dedicated channel capacity for the domestic retailer of these services which could leave a great deal of capacity unused because of low traffic periods.

I think it is not an advantage to the consumer because it could potentially require a greater capacity in the satellite for each of these domestic carriers to have their own lease capacity.

With the participating-carrier mode, what you are doing is providing for Comsat, if you have designated it as the entity, to be able to make determinations as to what the load capacity is and how to efficiently use that capacity on the bird.

I think that really means that you are going to have a much more efficient and wise judgment made with respect to capital expenditures, which ultimately have to be passed on to the consumer. So I think that is the real advantage of the participating-carrier mode over the carrier's-carrier mode.

The fact that the satellite entity would be very much interested in the efficient use of its capacity and not just to provide the length but to efficiently provide the length. This is because they are going to be getting their return of investment on the basis of usage, whereas if you had dedicated channel capacity, I think they would be more interested in just leasing the channels; and I think there would be less of an incentive not to overcapitalize in the environment than there would be in the participating carrier environment.

Senator SCHMITT. And with Comsat designated as the participating carrier, the advantages, presumably, would not change.

Do you see any disadvantages to the public by such designation?

Mr. FERRIS. The disadvantage of creating another entity?

Senator SCHMITT. No. First of all, the disadvantage of a participating carrier.

I'm trying to make you jump on the other side of the fence here and look at the problems, if any, with the participating-carrier concept.

And then, second, if Comsat is that designated carrier, does that create other problems?

Surely there is some disadvantage to having a participating carrier other than the fact that other people don't want you to do that.

Mr. FERRIS. Well, the disadvantages of the participating carrier over the carrier's carrier—I don't see any, Senator, over the carrier's-

carrier notion, because I think the emphasis really is on the efficient use of the capacity.

Senator SCHMITT. Okay. Is there any disadvantage in designating Comsat?

I'm not trying to put you on the spot.

Mr. FERRIS. I realize that.

The designating of Comsat; if that is the designation that is made, then, I think Comsat does and can provide all the criteria that I have established in my statement today from the standpoint of policy objectives.

They can do that; they have had the experience.

I don't think that they are the only entity that could have that capacity. You could create an entity similar to Comsat by legislation with public participation in the ownership and operation, but then one could open oneself up to the argument that this is redundant for something that has this type of limited mission.

If the designated entity could provide the type of criteria that we've established, Congress and the State Department certainly should be free to make this decision, and we would feel very comfortable with it.

Senator SCHMITT. So, presumably, any entity that was created as a participating carrier, assuming all other laws were adhered to, would offer in your mind the same advantages as Comsat would offer.

Mr. FERRIS. As long as they were not in the retailing aspect of the domestic market.

Senator SCHMITT. So a corporation created by other corporations to do this presumably would fit those criteria; is that correct?

Mr. FERRIS. If the corporation that is created by other corporations, if those other corporations are in the domestic common-carrier market, I do see problems with that, as I mentioned in my statement.

Senator SCHMITT. But they could be isolated just as you're studying whether Comsat operations are sufficiently insulated?

Mr. FERRIS. They could be.

It is the notion that you can create the environment whereby the policing mechanism of the FCC would be significantly minimized. I mean, I think that you could have a consortium, but I think the tendency and to some degree the appearance of that type of potential anticompetitive activity would be there.

So if the entity can be created so that the potential for anti-competition activity is minimized to the point where one does not have to worry that much about it, I think that is the best option to choose, rather than to create an environment in which the carriers would partly own the satellite entity.

Senator SCHMITT. If I can summarize, it is my understanding that you think that the difficulties that we would have and you would have would be minimized if we either created a new entity to be a participating carrier or with the proper assurances, that we designated Comsat to be that carrier, and presumably the study that we are mandating would tell us whether or not those assurances are possible.

Mr. FERRIS. That's correct.

Senator SCHMITT. Thank you, Mr. Chairman.

Senator HOLLINGS. On the subject of the study, as I understand it, both versions—that is, the Senate staff version and H.R. 11209—require the FCC to study the corporate structure and operating activities of Comsat, H.R. 11209 giving you 6 months, and the Senate staff version side giving you 18 months to complete the study, and the Senate staff version allows 12 months for the public maritime coast station study.

Now, did you ask for extra time; is that it?

Mr. HINCHMAN. Yes, we did, Senator.

In my testimony before the House when they were considering that legislation, I think there was some confusion. The 6-month figure had been mentioned, I think, at an earlier point in terms of just a very pro forma look at what should be created to do the Inmarsat business itself within Comsat. We felt subsequently that the language in the House bill looked as if it would require a major study of Comsat, including the question of whether Comsat General or Comsat should do it and how it should be structured. And we felt that 6 months was not enough to be able to do that.

Senator HOLLINGS. Apparently there was another change from the testimony over the House side, because H.R. 11209 permitted the direct interconnection between private systems and the Earth stations, and a consortium, such as a group of oil companies, would not be able to interconnect its facilities directly with the Earth station under our Senate staff version.

Did you ask for that change, or do you favor one way or the other?

Mr. HINCHMAN. I think our concern has always been that the users have an ability to get to the Earth station and that they not be required to use the specific service offerings that might be made available by the domestic carrier, so that, therefore, they should have the right to lease a private line to get to the Earth station.

I believe the House version went beyond that and actually would allow the ownership of private facilities.

Our concern has been that the user have the right to have at least a private line to get to the satellite system.

Senator HOLLINGS. All right.

Mr. FERRIS, we appreciate you and your associates coming this morning. Is there anything further you wish to add?

Mr. FERRIS. No, Mr. Chairman. We appreciate very much being here.

Senator HOLLINGS. Thank you very much, Mr. Chairman.

Mr. FERRIS. Thank you.

[The following information was subsequently received for the record:]

#### QUESTIONS OF THE COMMITTEE AND ANSWERS THERETO

*Question 1.* You testified that navigational and safety aids will be available from Inmarsat but it was unclear what specific arrangements have been made to provide such services and how they will be financed? Please elaborate on this question.

*Answer.* The Inmarsat Preparatory Committee, an international working group established to consider operational, technical and economic issues in preparation for Inmarsat, has identified a list of services which might be offered by Inmarsat. The Inmarsat Council, when it comes into being, will

consider the non-binding recommendations of the Preparatory Committee, will determine the services to be offered and when these will be offered. Council decisions will be based, among other things, upon the economic viability of offering each service.

Radiodetermination and safety aids (distress, urgency, safety communications and emergency position indicating radiobeacon (EPIRB)) have been identified as services which could be provided. It is estimated that the investment cost of the space segment would be increased by 100 percent if an accurate radiodetermination capability were included. The other services may have little impact on space segment investment costs and would likely be provided through usage charges.

The American Institute of Merchant Shipping (AIMS) and the Maritime Administration (Marad) of the Commerce Department have pressed for a U.S. position that radiodetermination should be provided through Inmarsat. The U.S. Government position in domestic Inmarsat preparatory meetings has been that it does not intend to provide any monetary support for such service on a maritime satellite. However, if the maritime industry as the using entity, and the Inmarsat organization as the provider of the space segment, desire to enter into a business arrangement for the radio-determination service at no cost to the government, the U.S. Government will interpose no objections.

This position is based upon U.S. policy that all the stated and justified maritime safety requirements are presently provided for by existing terrestrial based, government operated navigation facilities (Loran C and Omega), and that if future requirements, which depend upon a satellite, are identified and justified, then shared use of a separate multi-user satellite system should be more cost effective than integrating a positioning capability on the communications system platform. Recent GAO and OMB reports have addressed the proliferation of navigation systems, the need for a coordinated plan for navigation and the likelihood that future requirements including civil requirements, can be satisfied through a satellite navigation system such as the global positioning system (GPS). GPS is a very accurate 3-dimensional positioning system developed to meet worldwide defense requirements, and planned for U.S. military use in the 1980's. No commitment exists for this system to be made available for civil use but studies looking towards its application for civil aviation are underway. The Navy's Transit Satellite Navigation System which began operation in 1964 was made available for commercial maritime applications in 1967 and now has 4,000 users.

*Question 2.* The international record carriers argue that the consortium now serving the maritime market with Marisat should be the designated entity. Please comment on the history and present operation of that consortium and the costs to the end user of that approach compared to the designation of Comsat as (1) a participating carrier; or (2) a carrier's carrier.

Answer. As you know, the Marisat consortium consists of Comsat General, ITT World Communications, Inc., (ITT), RCA Global Communications, Inc. (RCA) and Western Union International, Inc. (WUI). Its history and the Commission's experience with its establishment is indicative of the degree of regulatory involvement required and the difficulties that occur with a consortium or any multi-carrier ownership arrangement for a satellite system.

In establishing the Marisat consortium, the Commission found it necessary to resolve a number of issues through the regulatory process which were essentially business type decisions that could not be resolved by the joint venture and were brought to the Commission for resolution. The Commission had to initially determine not only the basic eligibility requirements for carrier participation in Marisat, but also (1) limitations on carriers investments in the system and (2) management of the satellite system. Upon finding that RCA, ITT and WUI were eligible to participate with Comsat in the venture, the Commission directed the participants to promptly meet to reach agreement on the manner in which the joint venture was to operate. However, the participants were unable to reach agreement on a number of matters. They therefore individually submitted their respective views on the outstanding issues for Commission consideration and resolution. Specifically, the Commission had to resolve disagreements over matters involving (1) decision-making processes within the joint venture, and (2) the manner in which satellite capacity would be allocated. The first area included the issue of whether the IRCs, as minority owners, should be given voting or decision-making power within the joint

venture greater than their investments or in the alternative, a veto power on major matters. The second included the issues of whether satellite capacity should be allocated in proportion to investment on a pre-assigned discrete channel basis or provided on a demand assignment basis without regard to investment. The Commission released an initial decision addressing these issues and later reviewed that decision upon reconsideration and clarification.

In addition, the Commission was later required to consider questions involving whether (1) minority participants should have to contribute capital or operating expenses for telephone switching equipment, (2) Marisat's transportable earth station or other test equipment should be made available to each participant in proportion to its investment share, (3) the joint venture agreement should expressly provide for adjustment of ownership shares if Marisat continues to operate beyond its expected design life, (4) a participant should have access to shipboard terminals provided by another carrier, and (5) RCA should be permitted to operate its own earth station.

Commission consideration of these questions required a prolonged process involving the filing of numerous pleadings and responses by each of the participants.<sup>1</sup> For your information, we are attaching copies of Commission decisions involving the establishment of Marisat.<sup>2</sup>

As for the consortium's operation, it should be noted that Marisat's primary mission is to serve Navy communications needs. Commercial capacity from the Atlantic and Pacific ocean satellites is made available to each consortium member on a dedicated channel basis in proportion to its investment in the joint venture.<sup>3</sup> Each member utilizes its respective share of this capacity to individually market commercial services in the Atlantic and Pacific areas. No commercial services are provided via the Indian ocean satellites, although an application has recently been filed for authorization to begin such services.

The charges to users for Marisat services are individually determined by each consortium member. Since none of these rates have been subjected to a formal rate investigation, it is not possible to state the cost justification or other basis on which they are set. However, it seems reasonable to assume that they either are now or over the long term would be set to cover the full costs of both the terrestrial network services and the satellite links used. Moreover, it also seems reasonable to conclude that the capacity of the satellite system, which is now allocated among the carriers on a dedicated basis, is being used less efficiently (i.e. carrying less revenue-generating traffic) than would be the case if this capacity were shared on a demand basis. Accordingly, the ultimate cost to the consumer per message handled is probably higher than it need be, under the present Marisat arrangement.

The cost to users of Inmarsat services would depend both on the mode of operation utilized by the designated entity, and by the cost-cutting competitive incentives built into the structural relationships. Under any arrangement, it is clear that the operation of the satellite system itself will constitute a monopoly activity whose costs and rates will require regulatory scrutiny. As a participating carrier, the designated entity would provide a total self-contained communications service between the earth stations, satellites, and ship stations, and would interconnect with U.S. domestic carriers and international carriers which would competitively provide terrestrial access to this service. The entity would derive its revenues from, and thus be more responsive to, the ultimate consumers of maritime satellite services rather than an intermediate carrier. This would provide the dual benefit of ensuring greater accountability of the entity to the public it serves and avoiding unnecessary layering of administrative and operating costs by terrestrial carriers for the satellite service. It would also help to preserve a more competitive environment in the provision of terrestrial services, since the entity would remain free to interconnect with any new carrier, should those initially involved not provide the least cost services.

Under a carrier's carrier mode of operation, it can be expected that each authorized maritime satellite carrier inevitably would incur additional ad-

<sup>1</sup> On August 30, 1973, the Commission required the joint venture participants to enter into a consortium agreement and to submit it to the Commission for review. The agreement, however, was not submitted until August 15, 1975. Moreover, the IRC's did not make their initial capital contributions for Marisat until February 2, 1976, just a few weeks before the scheduled launch date of the first satellite.

<sup>2</sup> This material has been placed in the committee files.

<sup>3</sup> The ownership interests of Comsat General, RCA, WUI, and ITT in the Marisat system are 86.29%, 8.00%, 3.41% and 2.30%, respectively.

ministrative and operating expenses for the satellite links, over and above those of the entity, since the former would have undertaken overall responsibility for end-to-end service. Should the carrier's carrier mode result in the dedication of discrete channel capacity to particular carriers, this would also contribute to less efficient, thus more costly, operation. Finally, by removing the responsibility of serving the public directly, albeit through carrier-to-carrier interconnection, this carrier's carrier mode would remove some of the cost-cutting motivation of the satellite entity, since the latter need only pass on whatever costs it incurs to the end-service carriers, leaving it to them to recoup such costs from the ultimate maritime or other consumers.

*Question 3.* Could a large increase in future demands make a carrier's carrier with dedicated channels more cost-efficient than the "on demand" system of allocating channels through a participating carrier? How would the FCC accommodate this change in circumstance?

Answer. A large increase in future demands would not make a "carrier's carrier"—"dedicated channel" system more cost-efficient than an "on demand"—"participating carrier" system. It must be emphasized, at the outset, that the technical operation of the satellite system through the use of either "dedicated channels" or an "on demand" system is not a function of the structure of the U.S. entity providing service. In other words, a "participating carrier" could operate with either "dedicated channels" or with an "on demand" system. The same holds true for a "carrier's carrier." The technical operation is more properly a function of the type of service being provided, i.e. maritime mobile satellite service, while the structure of the U.S. entity concerns the entities rates, regulation and relationships to customers of the service.

International point-to-point service is more susceptible to operating efficiencies with the use of "dedicated channels." An increase in future demands would make such a system more cost-efficient since the pathways between the two end points would be more efficiently used. Maritime mobile service, on the other hand, requires multiple pairs of end points, so increases in future demands would require more pathways resulting in less efficient use of existing pathways if "dedicated channels" were used there. Maritime mobile satellite service is more susceptible to operating efficiencies with the use of an "on demand" system since there are many pairs of end points and relatively low volume use to any one vessel—especially when compared to the high volume use in point-to-point. An increase in future demands with an "on demand" system for maritime mobile will make the system more operationally efficient since the increases can be readily spread over available capacity by the system operator. With such increase in operational efficiency, an increase in cost-efficiency follows. If "dedicated channels" were used for the maritime mobile service, once one carrier's channels were saturated, that carrier could not introduce additional traffic into the system until such time as his channels were again available—while a second carrier might have an abundance of channels available at that time.

No matter which mode of technical operations is used, operation of the entity as a "participating carrier" should always result in greater cost efficiencies than a "carrier's carrier" arrangement. As I stated in my response to question 2, the additional administrative service and other costs associated with the presence of an intermediate carrier (a middleman), as in a "carrier's carrier" arrangement, are not present with a "participating carrier" arrangement. (See also answer to question 6). Consequently, the most cost-efficient situation for maritime mobile satellite service appears to be an "on demand," "participating carrier" arrangement. A large increase in future demands would make it even more cost efficient, possibly resulting in future reduced rates.

*Question 4.* Several witnesses contended that with the present Marisat Consortium, the carriers have been able to reduce rates, charged their customers but argue that they would not be able to do so if Comsat is the designated entity and controls the space segment and earth stations. Please comment.

Answer. From the inception of Marisat commercial services in the summer of 1976, there have been only two proposals to reduce rates—one recently filed by WUI on May 2, 1978, and another filed by Comsat General on May 12, 1978. As I stated in my response to question 2, Marisat is a developmental system with its commercial rates structured on an end-on-end basis virtually by each consortium member. However, the primary source of revenue in Marisat is from the provision of Navy services and not commercial services. Indeed, the pro-

posals for rate reductions just filed are based on a need perceived by the carriers to test market elasticity in preparation for an all-commercial satellite system such as Inmarsat.

The IRC's argument that they would not be able to similarly reduce rates if Comsat is the designated entity and controls the space segment and the earth stations is misleading. It appears to incorrectly assume that they could structure rates for the satellite link portion of maritime satellite service in response to competitive pressures if the designated entity is a separate corporation owned by several carriers, including the IRCs. In fact, the rates for use of satellite capacity obtained from Inmarsat will be based on the same factors regardless of what the ownership makeup of the entity is, and will not be subject to competitive pressures. As I pointed out in my testimony, the maritime satellite system, including the associated earth stations, will likely have to operate as a single integrated system. There is little chance that duplicative or competitive system could exist, given the very high start-up and operating costs for a satellite system and a potentially limited market for maritime satellite services. In fact, this is clearly a major motivating force behind the creation of an international joint venture to develop and operate such a system. As discussed in my response to Question 2, the designated entity's investment in the satellite system and associated earth stations will likely be no more, and may be less, if that entity is Comsat rather than a separate multi-carrier owned corporation. It is this investment plus operating expenses which will compose the cost basis for the satellite link rates structured by the entity. Thus I am not convinced that designation of a new multi-carrier owned corporation as the U.S. entity, with the attendant overhead expenses that would necessarily be involved, would insure lower satellite link rates.

As for the terrestrial service, the IRC's will have the opportunity to competitively reduce rates of that portion of maritime satellite service even if Comsat is the designated entity and controls the space segment and earth stations. Those terrestrial rates will be based on costs incurred by each carrier in providing service over their separate competitive networks providing users on land with access to the satellite system. The potential for such reductions should not be considered dependent on IRC participation in the ownership makeup of the designated entity.

*Question 5.* It was unclear whether maritime communications provided by Inmarsat will be available only to ships, vessels, or floating craft and platforms, not permanently moored in the marine environment or provided in the definition of "ships" contained in the Inmarsat Convention. Please comment on your understanding of that term. Please provide a legal opinion on the availability of the service to oil drilling platforms.

*Answer.* At the international conferences considering the Inmarsat agreements there was considerable controversy concerning the scope of the service to be offered by Inmarsat. There was a consensus that the Inmarsat space segment should be available to all ships, including platforms that were not permanently moored. However, there was a sharp split of opinion as to whether access to the space segment should be extended to permanently moored platforms or structures.

Agreement was finally reached on a compromise. The Inmarsat space segment would be available to all ships, including platforms not permanently moored. In addition the Inmarsat Council<sup>4</sup> was given the authority, on a case by case basis, and subject to certain conditions, to permit access to the Inmarsat space segment by stations located on structures in the marine environment other than ships (e.g., permanently moored platforms).

Specifically, Article 7(1) of the Convention provides:

"The Inmarsat space segment shall be open for use by ships of all nations on conditions to be determined by the Council. In determining such conditions, the Council shall not discriminate among ships on the basis of nationality."

The definition of the term "ship," as contained in Article 1 (Definitions) of the Inmarsat Convention, is:

(f) "Ship" means a vessel of any type operating in the marine environment. It includes *inter alia* hydrofoil boats, air-cushion vehicles, submersibles, floating craft and platforms not permanently moored."

<sup>4</sup>The Inmarsat Council will take actions on the basis of weighted votes which will be determined by the amount of investment in Inmarsat represented by each of the Council members. The U.S. member will have the largest initial investment share (17 percent) and thus the largest vote.

This definition appears to encompass "any type" of vessel which operates in the marine environment which is moving, or capable of being moved on relatively short notice, either under its own power, by another powered vessel or by free floatation. The term "not permanently moored" indicates that such vessels are not directly or indirectly affixed to a land mass, above or below water, in such a manner that would preclude the intentional movement of the vessel from its "moored" location unless the mooring device itself were either destroyed or intentionally dismantled (as opposed to, for example, retrieving an anchor or casting off a line). Consequently, the above definition appears to exclude permanent or semi-permanent structures such as oil drilling and production platforms located in the marine environment and attached to the underwater floor by imbedded wooden or metal pilings or girders or by permanently attached cables, lines or other contrivances.

Article 7 (Access to Space Segment), Section (1) of the Inmarsat Convention provides that the Inmarsat space segment shall be open for use by ships of all nations, on a non-discriminatory basis, on conditions to be determined by the Inmarsat Council. Coupled with the definition of "ships," this provision does not provide for access to the space segment by permanently moored oil drilling platforms. However, Section 2 of Article 7 provides:

(2) The Council may, on a case-by-case basis, permit access to the Inmarsat space segment by earth stations located on structures operating in the marine environment other than ships, if and as long as the operation of such earth stations will not significantly affect the provision of service to ships.

Therefore, it is clear that primary access to the space segment from the marine environment is intended to be by ships, but that satellite communications services may be provided to other users in the marine environment, such as oil drilling platforms. While provision of such services is to be determined by the Inmarsat Council on a case-by-case basis, the only probable impediment to availability appears to be a question of space segment capacity for this purpose at any given time *vis-a-vis* capacity for use by ships.

While neither this Commission nor the U.S. entity may be able to guarantee the availability of Inmarsat services to oil drilling platforms, we must remember that the U.S. entity will hold the single largest investment share in the organization (17%) and will participate in the Inmarsat Council. Such position may be instrumental when the Council considers providing services to stations, other than ships, operating in the marine environment. In any event, the Inmarsat Convention does not preclude the provision of Inmarsat satellite communications services to oil drilling platforms and such services legally may be made available on a case-by-case determination of the Inmarsat Council.

Finally, as a related matter, my May 8 oral testimony before the Subcommittee indicated that communications services are currently being provided to oil drilling platforms by a variety of means, including: HF radio; offshore telephone cable and microwave; private microwave; domestic satellite; and combination of these. Any provision of satellite communications services to oil drilling or production platforms by Inmarsat does not appear to be intended to supplant the existing methods of making communications services available. Provision of such services by Inmarsat would appear to be merely an additional method available to oil platforms—in competition with existing methods. The user would then be able to choose which method is best for him, taking into account such factors as: cost; availability of dedicated channels; reliability; types of service provided; etc.

**Question 6.** Under a participating carrier arrangement, would a Comsat rate reduction flow through the carriers to the "user" any faster than under a "carriers carrier" system which we now have?

**Answer.** Unlike a "carrier's carrier" set-up, a "participating carrier" arrangement has no middleman. Charges for maritime satellite services provided by a participating carrier entity are imposed directly on the user. Should the situation arise where the Commission determines that the participating carrier entity is charging rates that are unjustifiably high, then the benefits of reduced rates will flow directly to the users. Should any amounts from past overcharges be determined to be refunded, these too would flow directly to the users. Since rate reduction benefits and any overcharge refunds go directly to the users in a participating carrier arrangement, such a situation cannot be properly termed a "flow through": however, this procedure would likely be "faster" than rate reductions or refunds under a "carrier's carrier" system

where the middleman does exist. Under a carrier's carrier arrangement, there is a two step process: (1) determination of the amount of rate reduction and any refunds to the carriers; then (2) determination of amount of rate reduction and any refunds to the users. A participating carrier arrangement does away with the first step. Consequently, the user will see the benefits of rate reductions and any refunds more surely and quickly under a participating carrier arrangement. The middleman would have no opportunity to absorb any of these rate reductions or refunds, for example, through adjustment of his administrative costs and rate base.

*Question 7.* In Mr. Geller's testimony, he feels that designating Comsat as the chosen instrument of Inmarsat (enlarging Comsat's monopolistic role in international space communications) would encourage a monopolistic solution to further international commercial space ventures (e.g., Aerosat). Would you care to comment?

*Answer.* As I stated in my testimony, and reemphasize in my response to question 4 above, the maritime satellite system, including associated earth stations, will likely have to be operated as a single, integrated whole if it is to satisfy both U.S. and international service requirements at an acceptable cost. Thus, the entity designated to be the U.S. participant in Inmarsat will have a monopoly on the U.S. share of the space segment portion of maritime satellite service, whether that entity is Comsat or a separate multi-carrier owned corporation. If Comsat is the entity; troublesome questions indeed could arise involving a possible conflict of interest with its roles in Intelsat and Inmarsat, particularly if Inmarsat initially uses Intelsat satellites to provide maritime services. However, the designation of a separate multi-carrier owned corporation could also raise conflict of interest questions. It would permit ownership and control of the space segment by those carriers which would also engage in the competitive pickup and delivery of maritime satellite communications within the United States. I am not convinced that representation on the Board of Directors of the U.S. entity by officers of competing carriers would result in an objective and independent approach to structuring the rates for satellite link usage by customers and would ultimately serve the interests of competition in maritime services.

As I stated in my testimony, it may be desirable to designate an entity which neither owns nor is owned by any carrier which participates in the competitive pickup and delivery of maritime communications service within the United States. The Commission has not taken the position that this should be Comsat. However, if Comsat becomes the designee, the Commission, in my opinion, could and would take steps to assure effective regulatory oversight of Comsat so that its activities in both Intelsat and Inmarsat are conducted in the interests of the U.S. consumer.

*Question 8.* In your statement, you say that "domestic and international carriers" should generally be able to offer maritime service, also on a competitive basis. Do you mean that for purposes of providing maritime satellite services the IRC's should not be limited by the "gateway" concept in Section 222 of the Communications Act?

*Answer.* My statement that "\* \* \* domestic and international carriers should generally be able to offer maritime service, also on a competitive basis \* \* \*" is not intended to mean that the IRCs should not be limited by the "gateway" concept for purposes of providing maritime satellite services. It is intended to emphasize that maritime satellite communications in the United States will be extended from the entity's earth station over existing U.S. domestic and international networks and that pickup and delivery arrangements to extend services should be competitive where a competitive environment can exist. For instance, telephone services should be made available through the domestic public switched telephone network, while record and data services should be extended over the networks of those carriers offering such services on a competitive basis, such as the IRCs and the specialized voice and data carriers. I believe that record and data services will become even more competitive and innovative in the future and the public interest would be served by ensuring that all domestic and international carriers competing to provide such services are free to interconnect their networks to the designated entity's earth stations in order to make their various service offerings available to maritime satellite customers.

As you know, the Commission has previously recommended deletion of Section 222 of the Act, which would enable it to address the issue of gateways

and other related matters solely from the perspective of the public interest and within the context of modern technologies and services rather than the out-moded structures incorporated in that 1943 amendment to the Act. I believe this would be far preferable to any attempt to deal with this matter solely in the context of international maritime satellite services.

*Question 9.* Henry Geller testified that the difference between a "carrier's carrier" and a participating carrier is essentially metaphysical. Please comment.

Answer. A "participating carrier" arrangement for providing maritime satellite service would have three significant advantages over a "carrier's carrier" arrangement:

First, as I described in response to question 2, a participating carrier arrangement would avoid certain administrative and overhead expenses that would be incurred under a carrier's carrier arrangement and passed on to customers. In essence, a participating carrier arrangement would get rid of the middleman in the extension of maritime satellite service within the United States. The costs ultimately occurring to U.S. customers under a carrier's carrier mode of operation on the other hand, would therefore likely be higher than those that would be charged by under a participating carrier mode of operation.

Second, a participating carrier arrangement would provide the most efficient means for utilization of Inmarsat satellite links. A participating carrier approach would permit on-demand utilization of space segment capacity which, as I explained in my response to question 3, would be the most cost-efficient mode of operation for providing the satellite link portion of maritime satellite service. A carrier's carrier approach could conceivably permit on-demand utilization of space segment capacity by authorized carriers. However, it is doubtful that any significant operational benefit could accrue to the user as a result of obtaining use of space segment capacity from authorized carriers rather than directly from the designated entity.

Third, a participating carrier arrangement would provide greater motivation for efficient operation on the part of the designated entity, while also ensuring a greater degree of competition among all terrestrial carriers providing access to the satellite system. As a result, U.S. maritime communications customers would be given an opportunity to seek the most direct, least costly means available to access the maritime satellite system without incurring the operational complexities that result in the added costs attendant under a carrier's carrier arrangement. Moreover, as previously noted, any benefits of rate investigations or rate reductions would flow directly to the consumer, and not be absorbed by the "middleman" carriers.

In sum, a participating carrier arrangement would permit customers maximum opportunity to access the Inmarsat system through the least costly operational arrangement available among competitive suppliers of the landline haul. And, it would be in the interest of the designated entity to seek interconnection with as many U.S. domestic and international networks as possible since the entity would want to attain maximum use of space segment capacity by maritime communications customers.

Finally, I wish to emphasize that the participating carrier is the more conventional type of arrangement for interconnection between carriers joining in providing an entire communications service for a customer. It simply means that each carrier participating in providing that service has the ownership and operational responsibility for those facilities within its geographic area of service. A carrier's carrier, on the other hand, was conceived under the Communications Satellite Act of 1962 to deal with the injection of Comsat into the international point-to-point service area as the entity having ownership and operational responsibility for U.S. space segment capacity used for those services. By requiring Comsat only to provide only transmission capacity to U.S. international voice and record carriers, this arrangement permitted those carriers to each provide end-on-end service and thereby maintain arrangements with foreign correspondents to assure the proper configuration of U.S. networks with foreign networks. However, this need does not exist in maritime satellite service. There are no foreign correspondents' networks involved, at the other end of the satellite link, but only shipboard users. Thus, the operational or technical needs for the designated entity to function as a carrier's carrier and for interconnecting domestic and international carriers to provide end-on-end services that exist in the international point-to-point services are not present in maritime mobile satellite services.

*Question 10.* What would be the effect of amending Section 222 of the Communications Act of 1934 for the purposes of providing maritime satellite services to Hawaii?

Answer. Since we know of no plans to do so, we assume that there will not be an Inmarsat earth station constructed in Hawaii for provision of maritime mobile satellite services directly to that State. Under existing law, the provision of maritime mobile satellite services to Hawaii would be more expensive, *vis-a-vis* the same service provided to the continental United States, due to Hawaii-mainland link charge. While Hawaii is currently designated an international point for purposes of Section 222 of the Communications Act, Senate Bill 1866 would change its designation to a domestic point. Consequently, the Hawaii-mainland link charge would probably be less, but not totally disappear. S. 1886 would have no effect on that portion of the maritime mobile satellite service charge attributable to the earth station to satellite to ship links.

Section 222, as presently constituted prohibits the international record carriers (IRC's) from serving domestic points other than through specific gateway cities. S. 1866 would grandfather only the presently offered services of the IRC's to and from Hawaii. Thus, even changing the designation of Hawaii to a domestic point would still limit the pickup and delivery of maritime messages (originating or terminating in Hawaii) to passage through a gateway city in the continental United States. However, Section 4(g) of H.R. 11209 would permit the pickup and delivery of maritime traffic by the IRC's at any point within the United States. Allowing the IRC's to pick up and delivery maritime traffic at any point in the U.S. hinterland, coupled with the designation of Hawaii as a domestic point (by S. 1866), would result in maritime mobile satellite service to Hawaii not being limited to passage through a gateway city and a probable lower charge than under present law.

However, we are concerned with any attempt to single out maritime mobile satellite service for exemption from the provisions of Section 222 regarding operations of the IRC's in gateway cities. It appears impractical that the IRC's would expand operations beyond the present gateway cities for maritime satellite service only; particularly in the case where they would not provide the satellite link but only the landline haul to the shore station. Moreover, it is questionable that the IRC's would find the costs involved in expanding service to the U.S. hinterland attractive for the limited volume of maritime satellite traffic. Singling out maritime satellite service for exemption would raise basic policy questions that are involved in Commission proceedings in Docket No. 19660—gateway cities and free direct access—and in Docket No. CC 78-96 concerning the extent of Western Union monopoly over domestic telegraph service. And, it would leave doubt as to the discretion the Commission would have under Section 214 of the Communications Act to make the public interest findings on particular facilities and services proposed by the IRC's for interconnection.

And, as I stated in response to question 8, the Commission has previously recommended deletion of Section 222 of the Act, which would enable it to address the issue of gateways and other related matters solely from the perspective of the public interest and within the context of modern technologies and services rather than the out-moded structures incorporated in that 1943 amendment to the Act. I believe this would be far preferable to any attempt to deal with this matter solely in the context of international maritime satellite services.

*Question 11.* In your testimony, you stated that you favor the U.S. operating entity having complete ownership and control of U.S. maritime satellite earth stations. Please elaborate on this position.

Answer. As I described in my responses to questions 2 and 4, the maritime satellite system will likely operate as a single integrated system, with the U.S. designated entity as the sole supplier of that portion of the entire communications service between the U.S. earth stations, satellites and ship stations. As such, the entity would interconnect with existing and future U.S. domestic carriers and international carriers which would compete for the terrestrial pickup and delivery of maritime satellite service. In order to introduce the greatest operational and cost efficiencies into the provision of service in this manner, the U.S. entity should have sole ownership and control of not only the U.S. portion of the space segment facilities, but of any U.S. earth stations as well. This is particularly important if the U.S. entity is to operate as a

"participating carrier" where it would connect its portion of the total system with the competitive terrestrial networks provided by *other* carriers. Multiple ownership of maritime satellite earth stations would detract from their efficiency of operation and likely increase their cost of operation, while providing no compensating public interest benefits.

Only a small number of U.S. earth stations will be necessary to access any international maritime satellite system. The present Marisat system includes only two U.S. earth stations—one on the east coast to access the Atlantic region satellite and one on the west to access the Pacific region satellite. There does not appear to be any basis to speculate that any additional U.S. earth stations will be needed in the Inmarsat system. Access to an Indian area Inmarsat satellite by a U.S. earth station is not technologically feasible at this time. Moreover, since even a potentially cheaper earth station in the future will not reduce the costs of those needed for initial Inmarsat operation, any proliferation of such earth stations would likely represent unnecessary cost burdens that would be passed on to users.

Multiple ownership of U.S. maritime satellite earth stations also raises a number of significant problem areas and questions, including:

(a) Would all the existing domestic and international carriers authorized to connect with the maritime satellite system be eligible for ownership in U.S. earth stations? Would the Western Union Telegraph Company (WU), which provides the basic domestic Telex and TWX networks, which will be used to access the maritime satellite system, be eligible to own a share of U.S. land stations? Or, would WU be barred from ownership of such international facilities by Section 222 of the Communications Act?

(b) Would *only* carriers which actually connect their facilities *directly* with U.S. maritime satellite earth stations be eligible for ownership, or would remotely located "connecting" carriers (e.g., an independent telephone operating company or the Hawaiian Telephone Company) be eligible for ownership? Would *only* carriers be eligible for ownership, or could users be also considered?

(c) Would it be practical to have a large number of owners of only a few maritime satellite earth stations, whether such owners are carriers, users, individuals, or a combination?

(d) What standards would determine ownership eligibility and on what basis would ownership shares be determined? Would ownership shares of carriers be related to the level of traffic provided to the maritime satellite system? Would ownership shares be adjusted to reflect changes in traffic provided to the system? Would minimum or maximum level of investment be required?

(e) Would ownership in maritime satellite earth stations result in a measure of operational control to the various owners? If so, how would that control be exercised?

(f) Would all owners of U.S. maritime satellite earth stations be joint licensees of those stations and subject to the provisions of the Communications Act? If not, through what procedure would the Commission effectively regulate the operation, control and ownership of the earth stations?

(g) If eligible carriers chose not to own shares in maritime satellite earth stations, would other eligible carriers be required to pick up the outstanding shares, or would the U.S. entity be required to assume any ownership not assumed by other eligible carriers?

All of the above questions assume that the U.S. operating entity would operate as a "participating carrier" and also be responsible for the U.S. share of any international maritime satellite system. Were it assumed that the entity would operate as a "carrier's carrier," some different issues would be involved and different questions regarding multi-carrier ownership of earth stations would be raised. However the questions are resolved, multi-carrier ownership of U.S. maritime satellite earth stations would likely result in protracted, repetitive regulatory proceedings and possible court litigation. The regulatory costs associated with "managing" a multi-carrier ownership arrangement, coupled with increased administrative costs likely to be incurred because of multi-carrier ownership, could only result in higher charges to users.

*Question 12.* In your testimony, you stated that under a "participating carrier" mode of operation, the U.S. operating entity would be engaged in and have responsibility for serving the public directly. Please elaborate on this statement.

Answer. The following points are basic to understanding the role of the U.S. operating entity in serving the public directly as a "participating carrier."

(1) An international maritime satellite system will likely be operated as a single, integrated system with little or no chance for duplicative or competitive systems to exist.

(2) The U.S. operating entity participating in such a system would be the sole supplier of U.S. space segment capacity obtained from the system and U.S. earth station services.

(3) For maritime satellite service to be made available to U.S. customers, the U.S. entity must interconnect space segment and earth station services, with existing and future U.S. communications networks authorized to pick up and deliver maritime satellite traffic in the United States.

(4) This interconnection could be accomplished through either "carrier's carrier" or "participating carrier" arrangements.

As I stated in my testimony, the U.S. entity operating as "carrier's carrier" would merely provide transmission capacity under some form of lease arrangement to U.S. carriers authorized to provide end-to-end maritime satellite services between U.S. customers and ship stations. The authorized carriers would in essence be "middlemen" responsible to U.S. customers for both the space segment and terrestrial portions of the overall maritime satellite service.

However, as a participating carrier, the U.S. entity would retain responsibility to the public for that portion of the overall maritime satellite service between the U.S. earth stations, the satellites, and ship stations. In essence, the entity would offer to U.S. customers maritime space segment and earth stations services as a self-contained communications offering. U.S. domestic carriers and international carriers would be responsible for providing only terrestrial access to these services through interconnection of their networks to the entity's earth station facilities. The U.S. entity would not provide its own terrestrial facilities and services beyond its earth stations, and would not compete with U.S. domestic carriers and international carriers for providing terrestrial access to the satellite system. Its communications function would be to receive and assemble maritime satellite traffic, both inbound and outbound, at its earth stations and route it over the satellite facilities.

Under a participating carrier arrangement, the U.S. entity would be directly accountable to customers, rather than to "middleman" carriers, for rates and services. Placing responsibilities for rates and services on the entity in this manner would likely motivate the entity to pursue cost-cutting measures that it may not otherwise pursue if it were able merely to pass costs on to "other carriers under a carrier's carrier mode of operation. Moreover, as I have previously pointed out, a participating carrier arrangement would avoid the unnecessary layering of administrative and operating costs that would exist under a carrier's carrier arrangement.

Additionally, a participating carrier arrangement would give the U.S. entity incentive to actively promote maritime satellite services. As I stated in my testimony, the costs of any financial commitments involved in providing maritime satellite services should not be borne by the users of other international communications services. In view of this, the entity will have to depend only on revenues received from the public for use of space segment and earth services to earn a return on its very substantial investment in the satellite system and to recover its high start-up costs. Thus, the entity would seek to maximize the use of these services by seeking out customers with specific maritime communications needs. This could involve advising such customers as to the least cost means of obtaining access to the satellite system. Also, the entity could sell or lease ship terminal equipment. Of course the entity's shipboard terminal and communications offerings would be separate so that the costs of the shipboard terminal provided to customers are in no way recovered through charges for the communications services, and there is no compulsory tie between the sale of communications equipment and the provision of communications services.

In sum, the U.S. operating entity would be more accountable to the ultimate consumer and more conscious of the need to minimize costs and rates under a participating carrier arrangement than under a carrier's carrier arrangement. Moreover, there would be no unnecessary layering of administrative and operating costs as would likely result under a carrier's arrangement. In addition, a more competitive environment for the provision of terrestrial access to the satel-

lite system would be fostered, since the entity would be free to interconnect with any U.S. terrestrial carriers in order to promote the least cost means of accessing space segment and earth station services. All these factors should result in significantly better service at lower rates to the ultimate consumer than would otherwise prevail.

*Question 13.* In your testimony, you stated that you preferred a "participating carrier" arrangement for the U.S. operating entity, as opposed to a "carrier's carrier" arrangement. In this regard, please explain: (1) a carrier's carrier arrangement; (2) a participating carrier arrangement; and (3) why a participating carrier arrangement would be more preferable to a carrier's carrier arrangement?

Answer. As I have emphasized in both by testimony and my responses to previous questions, an international maritime satellite system, such as Inmarsat, will be operated as a single, integrated system, with little or no chance for duplicative or competitive systems to exist. The U.S. operating entity participating in that system would be the sole supplier of U.S. space segment capacity obtained from the system. This function will be a monopoly activity, whether the entity is a single designated carrier or a separate multi-carrier owned corporation.

The space segment capacity together with the U.S. earth station facility would enable the U.S. entity to establish communications channels between the earth station and the ship stations at sea over the satellite system. However, the customer located on land would need to be connected to the earth station in order to make use of the system. Existing domestic and international telephone, telex, data, and telegraph systems can be connected readily with the U.S. earth stations in order to provide the customer access to the maritime satellite system provided by the U.S. entity. The question is how best to make the satellite system available to the user and connect the necessary system. The two arrangements are discussed below.

#### CARRIER'S CARRIER

If the U.S. entity is operated as a carrier's carrier, it would provide satellite system transmission capacity to U.S. common carriers authorized to obtain such capacity and use it together with other facilities in providing an end-to-end service to the user. The authorized carriers would lease satellite system capacity from the entity. The entity, as a carrier's carrier would file tariff schedules with the Commission showing the rates charged the authorized carriers for lease of transmission capacity. The carriers would in turn file tariff schedules showing the rates paid by U.S. customers for the end-to-end service provided. The carriers would incorporate the charges for the satellite system capacity into their overall rate to the public.

#### PARTICIPATING CARRIER

As a participating carrier, the U.S. entity would not be limited to providing transmission capacity to a few authorized carriers. Instead, it would retain responsibility to the public for the satellite system portion of maritime satellite services. The entity would offer satellite system services to the user and not to another carrier. In order for the user to access the satellite system, existing and future domestic and international carriers would be authorized to connect their systems to the satellite system at the earth station. The entity would file tariff schedules with the Commission showing the rates to the public for use of the satellite system portion of maritime satellite services. In this way, its charges for space segment and earth station services would accrue directly to U.S. customers rather than through certain authorized "middlemen" carriers. Domestic and international carriers providing user access to the satellite system through interconnection of their networks to the entity's earth station facilities would file tariff schedules showing the rates to U.S. customers for this service. The domestic and international carriers together with the U.S. entity (also a common carrier) would participate in providing a through service to the customer.

Those carriers providing terrestrial access to the satellite system would not provide the space segment and earth station services to users. Conversely, the entity would not provide terrestrial facilities and services beyond its earth stations and would not compete with U.S. domestic carriers and international car-

riers for providing terrestrial access to the maritime satellite system. The entity's communications function would be to receive and assemble maritime satellite traffic, and route outbound traffic over the satellite system to ship stations and inbound traffic to the appropriate carrier for terrestrial pickup and delivery to shore points.

#### ADVANTAGES OF A PARTICIPATING CARRIER OVER A CARRIER'S CARRIER

A participating carrier arrangement would have significant advantages over a carrier's carrier arrangement in the areas of (1) investment costs and administrative expenses, (2) operational efficiency, and (3) terrestrial access to the satellite system.

A participating carrier arrangement would avoid certain unnecessary, additional investment costs and administrative expenses that would be incurred under a carrier's carrier arrangement and passed on to customers. First, those carriers authorized under a carrier's carrier arrangement to provide end-to-end maritime satellite services would inevitably incur administrative expenses in leasing transmission capacity from the entity, such as personnel, recordkeeping and other overhead expenses normal to any business activity. Second, those carriers would also incur investment costs and maintenance expenses for test equipment and other operational facilities necessary to undertake overall operational responsibility for end-to-end maritime satellite service. Such equipment and facilities would only be duplicative of that used by the entity itself in providing transmission capacity to the carriers. Third, should a carrier's carrier operation result in the dedication of discrete channel capacity to the various carriers, less efficient use of space segment capacity would result with correspondingly higher costs to customers.

These layered administrative expenses and duplicative investment costs result only from the existence of a "layering" of carriers responsible for the same (*i.e.*, satellite) service offering. A participating carrier arrangement would eliminate the "layering" in providing satellite capacity, and, as a result, permit the user significant economies in this portion of the overall communications service. Moreover, by making the U.S. entity accountable directly to customers for satellite service and rates a participating carrier arrangement would likely motivate the entity to pursue cost-cutting measures that it might not otherwise pursue if it were able merely to pass on costs to other carriers under a carrier's carrier mode of operation.

A participating carrier arrangement would permit the most operational and cost efficient use of space segment capacity. Both a participating carrier and a carrier's carrier could operate under either a "dedicated channel" or an "on demand" system of space segment utilization. As I explained in my response to question 3, an "on demand" system of space segment utilization would offer maritime mobile satellite service better operating efficiencies than a "dedicated channel" system.<sup>5</sup> Thus, with the greater cost efficiencies described above as associated with a participating carrier mode of operation, the optimum arrangement for providing maritime mobile satellite service would be an "on demand" participating carrier arrangement.

A participating carrier arrangement would foster a more competitive environment for the provision of terrestrial access to the satellite system since the U.S. entity would be free to interconnect with any U.S. terrestrial carrier in order to provide customers opportunity to select the least cost means of accessing the maritime satellite system. Under a carrier's arrangement competition in the pickup and delivery of maritime satellite traffic would be limited to those carriers authorized to provide end-to-end services and financially capable of making a substantial commitment to least satellite capacity from the carrier's carrier. If authorization to provide such service is limited to present maritime carriers, other terrestrial carriers such as Western Union and a variety of specialized voice and data carriers would be precluded from providing terrestrial access to the

<sup>5</sup> A "dedicated channel" system would introduce the potential for saturation of some space segment channels while others are being under-utilized. This would result in operating inefficiencies and greater costs to users. An "on demand" system would minimize this potential since the U.S. entity could use U.S. space segment capacity to satisfy user demand regardless of which terrestrial carriers are engaged in the pickup and delivery of maritime satellite traffic. Capacity would not be dedicated to use in conjunction with a particular terrestrial carrier.

maritime satellite system.<sup>6</sup> Moreover, lengthy contests before the FCC and the courts would likely ensue over the authorization of additional carriers, with Section 222 of the Communications Act being advanced as a basis for excluding Western Union from this activity. Under a participating carrier arrangement, access to the satellite system by any U.S. carrier would involve minimal financial risk and regulatory clearance, and it would be in the entity's interest to interconnect with as many terrestrial carriers as possible in order to provide customers the widest possible range of options through which they could access the satellite system. As I stated in my response to question 12, the U.S. entity will have to depend only on revenues received for use of space segment and earth station services to earn a return on its very substantial investment in the satellite system and to recover its high start-up costs. It therefore will seek to maximize the use of these services. The entity could best accomplish this by permitting customers maximum opportunity to seek the least cost terrestrial arrangement available among competitive suppliers of landline access to the satellite system. I believe that a competitive environment for the provision of terrestrial access to the system would serve the public interest and the future growth of maritime satellite services.

Finally, as I emphasized in my response to question 9, a participating carrier arrangement is the most practical arrangement for accommodating the operational needs of maritime satellite service. The concept of a carrier's carrier was conceived under the Communications Satellite Act of 1962 to deal with the injection of Comsat into the international point-to-point service area as the entity having ownership and operational responsibility for U.S. space segment capacity used for those services. By requiring Comsat only to provide only transmission capacity to U.S. international voice and record carriers, this arrangement permitted those carriers to each provide end-on-end service and thereby maintain arrangements with foreign correspondents to assure the proper configuration of U.S. networks with foreign networks. However, this need does not exist in maritime satellite service. There are no foreign correspondents' networks involved, at the other end of the satellite link, but only shipboard users. Thus, the operational or technical needs for the designated entity to function as a carrier's carrier and for interconnecting domestic and international carriers to provide end-on-end services that exist in the international point-to-point services are not present in maritime mobile satellite services.

*Question 14.* In implementing policy, HR 11209 provides for the President to issue instructions to the designated operating entity (Comsat) to insure that its relationships and activities are consistent with U.S. national interest and foreign policy. HR 11209 also provides for the Commission to make recommendations to the President for the purpose of assisting the President in issuing such instructions. In contrast, the Senate draft bill does not specifically provide for the President to issue instructions, but does authorize the Commission to issue instructions with respect to regulatory matters within its jurisdiction. Please comment on these differences.

<sup>6</sup> These carriers would have to interconnect their facilities with those of authorized carriers in order to provide access to the satellite system under a carrier's carrier operation. This would add an unnecessary degree of operational complexity to a function that could be accomplished by direct interconnection with an entity on a participating carrier basis. And, it could result in greater costs to customers.

In comparison, Telex, TWX and message telegram service extended to Western Union customers on a participating carrier basis by the direct interconnection of Western Union's domestic network with the entity's shore stations could offer two benefits to those customers. It could (1) eliminate costs and (2) reduce opportunities for circuit trouble, that would otherwise exist if Western Union is required to operate through intermediate carriers as a result of the entity operating on a carrier's carrier basis. The avoidable costs would include those for utilization of the authorized carrier's switching equipment and the necessary circuits between the switch and the shore station, and also any administrative costs incurred as a result of providing Western Union customers access to maritime satellite service. The avoidable opportunities for circuit trouble would be those created by introducing an additional network into routing traffic between Western Union's facilities and the entity's shore station.

Similarly, AVD services extended to customers on a participating carrier basis by the direct interconnection of customer offices to the entity's shore stations through leased voice grade channels, could offer opportunities for customer savings that otherwise might not be available if the entity operated on a carrier's carrier basis. The cost to AVD customers for terrestrial access to maritime satellite service through direct leased line interconnection essentially would be that involved in obtaining the leased lines and interfacing them with the entity's shore station. However, if the entity operates as a carrier's carrier, AVD customers may not have the opportunity for direct access to shore facilities through private leased lines. They would access shore station facilities by interconnecting leased lines from their office location to the networks of authorized carriers.

Answer. Section 4(a) is the only provision of H.R. 11209 which deals with instructions to the designated operating entity (Comsat). It gives to the President—and to the President alone—authority to give instructions concerning the activities of the entity to insure their consistency “with the national interest and foreign policy of the United States.” I question whether there is any need in the case of international maritime satellite communications to depart from conventional governmental oversight arrangements embodied in existing statutes<sup>7</sup>; but I particularly question whether a grant of executive authority for the President to issue such instructions is consistent with this Commission’s responsibilities regarding various investment, tariff, and related matters. While H.R. 11209 would allow the Commission to make recommendations to the President regarding national interest and foreign policy, it does not authorize the Commission to instruct the entity (or advise the President on instructions) regarding regulatory matters (*e.g.*, construction permits, operational plans, rates, etc.). Since the U.S. entity will be both a common carrier (fully subject to FCC regulation under the Communications Act of 1934) and the U.S. representative in the Inmarsat Council, regulatory decisions will directly impact the U.S. entities’ actions within the Inmarsat Council. Therefore, if it is necessary to specifically authorize the President to issue instructions to the U.S. entity concerning national and foreign policy, it is equally necessary to authorize the Commission to issue instructions concerning regulatory matters. Certainly it would be inappropriate to authorize the President to issue instructions regarding regulatory matters and in effect have a veto power over Commission regulatory determinations.

Under H.R. 11209, the President is given authority to issue instructions to the entity relating to the national interest and foreign policy not only in connection with its relationship with foreign governments, but also with respect to its relationships with international entities and other organizations (including the Organization or the satellite telecommunications agency). To the extent that the entity may have relationships with foreign entities or organizations in which the United States Government is not involved (*i.e.*, where the Government is not a party to a convention or other intergovernmental agreement), I question whether the President should be involved in issuing instructions to the corporation. In the case of Inmarsat, where the U.S. Government would be a party to the convention, Presidential instructions to the designated entity relating to the national interest and foreign policy would clearly be appropriate. This might not be true if the entity joined with one or more foreign communications entities to establish a space segment without there being any intergovernmental convention or agreement to which the United States Government was a party. In the latter case, it would be a business arrangement between communications entities not calling for instructions from the executive branch. In addition, the language of the bill seems broad enough to authorize Presidential instructions even in those cases where the corporation might enter into routine operational agreements for the handling of traffic with foreign telecommunications entities.

Subsection (5) of Section 4(a) would also authorize the President to “aid in planning and development of the telecommunications system . . . and in the planning and development of services provided . . .” (emphasis added). While some of the language is taken from the 1962 Satellite Act, it is doubtful that all of the Presidential powers provided by the Satellite Act are necessary or justified today with respect to a maritime satellite system. Moreover, this provision goes significantly beyond the powers given by the Satellite Act and involves the President for the first time in the “services” to be provided by the new system. This injects the President into areas of day-to-day communication operations and policy (*e.g.*, whether various types of services should be offered—data, facsimile, etc.), and appears to place him in direct conflict with the Commission’s statutory authorities and responsibilities for such matters in general.<sup>8</sup>

<sup>7</sup> The Communications Act of 1934, as amended, places responsibility for regulating such intercarrier arrangements as well as non-governmental uses of the radio spectrum in the Commission. H.R. 11209, as written, would appear to remove this responsibility in this particular area from the regulatory agency established by the Congress to handle such matters generally, and place it within the President. There is, of course, no question as to the President’s authority over foreign policy matters.

<sup>8</sup> It can be argued that the President (and the Executive Branch) has a special interest in safety services (and perhaps in radio navigation). However, to the extent there is a special role in those areas, it should be specifically spelled out, rather than giving the President broad unprecedented powers with respect to all communications services to be offered over the New System.

It can be argued that there is no need for Congress to provide expressed authority to issue instructions to the designated U.S. entity. For instance, the Communications Satellite Act of 1962 contains no such expressed authority, but the Department of State, the Office of Telecommunications Policy (now, NTIA) and the Commission have jointly provided instructions to Comsat as the U.S. representative in the Board of Governors of Intelsat on matters of concern to the government. In the case of Inmarsat the U.S. entity would also represent the United States in an international organization and the United States Government would be a party to underlying agreements (here, the Inmarsat Convention). There should be no doubt that the U.S. entity would be subject to all pertinent U.S. laws and would be responsive to directives from the government concerning regulatory, national or foreign policy matters. There does not appear to be any necessity to specify the Presidential authority to direct the foreign affairs of the United States or the regulatory authority of the Commission over those carriers subject to the Communications Act of 1934. The language in HR 11209 confuses the issue and raises questions concerning regulatory directives and the role of the President in such matters.

The Senate draft bill, on the other hand, is clear regarding the Commission's regulatory authority and provides adequate Presidential powers in order for the President to exercise his national and foreign policy responsibilities. For the reasons discussed above, I believe this to be the preferred approach to follow in the Inmarsat legislation. The Commission's regulatory authority over the U.S. entity as a U.S. common carrier is clear. In addition, the Commission's authority over the entity as the U.S. representative in an international organization is also made clear by inclusion in the Senate draft bill the authority for the Commission to issue instructions to the entity concerning regulatory matters. Regarding foreign policy matters, it should be clear that the U.S. entity established by Congress to be the U.S. representative in an international organization to which the U.S. Government itself is a party is subject to Presidential direction and will carry out such directions to the best of its ability. No specific language is necessary.

#### ADDITIONAL QUESTIONS OF SENATOR STEVENS

*Question.* I understand a decision was recently made which requires Comsat to refund almost 100 million dollars in overcharges to its users. What are the facts in this matter?

*Answer.* The Commission recently adopted a proposed settlement of the thirteen year-old Comsat Rate Case. The settlement proposal followed a final decision on a 20,000 page hearing record and strongly contested judicial review. As a result of these rate proceedings Comsat's regulated carrier customers will receive from Comsat a refund of \$100 million and approximately a 50% reduction in revenues collected from them under Comsat's tariffs. The Commission believes these cost reductions and refunds should be flowed through to the ultimate consumer, and has instituted a proceeding for the purpose of achieving such flow through by the international service carriers.

[A copy of the Commission's public notice providing additional details is attached.]

#### COMSAT RATE CASE DOCKET NO. 16070: NOTICE OF PROPOSED SETTLEMENT

On February 17, 1978, representatives of the Common Carrier Bureau and General Counsel's Office and the Communications Satellite Corporation (Comsat) reached agreement on a proposed settlement of FCC Docket 16070, the Comsat rate case. The proposal is subject to Commission approval and a finding that a settlement is in the public interest. The Comsat Board of Directors must also act upon the settlement. The proposed settlement is a result of negotiations announced by a letter of General Counsel Robert Bruce to parties of record in the proceeding. All parties were invited to attend and participate in the negotiations. In order to afford the widest possible consideration, the attached proposed "Settlement Agreement" is presented for public comment:

The proposed settlement agreement covers the issues remanded to the Commission by the U.S. Court of Appeals for the District of Columbia Circuit in its October 14, 1977 decision, which generally affirmed the Commission's rate order. Other outstanding questions in Docket 16070 are addressed, par-

ticularly those related to the funds subject to refund held by Comsat in escrow. The major points of the settlement follow:

(1) Comsat will refund to the public approximately \$92.2 million plus interest (the sum of the monies already in escrow) plus approximately an additional \$5.2 million called for in the proposed settlement agreement.

(2) Comsat will file new tariffs which will yield approximately a 48 percent reduction in the charges which would have been paid by Comsat customers in 1978, if Comsat's 1975 rates had remained in effect.

(3) Comsat will withdraw its further petition for re-hearing pending before the U.S. Court of Appeals for the District of Columbia Circuit and refrain from further rate case related litigation.

(4) These new tariffs for Comsat's services through the Intelsat system will be based on revenue requirement calculations which feature a number of modifications:

(a) Intelsat capital contributions (Comsat payments for Intelsat's construction program) will be allowed in the rate base.

(b) Other plant construction work will be allowed in the rate based when it is placed in service. While under construction, this plant will accrue "interest during construction".

(c) Comsat will include 75% of the investment in its laboratories in its rate base.

(d) Comsat allowed return on equity will be re-stated, consonant with current market conditions to 12.2%.

(e) Until such time as Comsat acquires debt equal to 45% of its rate base, Comsat's overall allowed rate of return on rate base will be 11.48%. This is an average over a six year period of the imputation of debt beginning January 1, 1978 and continuing over the next five years at the rate of 9% per year. If Comsat acquires debt equal to 45% of its rate base, its overall rate of return would reflect a return on equity of 13.2% with the cost of debt being the cost of an A-rated public utility at the time Comsat acquires debt. The efficiency incentive allowed in the Commission's decision of an additional one percent will be retained.

(5) For refund purposes, Comsat's new tariffs will be treated as if they were in effect September 9, 1977. This will result in the additional refunds to customers of approximately \$5.2 million referred to above.

(6) The Commission will confirm its intention to require flow through by Comsat's carrier customers, to ultimate users both of funds in escrow and reductions in Comsat's tariffs. Any international common carrier which has not agreed to "flow through" by the time Comsat's new tariffs become effective will not have its escrow money refunded, nor will it be billed at the new rates until the flow through matter has been resolved in separate proceedings. Instead, Comsat will continue to hold the carrier's funds currently in escrow and continue to charge the rates in effect before the settlement. The difference between the pre-settlement rates and the new Comsat rates will also be held in escrow until the flow through issue is resolved. The international common carrier will bear the administrative costs of the escrow fund in the future.

(7) The proposed settlement also contains a variety of procedural provisions.

Accordingly, the Chief, Common Carrier Bureau hereby gives public notice of the terms of the proposed settlement agreement in Docket No. 16070 reached by representatives of the Common Carrier Bureau, the General Counsel and Comsat. As previously stated, this agreement is subject to approval by the Commission. Any individual or organization wishing to file comments concerning the proposed settlement agreement shall do so by March 30, 1978.

#### SETTLEMENT AGREEMENT

1. Comsat will file revised tariffs for its jurisdictional international satellite communications services in full compliance with the Commission's December 4, 1975 Rate Decision (56 F.C.C. 2d 1101) with the following adjustments to be made as of September 9, 1977.

a. Comsat will include in rate base 75% of its net investment in its Laboratories;

b. Comsat will include in rate base its capital contributions to Intelsat for space segment plant and related equipment in lieu of interest during construction, and it will be allowed compounded interest during construction on

other construction work in progress computed at 9%, which represents approximately the present rate for A-rated public utility bonds;

c. Based on the methodology used in the Rate Decision of a riskless rate of return (pegged to the current long-term government bond yield—presently 8.2%) plus a 4% risk premium, Comsat's allowed rate of return on equity will be 12.2%;

d. When Comsat actually incurs debt equal to 45% of its rate base, Comsat's allowed rate of return on equity will be 13.2% to reflect the added risk of debt in accordance with the Rate Decision and the Court of Appeals Opinion. For purposes of computing Comsat's overall allowed rate of return on rate base, Comsat's cost of debt shall be calculated as the prevailing interest rate for a public utility with 45% debt engaged only in Comsat's jurisdictional business (presently assumed to be the rate for an A-rated public utility). Thus, for example, if, when Comsat actually acquires debt equal to 45% of its rate base, the prevailing interest rate for such public utility is 9%, Comsat's overall rate of return would be  $13.2\% \times 55\%$  equity plus  $9\% \times 45\%$  debt or 11.31% (with an additional 1% allowed in the Rate Decision for efficiency).

e. Until such time as Comsat actually incurs debt equal to 45% of its rate base, Comsat's overall allowed rate of return on rate base will be 11.48% to reflect the imputation of 45% debt (with an additional 1% for efficiency allowed in the Rate Decision). The 11.48% is the average rate of return over a six-year period beginning January 1, 1978, assuming a 12.2% rate of return on equity and the imputation of 45% debt at the rate of 9% per year for five years beginning January 1, 1979, with cost of debt calculated at the present interest rate for A-rated public utility bonds (9%).

2. A retrospective analysis of Comsat's informational tariffs of August 2, 1976, filed in accordance with the Commission's July 22, 1976 Escrow Order (FCC 76-688), indicates that the escrow accounts contain sufficient funds for an equitable refund for the period through December 31, 1977, assuming (1) that Comsat was entitled to a return of 11.3% on rate base (plus the 1% allowed for efficiency in the Rate Decision); and (2) that rate base might properly include Intelsat capital contributions, provided that Comsat makes an additional payment of not less than \$5.2 million into the escrow fund. The additional payment would be calculated on the assumption that Comsat had voluntarily filed new informational tariffs on September 9, 1977 (the date of the Commission's letter of inquiry) calculated in accordance with ¶ 1 above. Pursuant to Commission order as described in ¶ 3 below, Comsat will distribute all funds (including interest thereon) that are properly in the escrow accounts for the period through December 31, 1977. Deposits placed in the settlement will be divided between Comsat and its customers as if the revised escrow accounts for the period from January 1, 1978 to the date of final tariffs calculated in accordance with ¶ 1 above had been in effect on January 1, 1978. Comsat will bear all administrative costs associated with the escrow accounts provided in the Commission's Escrow Order.

3. The Commission will confirm its intention to require flow-through to the ultimate users both of the funds in escrow and of the cost savings to Comsat's carrier customers of reductions in Comsat's tariffs. With respect to funds in escrow subject to refund (with accrued interest) through the effective date of Comsat's revised tariffs, Comsat will not distribute such funds to any international communications common carrier until the flow-through issue has been finally resolved or until such earlier time as any carrier agrees to flow through any portion thereof, in which case such portion of the escrow shall be released for flow-through as approved by the Commission. Comsat will file its revised tariffs within seven business days after entry of a final order approving this Settlement Agreement. After such notice to the public as the Commission deems appropriate, the revised tariffs shall be the lawful governing tariffs for the provision by Comsat of international communications satellite services. If, at that time, the flow-through issue has not been finally resolved, Comsat will, upon request of the Commission, continue to bill at the rates in effect before the date of the Settlement Agreement those common carrier customers that do not agree to flow through the cost savings resulting from the reductions in Comsat's tariffs or agree to place in escrow amounts equal to the difference between Comsat's revised tariffs and the tariffs in effect before the date of final settlement (the administrative cost of such escrow account to be borne by the carrier customer). In the event Comsat continues to bill any carrier cus-

tomers at the rates in effect before the date of final settlement. Comsat will establish a separate escrow account into which it will place the difference between the amounts billed the carrier customer and Comsat's revised tariffs (the administrative costs of such escrow account to be borne by the carrier customer.)

4. Upon entry of a final order approving this Settlement Agreement, Comsat will withdraw its petitions for further review of the Commission's December 5, 1975 Rate Decision, and the Commission will vacate its December 7, 1977 Order (FCC 77-802).

5. A Commission Order approving this Settlement Agreement will have the same prescriptive effect as if the provisions of the Settlement Agreement had been incorporated in the Commission's 1975 Rate Decision.

6. Comsat will conform its books of account with the provisions of the Rate Decision and this Settlement Agreement as if the Decision and this Agreement had become effective June 16, 1976 (the effective date of the informational tariffs filed pursuant to the Commission's Escrow Order of July 22, 1976). Comsat will meet with the Commission staff to revise FCC Form 901 consistent with the Rate Decision and this Settlement Agreement.

7. Nothing in this Settlement Agreement precludes any party in Docket No. 16070 from adopting a different position in any future rate case.

This Settlement Agreement is subject to approval by the Board of Directors of Comsat and by the Commission, after notice to the public and opportunity for comment.

*Question.* Does the fact that this enormous overcharge occurred indicate anything about the FCC ability to regulate Comsat?

How was this overcharge discovered, i.e., was it revealed by FCC staff or by users of Comsat?

*Answer.* As a result of staff analysis of tariff support material and customer protest, Comsat's initial rates were set for hearing in June 1965. While this step appeared rational and indeed necessary at the time in response to the Act, the case remained dormant, except for occasional accounting orders and prehearing conferences, until 1971. Evidentiary hearings were then ordered forward. The hearings took several years and amassed a record culminating in over a thousand pages of briefs. The Commission issued its 115 page decision in December 1975.

The rate case involved a great number of complex issues generally related to Comsat's revenue requirement and rate structure. (Through its revenue requirement a carrier determines what it must collect in its rates to recover prudent operating expenses and capital costs.)

In the proceeding the Commission basically found that Comsat had greatly overstated its revenue requirement. Generally, it was concluded that Comsat had not fulfilled the mandate of the 1962 Communications Satellite Act to make the economic benefits of satellite technology available to the public. It is believed that the Commission's rate prescription will rectify the situation so that future Comsat rates will not get so far out of line with costs. The Commission will now be able to monitor Comsat's operating results for adherence to its fair authorized return. The decision and settlement also contain provisions related to routine financial reporting.

*Question.* The bill before this committee gives the FCC enormous responsibilities to control and regulate Comsat. Do you have the manpower and funding to perform those responsibilities? Do you have adequate authority?

*Answer.* The passage of HR 11209, or an equivalent Congressional bill, would place the United States in a position of having at least a designated entity to participate in the international organization Inmarsat, if not resulting in participating in that organization. Consequently, additional regulatory effort will be required of this Commission to not only deal with the designated entity's (here, Comsat's) facilities operation, but to provide guidance and instructions to the entity on regulatory concerns in its position as the U.S. representative in an international organization. The Commission's manpower and funding levels for the regulation of international and domestic carriers are currently marginal. Improvements in manpower and funding are necessary to bring current responsibilities up to more effective standards. The additional regulatory requirement generated by the passage of Inmarsat legislation will certainly require additional manpower funding for this Commission to properly perform its functions in this area effectively.

The Commission's budget proposals for the last several years have pointed out the need for increased levels of manpower and funding to more effectively regulate those matters concerning international telecommunications, including maritime and maritime satellite services. The immediate need with regard to the pending Inmarsat legislation is for increased manpower and funding to initiate and to complete the two comprehensive studies required by H.R. 11209 and the Senate Staff working draft. However, continued effective regulation and oversight of maritime satellite services will necessitate further increases due to the minimum resource levels currently existing for international regulation.

While the Commission does not currently have adequate resource levels necessary to properly and effectively control and regulate international telecommunications, it will have adequate authority to control and regulate the designated entity (here, Comsat) with the passage of legislation along the lines of the Senate Working Draft. Along with the Communications Act, such legislation should give the Commission the necessary authority to control and regulate Comsat for provision of maritime mobile satellite services. And, the Communications Satellite Act of 1962 in conjunction with the Communications Act gives the Commission adequate authority to regulate Comsat for provision of services through Intelsat.

*Question.* Has the Commission done any studies on the potential market involved here? on the effects of competition?

*Answer.* The Commission has not carried out any independent analysis of the probable market demand for maritime satellite services, their probable cost, the potential need for and source of any direct or indirect subsidies, or other issues concerning the economic viability of an international joint venture to provide maritime satellite services. The development of information regarding these issues has been the subject of continuing discussions and studies within an international working group with U.S. participation established upon the initialing of the Inmarsat Convention by 40 nations. The Inmarsat Preparatory Committee was mandated to consider various operational, technical and economic matters in preparation for the establishment of Inmarsat. Specifically, economic studies are being pursued to (1) outline the various communications services which might be offered through Inmarsat; (2) develop traffic and economic forecasts; (3) analyze the the economic viability of various system alternatives; (4) develop methods for determination of system utilization and the establishment of utilization charges; (5) draft an Inmarsat cash flow and capital budget; and (6) draft financial procedures and accounting policies. Draft reports concerning these subjects have been submitted to the Committee; however, no final reports have been released which the Commission can evaluate.

*Question.* Does the FCC feel there is any conflict or restraint of trade implied in a situation where Comsat is providing a service and is permitted to market that service directly while others providing the service must purchase the service from Comsat?

*Answer.* As this question is worded, it implies that Comsat would be a "carrier's carrier" *vis-a-vis* the other carriers, but would be a "participating carrier" for the provision of "service" directly to the user at the same time. If this were the case, then the Commission would definitely have problems in the areas of competition conflict and/or restraint of trade. However, neither this Commission nor legislation currently being considered has proposed such a situation.

The designated entity (here, Comsat) would provide the earth station-to-satellite-to-ship link. As a "carrier's carrier", that link would be provided to the IRC's (and other authorized maritime carriers) which, in turn, would provide that link and the landline haul as a end-on-end service to the user. As a "participating carrier" the satellite service would be made available to the user, through interconnection with competing domestic and international carriers providing the landline haul. In either mode of operation, the operating entity is not providing the landline haul; the only "service" the entity (here, Comsat) would be concerned with is the earth station-to-satellite-to-ship link. Consequently, in either mode of operation, there would be no conflict in providing that "service."

Senator HOLLINGS. Our next witness is Mr. Henry Geller, Assistant Secretary designate for the National Telecommunications and Information Administration.

**STATEMENT OF HENRY GELLER, ASSISTANT SECRETARY-DESIGNATE, TELECOMMUNICATIONS AND INFORMATION, DEPARTMENT OF COMMERCE; ACCOMPANIED BY W. L. FISHMAN, ACTING DEPUTY ASSOCIATE ADMINISTRATOR, NTIA**

Mr. GELLER. I appear here as the consultant to the Commerce Department, and as you know, as the Assistant Secretary-designate for Communications and Information.

And with me is Mr. William Fishman who is acting Deputy Associate Administrator of NTIA for Policy Analysis and Development.

We appreciate the opportunity to testify on behalf of the executive branch on the Maritime Satellite Telecommunication Service and to comment on pending legislation dealing with that subject.

Active international efforts to provide maritime mobile satellite telecommunications services to ships have been underway for a number of years and culminated in 1976 in the opening for signature of instruments which would provide for establishment of Inmarsat. These instruments, consisting of a convention, to be signed by governments, and an operating agreement to be signed by either governments or their designated operating entities, provide the institutional basis for development of a global maritime mobile satellite telecommunications system.

It is our view that the Congress should provide legislative authority for participation by the United States in the International Maritime Satellite Organization, Inmarsat, by authorizing the U.S. Government to sign the convention, and by designating a U.S. private sector entity who would be authorized, but not required, to sign the Inmarsat Operating Agreement.

Specifically, any such legislation should meet several objectives.

First, it should provide authority for the United States to enter into and accept governmental responsibilities incident to the Inmarsat Convention.

Second, it should include authority for a private sector entity to participate as the sole U.S. designated entity in Inmarsat and as signatory to the Inmarsat Operating Agreement.

Third, it should provide for structuring of the entity so as to ensure competition in the provision of economical and efficient service to users. At the same time, the legislation should provide incentive for private sector capital investment.

Finally, there are significant governmental responsibilities involved in such an international maritime satellite system, particularly with regard to national interest considerations, foreign policy and safety of life at sea. Therefore, the legislation should provide for appropriate U.S. governmental oversight of the designated private entity.

Currently before the Senate is S. 2211, which was introduced at the request of the administration last fall. The House of Representatives is currently considering a similar bill, H.R. 9647, as well as one structured differently in several important aspects. We prefer the language and structure of S. 2211 and H.R. 9647. It is our view that a private corporation should be the U.S. designated entity for Inmarsat. The objective of such a designation is to insure that

U.S. telecommunications investment decisions in Inmarsat are made in the private sector and that sound business judgments govern the development and operation of international maritime satellite services.

We recognize that there are a number of alternatives to be considered in selection of such a private corporation. Basically, the corporation must serve two functions: domestically, to provide, so far as feasible, a competitive climate in which the users obtain maritime satellite services, and internationally, to provide a focused, unitary mechanism for U.S. representation in the Inmarsat Council.

With these objectives in mind, it is our considered judgment that the most desirable solution lies in the creation of a new private corporation. Such a solution was advocated by the Administration in S. 2211. It calls for the creation of a new corporation, to be owned initially by certified common carriers in proportions to be determined by the Federal Communications Commission.

This approach avoids extending the Communications Satellite Corporation's existing statutory monopoly into a new field, permits any carrier with a desire to do so to invest in the new facilities, provided the FCC can be satisfied such investment is in the public interest, spreads among a number of private companies the decision whether or not to join Inmarsat, and a host of subsequent issues which can be expected to arise.

Under the administration's proposal the FCC would retain plenary jurisdiction over ownership in the entity in the first instance and could restructure such ownership as the public interest requires from time to time. In short, we believe that the user would be best served by the designated entity being a new corporation acting either as a carrier's carrier or as a participating carrier, as the FCC might choose.

Senator HOLLINGS. Would you like to elaborate now, or does your statement further elaborate about Comsat? Let's assume I'm leaning toward Comsat as the designated entity. Why am I making a mistake?

Mr. GELLER. Well, I will get to that right away, on Comsat.

Senator SCHMITT. I would like to hear your explanation of the differences between the carrier's carrier and the participating carrier. You say they are metaphysical.

Mr. GELLER. Almost. It seems to me that either way, whoever's running the space segment wants a return on investment. He's got to get a certain amount of revenue. It will be factored in, either if it's a participating carrier or a carrier's carrier.

Senator SCHMITT. You don't think the capacity argument is significant?

Mr. GELLER. We don't see anything about a carrier's carrier that is inconsistent with an on-demand system. It can be worked out, particularly with legislative history that says in this field, with such sporadic use, and therefore the need to do it on demand rather than with dedicated frequencies, that's the way to go. If that is the most efficient way, then it can be worked out that way. We don't have any objection to doing this as a participating carrier. I want to stress that. But there's nothing about a carrier's carrier that rules out an on-demand system.

There's the argument made that with the carrier's carrier approach you will get layering, and there won't be the same incentive for the carrier's carrier to be most efficient. We think the incentives for whoever is running the space segment will depend on either regulation by the FCC holding it down to a proper return or competition. If the operator faces competition from other means, it will be driven to try to make it as efficient as possible. We think that is the name of the ballgame, and it won't matter if you call it a participating carrier or a carrier's carrier.

As we say, we would urge you to leave that to the Commission. If the Commission feels it's better, let it have the participating carrier. Either way, we think there's going to be a need for provision of competition or close regulation.

In evaluating the nature of the U.S. entity in Inmarsat, consideration was given to the designation of Comsat. However, potential conflicts of interest exist in such a case. Since Comsat is the sole U.S. representative to Intelsat, and since Comsat owns the largest single share of Intelsat, it is in a unique position to influence decisions made by that organization. If Comsat were designated the sole U.S. representative to Inmarsat, where the U.S. designee will also own the largest single share, it can be expected that it will also exert considerable influence over the decisions of that organization.

A conflict would certainly arise then should the interests of these two organizations not be totally consistent. For example, there are indications that some elements within Intelsat seek to have that organization provide service to maritime users in competition with or in lieu of Inmarsat. Comsat would certainly be instrumental in making that decision within Intelsat and yet its role within Inmarsat might compromise that organization's ability to respond effectively.

In addition, Intelsat is considering becoming a space segment supplier to Inmarsat. Again, Comsat would have a major role in making that decision and in determining the costs to be charged to Inmarsat. Comsat's major role as both buyer and seller could thereby diminish the possibility of competitive procurement of the space segment by Inmarsat.

An additional possible conflict of interest arising from Comsat's designation as the U.S. Inmarsat entity concerns the provision of maritime service to the U.S. Navy. While we do not know the method by which such service will be provided for the Navy in the 1980's, there are several possible scenarios involving Comsat which could cause potential conflicts.

There's one other disadvantage, Mr. Chairman, and that is that if Comsat is designated at the agency to run Inmarsat under H.R. 11209, logically it would not then be allowed to engage in retail maritime business, it could not do pick-up and delivery. Comsat is a very vigorous competitor there through Comsat General, and therefore you would lose this vigorous competitor, and that, we think, again is a detriment to the public interest.

On the other hand, some feel that a corporation owned by competing carriers could lead to even greater difficulties. We recognize that joint ownership and operation at the wholesale level is not an ideal

solution, but we believe the overall concept of S. 2211 will do more to further competition than the chosen instrument approach, namely Comsat. S. 2211 has the potential to provide competition amongst the carriers at the user service level by allowing the owning carriers to earn revenues for the use of the maritime Earth station and space segment by their customers. In contrast, one of the bills before the House provides for participation of retail carriers with Comsat in the provision of maritime services. This would mean that the competition for retail carriers would be limited to carrying the traffic from its origination, say, New York, to the Earth station in Connecticut. It is obvious there would be little incentive for carriers to compete for such small percentage of the overall revenue.

We also believe that designating Comsat as the chosen instrument in Inmarsat would, by enlarging Comsat's monopoly role in international space communications, encourage a monopolistic solution to further international commercial space communications ventures like Aerosat or other future systems not yet imagined.

Under S. 2211, the details of the intercorporate and other relationships between the entity and its constituent owners are left to the Federal Communications Commission. It is our belief that such matters are best left to the expertise of the regulatory agency operating within the broad policy framework of permitting all eligible carriers and, after 5 years, noncarriers to participate in ownership.

For those reasons, we urge the subcommittee to adopt the designated entity approach set out in S. 2211, section 5. As the Communications Satellite Corporation would not, therefore, receive a monopoly grant of authority, it bears emphasis that under the administration's approach, the FCC could authorize an appropriate ownership share for Comsat.

Insofar as governmental oversight is concerned, it must be recognized that the entity will be the U.S. participant in an international organization which is established through an intergovernmental agreement. Although the U.S. Government accepts no financial or operational responsibility for the provision of Inmarsat services, the entity's position as the U.S. participant in an international organization makes it essential that it be responsive to national policy and to governmental programs designed to carry out the Government's responsibilities and obligations.

While the entity will be a private corporation, there nevertheless remain areas of substantial governmental interest, particularly in view of the Government's statutory as well as the traditional role in providing maritime safety communications and navigation services.

Moreover, the organization, implementation, and operation of international satellite systems require a high level of government-to-government cooperation and accord. The designated entity will be the U.S. signatory in an international organization, casting votes and making decisions along with representatives of participating foreign governments. The national interest and foreign policy implications inherent in this arrangement call for clearly defined executive branch responsibility.

Accordingly, in addition to the provision of traditional full regulatory authority of the Federal Communications Commission, we

believe that provisions should be included for Presidential oversight and coordination to assure that institutional arrangements and operational procedures are responsive to the national interests and consistent with the foreign policy objectives and commitments of the United States.

I should like to stress that, Mr. Chairman, in this field we think there are very strong national interests and foreign policy considerations because of the safety of life, because of the national defense, because of the fact that the Maritime Administration is involved and the Coast Guard, and because there are very serious foreign policy considerations. Inmarsat is a cooperative arrangement with the Soviet Union. That is not true in Intelsat. And there are also issues of launch policy, of technology transfers. For all those reasons we think the executive should be involved.

This Presidential oversight should, of course, encompass the views of the FCC with respect to the issues addressed. S. 2211 currently before this subcommittee addresses this issue satisfactorily. However, the text of the aforementioned House bill, H.R. 11209, should be amended to confer certain war powers on the President as in section 606 of the Communications Act of 1934.

In summary, we believe the structure of the entity should be sufficiently defined by legislation to insure an effective unified U.S. position in Inmarsat, responsive to both government and non-government needs, while at the same time encouraging maximum private sector participation and commercial competition in providing an effective maritime service at minimum possible cost to users. We believe that the most effective path to accomplishment of this goal is creation of a new private corporation whose sole function would be that of serving as the U.S. Inmarsat entity.

The instruments creating Inmarsat must be signed by the United States no later than July 3, 1979. In the absence of such action by that date, Inmarsat would not come into existence since subscription to the U.S. investment share is required for Inmarsat's creation. Given the many steps which must be taken to formally designate an entity and to have it in turn formally adhere to the operating agreement, should it decide to do so, we urge rapid passage of enabling legislation along the lines described above.

To that end, we support passage of S. 2211 which was introduced at the request of the administration last fall. We recognize, of course, that numerous events have transpired in the intervening period and that additional information may be developed in the course of these hearings. We continue to believe S. 2211 is essentially sound. However, we would be happy to work with the subcommittee in developing any modifications to the bill that might be appropriate at this time.

Finally, Mr. Chairman, let me add that although we prefer the solution to the designated-entity question reflected in S. 2211, should the subcommittee prefer another approach we would be pleased to work with you and your staff in preparing a bill.

Thank you very much.

Senator HOLLINGS. Mr. Geller, what share? When you say an appropriate share of Comsat should be in this new entity, what would be an appropriate share? Can you describe it a little more fully, other than just using the word "appropriate"?

Mr. GELLER. That would be left to the FCC. A.T. & T. said they would like a 25-percent share of the new entity. The IRC's have indicated a marked interest also. It may be that Comsat would come out, under FCC proceedings, with 60 percent, maybe with 49 percent. We just don't know, and it would depend upon the interest of the IRC's. I think it would be healthy if it were less than a majority.

Senator HOLLINGS. Did the executive branch ever make a specific determination as to whether or not the United States should participate in an Inmarsat organization?

Mr. GELLER. We have very strongly participated in the Inmarsat negotiations. We made certain positions clear to the Inmarsat negotiators. About 95 percent of the positions we urged were adopted. And therefore, the executive branch strongly believes that the Inmarsat organization should come into existence.

Senator HOLLINGS. When was that decision made and who made it? I'm trying to determine that just for my own information.

Mr. GELLER. It was made in negotiations, starting, I believe, in 1974, where we urged certain positions upon the Inmarsat negotiators and they were adopted. So that within the executive branch, we believe it is a desirable consortium, and that it is desirable to draw the Soviet Union and other countries into a cooperative venture of this nature. We think that it is in the public interest.

Senator HOLLINGS. Negotiations began in 1974? Who is handling it in this administration? When did they say, let's have the go-ahead in Inmarsat?

Mr. GELLER. After OTP worked out all the elements in it, that decision was made in the State Department to urge legislation, and that went to OMB; and it has State Department clearance, Justice Department clearance, DOD clearance, clearance by the OTP, and the Department of Commerce. And that is why we are proposing to you the Inmarsat legislation.

Now, it is up to you to dispose one way or the other. Obviously, we would follow the congressional decision and implement it fully. But it is our position, worked out within the executive branch, to urge you to allow us to go forward with Inmarsat.

Senator HOLLINGS. Well, I understand the administration's original recommendation was to designate Comsat as the U.S. entity, and then it was changed. Can you tell us why?

Mr. GELLER. Well, wisdom with age. Mr. Chairman, the original FCC position was also just the opposite, to go the way we are now urging. So that you can see that this is obviously a close, difficult call.

Senator HOLLINGS. Well, is it a change in target? I mean, each time you prepare us a bill it changes.

Mr. GELLER. It was decided upon reflection that with Comsat, there were so many conflicts that it would be better not to go that route. There are advantages to Comsat. You avoid having to bring in a consortium. Comsat is ready to do it. It has the expertise. It is the simplest way to go. But when we looked at it, we decided that there were too many disadvantages and that they outweighed the advantages.

Now, the disadvantages are the ones I've said: that there are conflicts because of Intelsat's possible interests; the fact that you are once again using Comsat for the space segment of a new

endeavor, and that might get to be a habit. And we think that monopoly is not the best way to go if there are possible alternatives. We believe that the way we've gone has some drawbacks, because it does involve a corporation made up of several competitors. Nevertheless, the other way of going, just saying that it is a monopoly to Comsat, has more drawbacks. And we have simply, upon reflection, changed our mind.

Senator HOLLINGS. Isn't it your opinion we would be in an international fix, if we did not go forward with Inmarsat?

Mr. GELLER. My opinion is that it would not sit well with the international community to have the United States, having urged so strongly Inmarsat on the conditions we set forth, and having gotten those conditions after a big fight, to turn around and not go forward. It would not put us in the best position in the international community.

Senator HOLLINGS. Under the administration's bill, Mr. Geller, wouldn't the new corporation, acting as a carrier's carrier, be the owners of the system and the marketers of the service, one and the same? In other words, wouldn't that lead to marketsharing and less competition?

Mr. GELLER. Let me say first of all, we don't prescribe a carrier's carrier. It can go any way the FCC wants it to go, either participating carrier or carrier's carrier.

But your question is a good one, in that our approach does put all the competitors together in the space segment and in the Earth stations, and then the wholesalers are dealing with the retailers. We think the answer to that is that if there were marketsharing, it would stand out like a dead mackerel in the moonlight, and action could be taken against it by the FCC or the Antitrust Division. We point out that such sharing arrangements did not result with Marisat I. We don't see why it would result here.

And so, while we do say that there is a down side to this, we don't think that marketsharing would really come about.

Senator HOLLINGS. Do you really think the Intelsat should go into competition with Inmarsat to provide maritime satellite services?

Mr. GELLER. Well, at this point we think that if Intelsat does go, there would be a conflict for Comsat. Comsat is the largest single owner in Intelsat and would be the designated entity in Inmarsat.

Senator HOLLINGS. I'm trying to get your opinion from your experience. Do you think that Intelsat should get into the maritime field?

Mr. GELLER. We would prefer to have Inmarsat do it because that is a cooperative venture involving the United States, the Soviet Union, and others. We think that Intelsat can possibly participate by being the supplier of the space segment. But we would like to have Inmarsat come into being. So our answer to you is no, we would not like to have Intelsat at this time take the place of Inmarsat.

Senator HOLLINGS. Senator Schmitt?

Senator SCHMITT. Mr. Geller, who has been representing our interests in Inmarsat negotiations?

Mr. GELLER. They have been represented by a number of people in the executive branch. They include, from OTP, now NTIA,

Mr. Fishman, Mr. William Adams, and also State Department representatives. The FCC has also sent representatives to participate in Inmarsat negotiations. This is all under the aegis of the State Department. The carriers have also participated and sent representatives.

Senator SCHMITT. Participated in the actual negotiations?

Mr. GELLER. Yes. But the State Department runs all international conference negotiations. And this has been under its aegis.

Senator SCHMITT. You said 95 percent of the State Department's recommendations were included in the final convention. Could you supply the committee with details of the other 5 percent?

Mr. GELLER. I would be glad to do so.

Senator SCHMITT. What did we recommend that were not included?

Mr. GELLER. I think they are very small details. The main thing we pushed for was that this agreement could be signed by the private sector and that the private sector can participate in the endeavor; we won on that, even though the other nations were not enthusiastic about it. We would be glad to supply for the record those items which we did not get.

Senator SCHMITT. Now, based on your testimony, is it correct or incorrect to conclude that you believe congressional designation or creation of Comsat as our representative to Intelsat was a mistake?

Mr. GELLER. No; I don't believe that is so at all. I think we were in a new field where it was necessary to choose an entity like Comsat. Comsat has been very successful in that field and has done a very good job of representing the United States. There are problems that have arisen: The authorized user issue, the instructional problems, matters that have to be worked out because of this designation of Comsat. But we think that was a good thing to do.

Senator SCHMITT. On page 2, would you explain why you made the statement that, quote, "Congress should designate a U.S. private sector entity that would be authorized, but not required, to sign the Inmarsat operating agreement"?

Mr. GELLER. Because this is a commercial venture, and the United States is not telling anybody to go into it. It has to be a decision on the private sector's part that they believe this is commercially viable and they wish to undertake it voluntarily. For that reason it is up to them voluntarily to say, "Yes, we wish to sign it, we wish to provide this commercial service."

Senator SCHMITT. What would be the effect of a decision by that private sector entity not to sign?

Mr. GELLER. Stunning. I think it would be very surprising. I think that Comsat clearly wishes to provide this service. Whether it wishes to provide through Inmarsat or other means is not clear. I believe that the consortium of carriers that we mentioned, the IRC's and A.T. & T., wishes to provide the service, and therefore I think you can count on that if they are authorized to go forward, they will sign. But it would be quite a reversal to find that nobody wished to do it.

Senator SCHMITT. But the "not required" strengthens their bargaining hand, is that right?

Mr. GELLER. Yes; Marisat I is turning out to be much more profitable than people thought earlier, so we think there will be a movement into this area.

Senator SCHMITT. Now, the House has included language giving a congressional or Presidential veto to any decision made by Comsat. Do you think that is advisable?

Mr. GELLER. Well, the reason for that, I believe, is that under the House version they could either participate in Inmarsat or any other entity that might be created. This gives more flexibility. But since we don't know what it is, since we are not sure it is Inmarsat, a veto is put in for the Congress and to the President to act in view of the uncertainty. I think if you go the House route, a veto is a good idea. If you go the route of S. 2211, it is unnecessary, since in S. 2211 all you're talking about is Inmarsat. But I believe that is the reason for the provision in H.R. 11209.

Senator SCHMITT. You would not want a veto on the specific decision, to sign or not to sign?

Mr. GELLER. Not in Inmarsat. We believe that it is unnecessary. If, however, you're talking about entities we don't know about, it is probably a good idea to have the House provision.

Senator SCHMITT. How important is the inclusion of the war powers provision included in section 606 of the Communications Act?

Mr. GELLER. Well, we think it is a very desirable and very important provision. In the case of war, there ought to be the ability to get in touch with those ships and to permit a president to use his war powers. There could be very serious national defense considerations in an emergency or wartime, and therefore we think it is really almost an oversight not to put in the section 606 provision.

Senator SCHMITT. Do you think it was an oversight not to have U.S. aspect of it is concerned. Now, there is a difference. There you it in the Communications Satellite Act of 1962?

Mr. GELLER. I think that probably should be in there, so far as the are communicating with foreign partners. But even there, I think it would be desirable to have that, yes, because there are some instances where it could be very important to have the executive take over that aspect in an emergency such as war.

Senator SCHMITT. You don't think that the Communications Act covers the Intelsat situation.

Mr. GELLER. I would have to study it. I realize that there was some talk at the time of the 1962 act that a good deal in the Communications Act would make unnecessary some of the provisions in the Satellite Act of 1962. I would have to go back and look at it, and would be glad to do so and give you an opinion.

Senator SCHMITT. Could you provide us an opinion on whether or not the Communications Act would apply to our participation in Inmarsat as well as our participation in Intelsat?

Mr. GELLER. I think that is a good question, and we will certainly do that.

Senator SCHMITT. Do you believe that Government agencies should be directed to use Inmarsat services unless they can prove that they have unique needs or national security requirements that require

them to either have their own satellite system or utilize some other means of communications?

Mr. GELLER. Yes; that is an OMB directive now, that you should use private sector means unless there are these national interests.

Senator SCHMITT. Thank you, Mr. Chairman.

Senator HOLLINGS. Thank you very much, Mr. Geller. We have quite a few other witnesses and we want to get on, but we appreciate your appearance here today.

[The following information was subsequently received for the record:]

U.S. DEPARTMENT OF COMMERCE,  
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION,  
Washington, D.C., May 19, 1978.

HON. ERNEST F. HOLLINGS,  
*Chairman, Subcommittee on Communications,  
Committee on Commerce, Science, and Transportation,  
U.S. Senate, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in reference to your letter of May 10, 1978 in which you ask that I supply responses to specific questions regarding my testimony before the Subcommittee on Communications on the Inmarsat proposals. I am happy to respond to your written questions and also to provide you with the information you requested at the hearing on the applicability of Section 606 of the Communications Act and the success of the Inmarsat negotiations.

We are also providing you with an elaboration of our views on the extremely important issue of Presidential oversight of the designated entity for Inmarsat.

NTIA considers it essential that specific provisions be included in Inmarsat legislation for Presidential oversight, including the explicit power to issue guidance and instructions to the U.S. entity. Although the Senate Staff Working Draft of the "International Maritime Satellite Telecommunications Act" does provide generally that the President shall exercise supervision over the corporation's relationships and activities with foreign governments, international entities and organizations, no provision is included which would authorize the President to issue instructions to the entity on matters relating to foreign policy and the national interest. In this regard, the Working Draft is similar to the Communications Satellite Act of 1962, which also does not include a specific provision for the issuance of Presidential instructions. However, experience with the COMSAT Act has shown, we believe, that failure to include such a provision was unfortunate because it has resulted in ambiguities and uncertainties regarding both the responsibilities of the affected agencies and the binding nature of instructions issued by those agencies. These ambiguities and uncertainties have inevitably led to a diminishing U.S. Government supervisory role over Comsat's activities within Intelsat.

The problems associated with the issuance of instructions under the Comsat Act are compounded in the case of the Inmarsat entity because the U.S. Government has a greater direct interest in the activities of INMARSAT than it does in the activities of Intelsat. The prime objective of INTELSAT is the provision, on a commercial basis, of the space segment required for international public telecommunications services. While the purpose of Inmarsat is also the provision of necessary space segment for commercial activities, Article 3 of the Inmarsat Convention specifically delineates certain areas of concern to the organization that have no parallel in Intelsat, such as improving distress and safety of life at sea communications, the efficiency and management of ships, maritime public correspondence services and radio determination capabilities. The Executive Branch of the U.S. Government has direct and specific responsibilities in these substantive areas through the United States Coast Guard and Maritime Administration and Presidential policy determination functions.

Furthermore the constituency of Inmarsat is different from that of Intelsat. For example, the Union of Soviet Socialist Republics will own the second largest share, next to the United States, of the Inmarsat organization at its inception, and it is expected that the USSR will exert considerable influence

over its activities. In order to ensure the consistency of U.S. foreign policy, direct Executive Branch involvement in the issuance of instructions to the commercial entity is absolutely required.

It is for these reasons that NTIA considers it essential that the Senate Staff Working Draft include a provision that gives the President explicit authority to issue legally binding instructions to the entity regarding matters relating to foreign policy and the national interest.

Enclosed is a listing of your specific questions and the answers. If we can be of further assistance to you in this matter, please let me know.

Sincerely,

HENRY GELLER,  
*Assistant Secretary-Designate.*

Enclosure.

#### QUESTIONS OF THE COMMITTEE AND ANSWERS THERETO

*Question.* FCC Chairman Charles Ferris testified that navigational and safety aids will be included in the services to be offered by INMARSAT. Please describe your understanding of the arrangement for the provision of these services and how they will be financed?

*Answer.* As an initial point of clarification, I should explain that the INMARSAT organization, as such, will not be the direct provider of any "services". Inmarsat's role will be that of providing space segment capacity, with individual administrations providing for access to and utilization of that capacity. Thus administrations, or entities authorized by administrations, will be the actual providers of services. Decisions relative to providing any particular type of service will be governed by a number of technical, economic and institutional considerations.

From a technical viewpoint, services to be offered through the Inmarsat space segment will be constrained by the capabilities of the space segment, and those of the ship terminals and the land earth stations. Thus any provision of specialized services such as safety and navigation must be fully coordinated between the INMARSAT Organization, the entities that may desire to offer such services, the owners of land earth stations providing access to the space segment, and the user community who will buy and operate the ship terminals.

Because Inmarsat will operate on a commercial basis, any provision of safety or navigation services inevitably raises the question of who pays for space segment utilization, and for any increased capital investment required to provide necessary capabilities in the space segment.

In the U.S., the government has traditionally provided maritime safety and navigation services through operation of government facilities. While commercial maritime radio stations have been required to maintain certain minimal safety watches, these services have been viewed largely as being supplemental to, rather than a fundamental part of, the maritime safety system. With the creation of Inmarsat, the U.S. entities, on both a national and international basis will determine to a great extent the types of maritime satellite navigation and safety services that can be provided.

Throughout the Inmarsat preparatory work of the past six years it has been clear that there is considerable international interest in providing some minimum level of safety services through the INMARSAT space segment. There has been much less interest in providing navigation service in the initial phases of the INMARSAT operation. It is by no means clear at this point, however, as to what safety and navigation services will be provided through the Inmarsat space segment.

Capabilities of the Inmarsat space segment for provision of safety or navigation services will be determined by the Inmarsat Council when it meets to determine overall design capabilities of the space segment. The U.S. entity on the Council will have, of course, a 17% vote in that decision. Assuming that appropriate authority is contained in the Inmarsat legislation, the U.S. government will provide necessary instructions to the U.S. entity as to U.S. national policies in regard to extent of services for which capability should be provided and method of financing.

*Question.* You stated that the decision regarding U.S. participation in Inmarsat was made during negotiations starting in 1974. Prior to the beginning of negotiations with foreign governments, did the Executive Branch ever make

a specific decision that the United States should participate in Inmarsat. When? Who made it?

Answer. The decision regarding U.S. participation in Inmarsat was made during the period following the final Panel of Experts Report (1974) through the Third Intergovernmental Conference on the Establishment of Inmarsat (September 1976). Prior to the First Intergovernmental Conference (April 1975) which commenced formal negotiations, OTP, the predecessor to NTIA wrote to then Secretary of State Kissinger stating its position that the creation of Inmarsat should be supported if certain conditions favorable to the United States were accepted by the Conference. (See question # 5). This letter represented views developed following extensive consultation with U.S. government agencies, U.S. industry and labor groups. The FCC also sent a letter on March 26, 1975, to the Department of State which reached the same conclusion. Shortly following receipt of these letters, the head of the United States Delegation received instructions issued by the Secretary of State (Circular 175) which contained authority to negotiate arrangements for an international organization to provide maritime satellite capability. Authority to negotiate and conclude these arrangements was issued on February 4, 1976, immediately prior to the resumption of the Intergovernmental Conference. The Circular 175 made it clear, however, that the Inmarsat Operating Agreement would be signed by a designated entity which would thereby undertake financial responsibility and that the decision whether or not to sign is solely within the discretion of the entity.

*Question.* What is the reason for recommending that the designated entity be owned by common carriers for the first five years and after that open to the non-common carrier public?

Answer. The 1974 Final report of the IMCO Panel of Experts concluded that Inmarsat was likely to show a negative cash flow for approximately 7 years and would not recoup a fair cumulative return for approximately 14 years. Up to very recently this view was accepted worldwide for years after as the most accurate and authoritative judgment on the subject. Given this view of the economics of maritime satellite services, a serious question was presented whether the U.S. private industry would be willing to invest millions of dollars in Inmarsat. While the U.S. had made it the keystone of our policy toward Inmarsat that the decision whether or not to invest would be made in the private sector, we believed it important to create institutional arrangements which could reasonably encourage, rather than discourage, private investment. In view of the economic outlook, it was deemed desirable to create incentives to attract investment. This was done by permitting the FCC to authorize rate base treatment of investment in Inmarsat and by assuring that the carrier-investors had exclusive access to the space segment.

We believed that the U.S. carriers were the best prospects for subscribing to the U.S. Inmarsat investment share, but that if ownership of the U.S. entity were left wide open, major users might invest in same portion of it. Were they to do so, U.S. carriers investment might be withheld since the largest and most profitable segment of the customer market would have bypassed the common carriers.

We also recognized the desirability of allowing free access of customers to ownership on general public policy grounds. Given these conflicting goals, we concluded that non-carriers should be barred from ownership for five years, thereby eliminating the carriers' concern about loss of revenues during the early years, while at the same time permitting direct user ownership, upon FCC approval, after the system had been established operationally and financially. Finally, in view of the changed assessment of the economics of maritime satellite service, reconsideration of the five year limitation might well be in order.

*Question.* Do you really think that Intelsat would go into competition with Inmarsat to provide maritime satellite service?

Answer. Intelsat has made formal presentations to the Organizational, Technical and Economic Panels of the Inmarsat Preparatory Committee as recently as February 1978, regarding its willingness to supply to Inmarsat its space segment requirements through Intelsat V satellites.

A careful examination of the Intelsat Board of Governors' documents submitted by its Executive Organ before these presentations leads us to the belief that Intelsat, as a fall-back position, might also be interested in pro-

viding the maritime services, as opposed to space segment only, directly to its signatories. The reaction of Intelsat signatories to such an arrangement is not known at this time. It should be noted though that certain major maritime nations are either not members of Intelsat i.e., U.S.S.R., or are only minor shareholders in that organization.

*Question.* You mentioned that the United States succeeded in negotiating 95% of its important issues in the Inmarsat negotiations. What about the other 5%?

*Answer.* The United States was successful in negotiating all of its major—and *sine qua non*—conditions during the three sessions of the Intergovernmental Conference. These included the following points:

1. Access to the Inmarsat system should be open to all vessels of all countries, members or not, without discrimination.

2. All operating powers and managerial functions should be vested in the Council of Inmarsat, where the signatories are represented in proportion to the investment they make in the system, and not in the Assembly, where the Parties (Governments) have representation, on the basis of one country, one vote.

3. Inmarsat should be operated on the basis of commercial principles. Therefore: The U.S. would be represented in the Council by a designated private entity: the U.S. Government would assume no financial responsibility or liability of any sort, and the Organization's procurement would be done on the basis of open bids and awarded to the bidder on the basis of best combination of price, quality and time of delivery.

The United States sought to have no limitation on voting participation in the Inmarsat Council. We were unsuccessful in negotiating this point and the Inmarsat Convention provides that no representative may cast, on behalf of one signatory, more than 25% of the total voting participation in the Organization, regardless of ownership. In other words, if any signatory's ownership of the organization exceeds 25%, that signatory will not be able to vote its full ownership percentage in the Council. However, Article XIV provides for an exception to this rule, which satisfied both the government and private sector negotiators that U.S. interests would not be seriously impaired.

*Question.* Is it necessary to include in Inmarsat legislation a specific provision similar to the war powers language in Section 606 of the Communications Act of 1934?

*Answer.* Such a clause is in the Administration bill pending in the Senate (S. 9647) because of the close relationship of Inmarsat to national defense considerations. I agreed to research the question whether the existing language of the 1934 Act would be sufficient to cover any contingencies which might arise.

In brief, we have concluded that if Comsat is designated as the entity to represent the U.S. in Inmarsat, section 606 of the 1934 Act, together with section 401 of the Communications Satellite Act of 1962 (47 U.S.C. sec. 741) and section 3 (h) of the 1934 Act (151 U.S.C. sec. 3 [h]) is adequate to meet the need for Presidential emergency war powers with respect to Inmarsat.

We continue to believe, however, that the specific language contained in S. 9647 would be necessary to give the President the full range of emergency war powers contemplated by Section 606 of the '34 Act with respect to a new entity, such as that contemplated by S. 9647. Accordingly, if the Senate determines that COMSAT is to be the U.S. designated entity in Inmarsat, no specific emergency war powers provision appears to be necessary. If, however, the designated entity approach in S. 9647 is adopted, such a provision would be required. We shall be happy to supply a legal memorandum for the record, if you wish.

Senator HOLLINGS. Our next witness is Mr. Harvel Strichartz of the American Radio Association, AFL-CIO.

#### STATEMENT OF HARVEY STRICHARTZ, AMERICAN RADIO ASSOCIATION, AFL-CIO

Mr. STRICHARTZ. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, I have a prepared statement. Rather than read it in full, I am asking that it be included

in the record, and I would like to use it as kind of notes for my comments.

Senator HOLLINGS. That's fine. You can highlight it, as you wish.

Mr. STRICHARTZ. Mr. Chairman and members of the committee, we have participated in satellite activities since 1969, when we made financial and manpower commitments the the first experiments on the SS *Santa Lucia*. There, we used a taxicab transmitter to transmit to a satellite, and there we first established the feasibility of this type of activity for the maritime community as part of a Maritime Administration project.

I will attempt, in roughly 4 or 5 minutes, to summarize our observations of 8 years of activity, and I would ask that this be included in the record.

We have, you'll be relieved to know, taken no position on the designated entity. We don't feel it appropriate for labor organizations to address this problem.

Senator HOLLINGS. I thought AFL-CIO always had opposition to corporations. This would be the first appearance where the AFL-CIO did not have a position on a corporate entity.

Mr. STRICHARTZ. No. Excuse me—we have no position on which type of entity should be used by the United States to participate?

Senator HOLLINGS. You mean either the carrier's carrier or the participating carrier.

Mr. STRICHARTZ. Yes. We have other concerns. They are very serious, they are central to the issue, and I would like to address them.

Our statement identifies who we are: we are the ship radio officers and radio electronic officers. We are the maritime workers on the ships. When the safety of life at sea is mentioned, we are the people involved. It is our lives that are at stake. When the efficiency of ships is mentioned, we are involved, because if the ships are not efficient, they are not competitive, and we do not have jobs.

There is some perspective needed in a discussion of this matter. A great deal of material has been put into the record on the advantages of satellite communication. It should be noted that satellite communication is only one type of communication resource. It is only one mode. There is terrestrial communication. Upon the invention of the jet plane, nobody said let's jettison the wheel, abandon the wheel and everything between the wheel and the jet plane, for transportation.

What we are concerned with—and here the question of monopoly arises—what we are concerned with is that maritime satellite devices are a very expensive type of equipment, and involve a very expensive type of tariff.

As Chairman Ferris of the FCC put it, satellite facilities are directed to a very narrow market. We are concerned that there has been degradation and erosion of the terrestrial public coastal station system, and are deeply concerned that if proposals such as were made on the House side, that the designated entity, whatever it may be, acquire the terrestrial coastal facilities and put them all into one big pot, this would create a supermonopoly. It would eliminate competition, and would be bad for a number of reasons.

First of all, terrestrial communications are a resource that do not suffer from some of the difficulties and inefficiencies of maritime

satellite communications. For one thing, there are satellite-killers. These are manmade, held by certain nation-states. For another thing, there are other technical means by which irresponsible individuals can block communications access to satellites.

But apart from these, there are natural reasons. Meteorites can collide with them, and then it could be weeks or months before replacement "birds" are up there in position. There are "eclipse" situations, and by this I don't mean the eclipses that come every any number of years apart; I mean daily eclipse periods when the satellites are in the shadow of the Earth and so on. And there are power problems.

All of these mean that satellite communications, while they have very great advantages, cannot be the basis for abandoning terrestrial communications facilities. And yet, if both terrestrial and satellite facilities were put into one pot, the terrestrial facilities, which have been largely abandoned by the coastal station operators, and which it is now proposed to be put together with the satellite facilities, will suffer. The tariffs of the terrestrial facilities will be raised to meet the very high tariffs of, let's say, \$10 a minute on the satellite facilities, to suppress competition. I don't want to stay with this, because I have been allotted a limited amount of time.

Senator HOLLINGS. What experiences have the radio operators had with Marisat operations? How reliable have they been?

Mr. STRICHARTZ. They have had good experience and bad. The question of reliability is an excellent one, because some of the equipment has malfunctioned, and we have had to maintain and repair it. One of the things we have put into our prepared remarks that are in the record is a request that the provisions as to ownership of satellite earth terminals, that in H.R. 11209 provide for instructional use for training in the operation of the satellite terminals be clarified also to permit their maintenance. These are training facility terminals, and we operate such training facilities. We ask that the words "maintenance as well as use" be included in that language. We would urge that on you, because we have had considerable maintenance problems; and yet, when the terminals work, they work well.

The most important thing to keep in mind, though, is that terrestrial communications are a resource for both war and peace, and satellite communications through Inmarsat, which are jointly with the Eastern Bloc will not necessarily be available at all times, for example, during emergencies. Let's put it straight: They will not be available in any real confrontation situation.

The coast station study that is discussed, we have asked be extended to a period of 24 months. We have asked that while it is going on, there be permitted no more abandonment of terrestrial facilities through closures of these facilities.

We have urged that the language of the act be strengthened as to the complete and sole financial commitment of whatever entity is in it. I think that we have taken enough of your time, and I thank you.

Senator HOLLINGS. Well, we appreciate your appearance today.

Senator Schmitt?

Senator SCHMITT. I have one or two questions, Mr. Chairman. Why did you want the extension of time for the coast station study?

Mr. STRICHARTZ. Because a considerable amount of work is necessary to evaluate all of the coastal facilities. The FCC really has not gone in what we think are bad directions, but we think they would have to start from square one and check with the ships—and it takes time to contact the ships—to get an evaluation of what is being done right, what is being done wrong, and what has to be strengthened. We urged that on the Commission, and we urge it in our statement.

Senator SCHMITT. Are the present HF facilities adequate in terms of facilities and staff.

Mr. STRICHARTZ. The U.S. public coastal H.F. facilities are not. Those of many other countries' are. The stations of the United Kingdom, the Scheverngen station of the Netherlands, are excellent ones; they are modern, they are well staffed, and there are very few problems for ships to communicate with them on MF or HF. Thus, quite often, American ships in mid-Atlantic will put their messages through England to go by cable for delivery in the United States because they have considerable difficulty in making contact with U.S. coastal stations that are not adequately manned and do not have modern equipment.

Senator SCHMITT. Do you have any feeling for why they have not been upgraded?

Mr. STRICHARTZ. It would take a long time to answer, but the biggest reason is that they have become part of big conglomerates which have other interests. All of the radio companies concerned here had their origins in maritime activities. David Sarnoff, who founded RCA received messages when the Titanic went down of survivors lists, and that started his career.

But there is now more money elsewhere, and you have the conglomerate people looking at bottom lines; they don't want to commit the money or attention to this type of activity.

Senator SCHMITT. Do you feel that these services would be further degraded with the implementation of the satellite system?

Mr. STRICHARTZ. No, sir, I feel that they will be further degraded if, as ITT proposes, terrestrial and satellite were to be conglomerated into a single corporation. I don't think that the Inmarsat system presents real competition to terrestrial facilities, because its tariff costs are two and three times those of the terrestrial costs, and its equipment is two or three times as costly, and it isn't necessarily as reliable, although there are some situations in which it is.

Senator SCHMITT. A final question, Mr. Chairman.

How much additional communications do you think will be created by the existence of the satellite system? Are there times at sea when you would communicate that you just don't because it is difficult to use the HF system?

Mr. STRICHARTZ. I don't think any new uses will be created by the existence of that facility. There are no times when you don't communicate because of the HF system's shortcomings. These shortcomings have been exaggerated, especially because of the poor staffing of American coastal stations, but that poor staffing situation doesn't exist worldwide, and when you have to get through, you do, although sometimes not to a U.S. coastal station, unfortunately.

Senator SCHMITT. Thank you, Mr. Chairman.

Senator HOLLINGS. Thank you very much.  
 [The statement follows:]

STATEMENT OF HARVEY STRICHARTZ, AMERICAN RADIO ASSOCIATION, AFL-CIO

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE :

1. I am Harvey Strichartz, Technical Director of the American Radio Association, AFL-CIO. I appear here today for the ARA and for the Radio Officers Union of the United Telegraph Workers, AFL-CIO. The members of the ARA and ROU are Radio Officers and Radio Electronic Officers serving aboard approximately 92% of the ocean-going vessels of the United States Merchant Marine. This statement is also made on behalf of the AFL-CIO Maritime Committee, whose members are listed on the cover. ARA and ROU share with other ship officers and crew members, and with all of the American people, a deep interest in the advancement of maritime telecommunications technology, in both terrestrial and satellite modes, to enable our U.S.-flag vessels to operate safely and efficiently.

2. The further interest of ARA and ROU may be summarized in the fact that our Radio Officers and Radio Electronic Officers, serving on the vessels of the steamship companies operating the abovementioned 92 percent of the U.S. Merchant Marine with which we have contractual relationships, constitute the personnel who have been designated, in those contracts, to operate maintain and repair all radiocommunications equipment, and to maintain and repair all radionavigation devices. We have appended to this statement (as Appendix A), the contract provisions relating to the performance of these duties.

3. Over the past seven years, since 1971, I have participated in the U.S. Working Groups that prepared the U.S. Position for the IMCO Panel of Experts on Maritime Satellites, and for the Conference of Governments to Establish an International Maritime Satellite Organization (Inmarsat), and have attended sessions of both the Panel and the Conference as a member of the U.S. Delegation.

4. Basic telecommunications policy of the United States was originally set forth by the Congress in the Communications Act of 1934, as amended. In Section 1, its purpose is stated to be to make available a rapid, efficient nationwide and worldwide radiocommunication service, with adequate facilities at reasonable charges, for the purpose of national defense and for the purpose of safety of life at sea.

In Section 102 (a) of the Communications Satellite Act of 1934, the Congress declared it to be the policy of the United States to pursue these purposes through satellite communications as well. Now, in H.R. 11209, being considered here today, Section 2, the Declaration of Policy and Purpose, designates an entity for participation by the United States in Inmarsat or a similar agency. We respectfully urge that clarity and precision be served by amending Section 2 (a) to read:

SEC. 2. (a) The Congress hereby declares that it is the policy of this Act to provide for the participation of the United States in the International Maritime Satellite Organization or another satellite telecommunications agency which shall develop and operate a global maritime mobile satellite telecommunications system. Such system shall have facilities and services which will serve the maritime commercial and safety needs of the United States and foreign countries.

5. The purpose of inserting the word "satellite" in line 1 is to clarify the fact that the global system does not embrace all maritime mobile telecommunications but only those that involve use of satellite techniques. The removal of the article, "the" from line 3 is simply to clarify the fact that not all of the maritime commercial and safety needs of the United States will be served by the facilities and services of Inmarsat, but only some, those that are through Inmarsat satellite telecommunications system. In short, the amendment is designed to avoid an ambiguity that might encourage the notion that satellite techniques can satisfy all of the needs of the ships for telecommunications and safety. Unfortunately, though the people in this room may know better, the fact that there are worldwide terrestrial telecommunications facilities servicing the maritime community is being ignored in some quarters. I will go into this in more detail in discussing the text of Sections 4 and 6, on Public Coast Stations, later in this statement (at paragraph 10-18, below.)

6. We would like to make clear that we are not taking a position on the controversial issue as to who, what corporation or consortium, shall be the designated entity. I would like, however, to note that during Sessions of the Panel and of the Conference to establish Inmarsat, the problem of United States participation through a designated private entity, such as is proposed in H.R. 11209, was the subject of much discussion and negotiation. Efforts were made to get the United States to participate in such a way as to commit the full faith and credit of the U.S. behind the finances of Inmarsat. Frankly, it is my belief that these efforts were made because the prospect that Inmarsat will be economically self supporting, either soon or even in the remote future, are dim indeed. Section VI, the Economic Assessment that appears in the Report to the Conference by the Panel of Experts, embodies exercises in truly wishful thinking. Assumptions were adopted that most people would consider unrealistic, on the basis of which the Inmarsat system might be projected as breaking even 7, 14 or perhaps 24 years. By way of illustrating this point, apart from noting an overly optimistic prediction of the market for satellite communication by ships which the Report projects, I cite three dubious assumptions used:

First, an inflation factor of 4% per year was assumed. Yes, a 4% a year inflation factor.

Second, the cost of money was assumed to be 10%, although such investment capital generally costs from 15-18%, at the minimum.

Third, an effort was made to show a break-even point on an assumption that the capital to start up was not to be repaid; if this were so, how would capital equipment be replaced, when it becomes necessary?

7. Citing all of these facts is not done in the spirit of gloom and doom, but simply to support the concept of the Bill, as stated in Section 3 (c), that the "the corporation shall be responsible for fulfilling any financial obligations \* \* \* " etc.

This language would seem to make clear that the corporation, as the United States designated entity, and not the Government of the United States, shall meet these obligations. Since the United States share of financial participation is considerable, it is important that the U.S. not be committed to meet any obligations, either directly or indirectly. Hopefully, this language would be retained in the Bill, or even strengthened, and this intent would be stated in the Report on this Bill, to become a clear and firm part of its legislative history.

8. During the Hearings held by this Subcommittee September 12, 1977, on earlier drafts of an Inmarsat entity bill, we requested that language be included in such a bill to authorize the use of a satellite earth terminal station for the exclusive purpose of training personnel. We are pleased to note that Section 3(d)(2) of H.R. 11209 includes such language, as we had requested. In the interest of complete clarity, we earnestly request that the text be amended in the following manner:

(2) Any person, including any government or government agency, may be the sole owner of a satellite earth terminal station if such person, government, or government agency uses, or permits or otherwise authorizes the use of, such station for the exclusive purpose of training personnel in the use and maintenance of equipment associated with the operation of such station, or in carrying out experimentation relating to maritime satellite telecommunication services.

9. Insertion of the words "*and maintenance*" on line 19 would clarify the fact that training of personnel in the use of equipment associated with the operation of such station includes training in the necessary on-board preventive and corrective maintenance to ensure that the equipment will be operationally available at all times during the voyage. For our Radio Officer and Radio Electronic Officers to be given both "hands on" and "hands off" training in Inmarsat ship terminal maintenance, as we explained last September, the ability to provide such training requires that our training facilities be authorized to have a satellite earth terminal station for the exclusive purpose of training personnel.

10. As we said above, in Paragraph 6 of this Statement, the fact that there are worldwide terrestrial telecommunication facilities now serving the maritime community, and serving it well, is being ignored in some quarters. I would like now to go into detail on this matter, in discussing Sections 4 and 6 of the proposed Bill.

11. At the outset, we wish to indicate our firm support for the development of maritime satellite communication facilities to augment the existing high seas maritime telecommunications medium and high frequency system, by providing supplementation of such MF and HF services. However, the Congress should not allow development of satellite facilities to become the basis for diminishing existing terrestrial facilities, nor for the failure of continue to improve them. The 5 to 20 year timeframe for the introduction of maritime satellite facilities underscores the need to maintain and improve the existing terrestrial facilities.

12. The existing terrestrial maritime mobil telecommunications system is comprised of highly reliable radiotelegraph equipment, operated and maintained by Radio Officers and Radio Electronic Officers (who are both skilled telegraphers and technicians). This system boasts a long and honorable history of saving lives and property at sea, as well as serving to make ship operations more efficient. Its salient features have been the ability to get through interference and atmospheric, the inherent reliability of the equipment and its reparability at sea. These features have been combined to produce a communication system of singular effectiveness, whose facilities have been employed in safety, operational and public correspondence, which serve to keep the system exercised.

13. Whatever improvements maritime satellite communications offer, such improvements are not so great, however, as to induce the mariner to accept satellite facilities at the expense of diminishing existing terrestrial facilities. Yet this is precisely what is threatened.

14. When this Subcommittee discussed an earlier draft of an Inmarsat entity bill, on September 12, 1977, language similar to Section 6 was considered. It was then noted that the FCC had been considering public maritime coast station service as part of its Docket 19544. The Commission has now issued a Final Order in this Docket, released on February 27, 1978. The FCC sustained its previous finding that the record clearly demonstrates the overall unsatisfactory quality of services currently being rendered by public coast radiotelegraph stations, and that the procedures used by them cause inefficient utilization of those facilities and result in unreasonable delays to ship stations in the exchange of traffic; the Commission had previously noted the inadequacy of operator staffing and the resultant degradation of services. Its earlier Order had made improvements a precondition of closure. Despite the fact that nothing had been done to upgrade or improve the coast stations, their facilities and their staffing, the FCC adopted a most unfortunate Final Order in this Docket, approving the closure of three Coast Stations: WSC at Tuckerton, N.J., WAX at Hialeah, Fla. and WSF at New York, N.Y. The Docket also offers the prospect that five additional stations might be permitted by the FCC to close later, leaving only three large and three small stations in operation to provide coast radiotelegraph service from Atlantic, Pacific and Gulf of Mexico coasts of the United States.

15. The Final Order contains much tortured logic and errors of both commission and omission, but pertinent here is the fact that the International Radio Carriers have been attempting to justify applications to close public coast station necessary in the public interest, on the basis of claims that traffic would be diverted from terrestrial coast stations to satellite facilities. RCA for example projected a decrease of 25% or higher during the first year of Marisat operation, although in fact FCC reports RCA submitted for the first six months of 1977 showed the totality of RCA's stations increasing both words handled and revenue. "Nonetheless," the Commission states, "we recognize the need for evaluation of the effects the Marisat and follow-on maritime satellite systems may have on PRCT station operations \* \* \* " This underscores the need to amend Section 4 (b) (5) by adding a new subsection (C) reading:

*(C) in determining whether to permit the closure of any public coast radiotelegraph station, shall not take into account any impact which the provision of maritime satellite telecommunications service may have upon the provision of public coast radiotelegraph services.*

16. This additional text is necessary to ensure that the Commission does not in the future use the advent of satellite facilities as a basis for reducing the terrestrial maritime telecommunications facilities which are so necessary for the safety of human life and the efficiency of U.S. shipping; these facilities also constitute a prime resource necessary or national defense.

17. We ask that the Subcommittee take cognizance of reductions of the U.S. public coast radio station facilities have been permitted by the FCC, and that further sharp reductions have been projected, ostensibly on the basis of improvements that will be considered by the Commission under a new Docket 78-67, (released on February 27, 1978, simultaneously with the issuance of the Final Order in the public coast station Docket 19544). To ensure that there is no deleterious action taken to dismantle further the public coast station facilities during the period of the study proposed in Section 6, we urgently request the addition of a new Subsection 6 (c), reading as follows:

(c) The actions by the Commission referred to in (b) above shall not include authorization for enclosure of any public coast radiotelegraph station. Should the Commission recommend such closure, it shall submit such recommendation to the Congress, and take no steps to implement such authorization of closure until the Congress has voted approval.

18. We request also that the time for submission of the Commission's report be changed from the 6 months proposed in Section 6 (b) to 24 months, as was originally suggested in Section 5 (b) of the September 1977 draft. Accordingly, amendment of Section 6 (b) by submitting "2 years" for the "6 months" therein, is requested.

19. In summary, we urge the Subcommittee to (a) Amend Section 2 (a), in the manner set forth in paragraph 4; (b) maintain the language and sense of Section 3 (c), or possibly strengthen it; include clear language in the report on the bill clarifying its intent; (c) amend Section 3 (d) (2) in the new subsection (C) as set forth in paragraph 15; (e) amend Section 6 by adding a new subsection (c), as set forth in paragraph 17; (f) amend Section 6 (b) by changing "six months" to "24 months."

Thank you for your attention and for the opportunity to appear before you today, I hope we have been helpful.

#### APPENDIX A

#### ARA AND ROU CONTRACT PROVISIONS—RE OPERATION/MAINTENANCE REPAIRS (common to all agreements)

(b) The Union shall have complete jurisdiction over all work involved in the operations and/or maintenance and repair of all radio and/or electronic communications or other devices as described in Section 2 and Section 22.

(c) The duties and jurisdiction of the Radio Officer and/or Radio Electronics Officer shall not be assigned to any person or persons, licensed or unlicensed on board the vessel except in the case of emergency involving safety of life and/or property. Such duties and jurisdiction include operation, maintenance and repair of any device which obtains signal, writing, images, sounds or intelligence of any nature by radio and/or electronic communications from a point external to the vessel and which utilizes such data in its operation, and any device which transmits by radio and/or electronic communications to a point external from the vessel such data, signals, writing, images, sound or intelligence of any nature which it processes or generates. This includes but is not limited to radio transmitters and receivers, including radio-telephone, radio-facsimile, radioteletype, Radar, Loran, Sonar, electronic depth sounders, radio direction finders, radio navigation devices utilizing satellite communications, communications computers and electronic navigation computers, or any other such devices, provided however, that nothing contained in this Agreement shall be construed to include in the jurisdiction and/or duties of the Radio Officers and/or Radio Electronics Officers the operation of navigational devices or equipment, including but not limited to satellite navigational devices, Radar, Loran, electronic depth sounder, sonar, decca, radio direction finders and electronic navigation computers, on which excepted devices the jurisdiction and work duties of Radio Officers and/or Radio Electronics Officers is limited to maintenance and repair.

(d) The Company certifies and agrees that it has not assigned, and will not under any agreement with any other licensed or unlicensed maritime union, assign the maintenance and repair of electronic navigational or external communications equipment, including communications computers and navigational computers with their related servo-mechanisms of any kind, to any other personnel under such agreement. The Company further certifies and agrees that maintenance and repair of such equipment is under the complete and sole jurisdiction of the Radio Officer and/or Radio Electronics Officers.

(e) To assure proper operation and maintenance of the above mentioned equipment the Union and the Company agree that all persons who operate and/or maintain and repair such equipment shall be holders of a valid first or second class Radiotelegraph Operator's license, and as applicable of such additional certification by ARA TIME to operate and/or maintain and repair said equipment described in Section 2 and Section 22.

(f) The Union shall have jurisdiction, regardless of where located, over the equipment as set forth above, and all read out equipment which is related to any equipment, functions and duties under the jurisdiction of the Union.

Section 22 (a) Radio Officers and/or Radio Electronics Officers shall perform all duties incident to the operation and maintenance of all radio and/or electronic external communications devices on vessels operated by the Company. All radio and/or electronic external communications devices, described in Sections 2 and 3 including Radiotelephone, Radio Facsimile, Radio Teletype, communications computers or any other devices, when carried shall be located only in the Radio Room and shall be operated, maintained and repaired only by the Radio Officer and/or Radio Electronics Officer. (Navigation computers and other electronic navigational equipment shall be located in or in the vicinity of the Radio Room including bridge, but regardless of location shall be maintained and repaired only by the Radio Officer and/or Radio Electronics Officer.

(b) Radio Officers and/or Radio Electronics Officers shall not be required to perform any duties other than those required for the operation and maintenance and repair of the vessel's licensed radio station and other equipment and devices as outlined in Section 2, 3 and 22(a) except in an emergency involving the safety of life and/or property. Emergency shall be defined to mean a bonafide distress situation.

Radio Officers and/or Radio Electronics Officers may also be required to maintain and make repairs to the Radio Compass when the services of Radio Compass experts are not available; provided that under such circumstances, they shall not be held responsible for the efficiency or accuracy of the Radio Compass.

Radio-Electronics Officers may be required to maintain and make repairs to other electronic devices, carried, pursuant to the provisions of Section 23(b)21, provided that the necessary tools, instruments and spare parts are carried.

#### AUTOMATION

Section 51. The Company agrees that plans for automation of existing or future vessels shall not involve a manning scale of less than one Radio Officer or Radio Electronics Officer on freight vessels and not less than the manning scales provided in this Agreement on passenger ships. On the contrary, rather than removing Radio Officers and/or Radio Electronics Officers from any vessel, the needs of automation require that such men, trained by the ARA and ARA-PMA Time Programs, will be needed aboard automated vessels to perform the duties set forth in this Agreement.

#### SAFETY AT SEA

Section 52. In the interest and for the purpose of promoting safety of life and property at sea, and in the interest of National Defense, the Company agrees that all freight vessels owned or operated by the Company which have a gross tonnage of 1,600 or more and all passenger vessels owned or operated by the Company irrespective of size shall be equipped with properly authorized licensed radiotelegraph and/or radiotelephone stations and shall be manned with Radio Officers and/or Radio Electronics Officers duly certified by the Federal Communications Commission to act as commercial first- or second-class radiotelegraph operators and that all such vessels shall remain so equipped and manned throughout the life of this Agreement.

This section only applies to self-propelled craft, and is intended to cover oceangoing vessels engaged in coast-wide, inter-coastal, nearby foreign, and foreign voyages.

When any of the equipment in the jurisdictions of the Union is operating improperly or is inoperative and requires repairs, said repairs shall not be delayed until reaching port if the necessary spare parts are available and the

Radio Officer or Radio Electronics Officer has a Radar Endorsement, if radar equipment is involved and is qualified otherwise.

When repairs are being done to the ship's licensed radio station, including the radio direction finder, ship's radar or other equipment in the jurisdiction of the Radio Officer or Radio Electronics Officer, a Radio Officer or Radio Electronics Officer who is required to supervise such repairs between the hours of 8 a.m. to 3 p.m., Monday to Friday, shall not be dismissed, while such repairs are being performed and until they are completed, provided that he may be dismissed at or after 8 p.m.

#### RULES ON RADIOTELEPHONE OPERATION

##### *Addendum*

The be posted in Radio Room and on Bridge on vessels equipped with radiotelephone.

Operation of Radiotelephone equipment shall be in accordance with the following rules which both the Company and the Union agree do not supersede, but are in accordance with the terms of the collective bargaining Agreement between them relating to such operation.

1. Repair and maintenance at sea—Only the ship Radio Officer and/or Radio Electronics Officer shall be assigned to or perform duties necessary for maintenance repair and operation of Radiotelephone equipment at sea, (Section 22 (a)).

2. Operation—(a) Radio Officers and/or Radio Electronics Officers shall perform all duties incident to the operation maintenance and repair of all radio and/or electronic communications devices on vessels operated by the Company. All radio and/or electronic communications devices, described in Section 2(a), including Radiotelephone, when carried, shall be located only in the Radio Room and shall be operated and maintained only by the Radio Officer and/or Radio Electronics Officer. (Section 3 (b) and 22 (a)).

##### *Addendum*

(m) The parties recognize that VHF and other types of communication for: (1) meteorology, (2) data transmission, (3) oceanographic, (4) radio facsimile, (5) printer, (6) navigation, and (7) public or other correspondence to and from vessels via satellite relay will be tested shortly, and jointly state their agreement and understanding that pursuant to and subject to Section 3 of the parties' agreement all phases and steps of such communications as prove to be feasible to or from vessel shall be performed only by Radio Officers and/or Radio Electronics Officers, and no other personnel, notwithstanding any of the provisions made herein.

(c) All radio and/or electronic communications equipment other than the portable units described in 2. (a) above shall be located only in the Radio Room and shall be operated, maintained and repaired only by the Radio Officer or Radio Electronics Officer. The portable equipment described in 2. (a) above shall be maintained and repaired only by Radio Officers and/or Radio Electronic Officers.

##### *Addendum*

7. Maintenance and repairs of all the equipment referred to in this Addendum No. 4 shall continue to be performed only by the Radio Officer of Radio Electronics Officer.

8.a. Maintaining inventory of spare parts and requisitioning of spare parts as may be required for the ship's Licensed Radio Station, Radio Teletype, Loran, collision course computers associated with Radar, and any other equipment in the maintenance responsibility of the Radio Officer or Radio Electronics Officer, and preventative maintenance thereof.

3. shall be performed at sea on a weekly basis, (procedures shall be formulated by the ARA TIME Program and agreed by the Union and the Companies).

(b) "Preventive maintenance" shall be deemed to be those procedures performed on a normally functioning device, to maintain it in such normally functioning condition, and may include, as applicable, regular inspection, cleaning, tightening, lubricating and testing of such devices, including spares, as

well as alignment, calibration, adjustment (at frequencies appropriate to the particular device), and any other necessary procedures.

c. "Repairs" shall be deemed to be those procedures performed on a non-functioning or malfunctioning device, to restore it to normal functioning condition, and may include any of the procedures listed in (b) above when performed on a nonfunctioning or malfunctioning unit.

Senator HOLLINGS. Our next witnesses are Mr. George Knapp, president, World Communications of I.T. & T.; Mr. Richard B. Nichols, vice president of long lines of A.T. & T.; Dr. Joseph V. Charyk, president of Comsat; Mr. Edward Gallagher, the chairman of the board of Western Union International; Mr. Robert J. Angliss, executive vice-president of RCA Global Communications; and Mr. George Vasilakos, vice president, operations, Southern Pacific Communications Co.

We welcome this panel to the committee, and if you could limit your opening statements to 5 minutes, I think it would give us a chance to finish before lunchtime and also have a chance to ask some questions.

We will start over here, on the left-hand side. You can start, Mr. Nichols, and we will be glad to hear from you all.

**STATEMENT OF RICHARD B. NICHOLS, VICE-PRESIDENT, OVERSEAS,  
LONG LINES DEPARTMENT, AMERICAN TELEPHONE AND TELE-  
GRAPH CO.**

Mr. NICHOLS. Thank you, Mr. Chairman. I do not intend to read my direct testimony that has been submitted, and I understand it will be included in the record.

Senator HOLLINGS. Yes, sir. You can summarize, as you wish.

Mr. NICHOLS. Thank you.

I would like to mention that, within the room today, we also have Mr. Tom O'Reilly, who is an attorney here in Washington, and represents the Hawaiian Telephone Co. His testimony has also been presented for the record.

If I may, I would like to allow my testimony as presented more or less speak for itself. I would like to deal just a little bit with this question of carrier's carrier versus participating carrier.

In the first place, I do not believe that the concept of carrier's carrier requires the dedication of individual circuits or frequency band in the Inmarsat satellite to any particular carrier to be used on a retail basis. Therefore, the concern about in efficient use of the satellite, I believe, disappears.

Today, we already use a time division multiple-access approach to some of the developing countries around the world, and here we do not have any particular circuits assigned to us by Comsat or Intelsat, but we merely lease the service on a minute-by-minute basis, and you could certainly do the same with respect to Inmarsat.

When we start talking about participating carriers and filing joint tariffs, we get into quite a different area than we have had in the past, with Comsat or Intelsat.

In the first place, it raises the question of how do you divide the revenues? Now, it has been mentioned that we do work—

Senator HOLLINGS. You do it, don't you?

Mr. NICHOLS. Yes, sir, we do.

Senator HOLLINGS. You are supposed to be the experts on how to provide the revenue.

Mr. NICHOLS. Well, we try. But it has been mentioned here today that we work with our overseas correspondents as participating carriers, and we also work with the independent companies within the United States as participating carriers. And that is true.

With respect to the overseas correspondent, we divide everything on a 50-50 basis. We put up one-half of the investment; we put up one-half of the operating expenses on an ongoing basis; and, of course, they provide the other half.

When it gets down to the final division, we take one-half of the revenues; they take the other half.

That really is not applicable here. We could not really provide the service on the 50-50 basis, because we're providing only the connecting link, with Comsat providing the entire satellite connection. We don't think Comsat would be interested in giving us one-half of the revenues so generated.

However, with the independent companies, we have a completely different approach. As a matter of fact, this applies to the associated Bell companies, as well. And that is the so-called Ozark plan, which fundamentally means that all of the revenues derived by the interstate operation go into one pot. Each one of the companies then takes its expenses out, and everybody earns on their investment in the interstate enterprise at the same level.

Here, I guess I would have to ask whether that kind of an operation really could be worked up with respect to Comsat. It certainly is something that is a far departure from anything we've done in the past with respect to their Intelsat operations, and I really don't think that is the way we should be going.

Again, I would endorse the carrier's carrier approach. I would also urge once again that the carriers be given an opportunity to invest, particularly in the Earth stations, in order to encourage the promotion of that service.

Let me just point out that if we provide the land line component from the originating point, perhaps Chicago, to the Earth station, which happens to be located at the moment in Connecticut, if we do it on a participating basis, assuming that this question of settlements can be worked out, we are really only providing an interstate call. To the extent that we would advertise or promote that service, it is nothing more than a regular message telephone call. We would have no interest in it other than that. Therefore, we would not promote Inmarsat services as such, only to the extent that it becomes a small adjunct to the basic interstate service.

And I would just make one final observation, that this is precisely the way we operate today. I doubt that you will see in any of our promotional materials any suggestions that you call Edinburg, Va., which happens to be an independent territory, but rather, that you call home. Calling is the next best thing to being there. But it is just part of one package.

Mr. Chairman, I thank you.

[The statement follows:]

STATEMENT OF RICHARD B. NICHOLS, VICE PRESIDENT, OVERSEAS, LONG LINES  
DEPARTMENT, AMERICAN TELEPHONE & TELEGRAPH CO.

My name is Richard B. Nichols. I am Vice President, Overseas Division, A.T. & T.'s Long Lines Department. I appreciate the opportunity to testify before this Subcommittee today on the general subject of International Maritime Mobile Satellite Telecommunications, and to comment specifically on the draft Senate bill which would designate Comsat as the entity to represent the United States in the International Maritime Satellite Organization (Inmarsat), and on the House bill, H.R. 11209.

First I wish to clearly express A.T. & T.'s support for the timely designation by Congress of an entity to represent the United States in the Inmarsat organization. The need for continued American participation in the development of international maritime applications of satellite communications technology has not been seriously questioned by anyone in the ongoing debate over Inmarsat. The question is, how shall the U.S. participate?

Consistently since January, 1975, when A.T. & T. filed its first comments to the Federal Communications Commission's Notice of Inquiry into U.S. participation in Inmarsat (Docket No. 20281), A.T. & T. has supported the general concept of designating an existing carrier as a carrier's carrier, with participating retail carriers investing and sharing in the operation of the system in a manner similar to the current arrangements for ownership and operation of the Intelsat earth stations. That is, participating carriers would invest and participate in the operation of the system in proportion to their use of the system. A.T. & T. is convinced that the best arrangement for Inmarsat service would be for authorized carriers to obtain their facilities from the carrier's carrier and then provide and market the service themselves.

The overriding concern of A.T. & T. has always been to minimize the overhead of the designated entity in order that an economically viable system can be provided. In view of the limited market projected for maritime satellite communications in the near and middle term, every effort must be made to effect economies of operation.

A.T. & T., therefore, continues to support the designation of Comsat, with its existing expertise in international satellite communications, as the authorized United States entity for participation in Inmarsat, so long as participating carriers are provided a structured role to play in the formulation of U.S. policies, and a voice in the operation of the system proportionate to their use of the system in providing communications services to the public. Such participation can be achieved simply through the creation of an owners' committee, composed of all investing carriers, with voting rights based upon the carriers' respective economic interests.

The Comsat designation embodied in both the Senate bill and in H.R. 11209 has the desired attributes of simplicity and economy of overhead. However, we do not believe that maritime satellite communications will develop to the extent possible under these bills, and especially under H.R. 11209, so as to enable provision of quality service to a large cross-section of the American people. The success of this new service requires that it be promoted and expanded as aggressively as possible. The draft Senate bill fails to allow the participating carriers any voice in the operation of the System; the bill in effect gives Comsat a total statutory monopoly over how the system will be constructed and operated. H.R. 11209 is totally unacceptable in the view of A.T. & T., in that it would allow Comsat to deal, for the first time, directly with retail telecommunications customers. The only justification for designating Comsat to represent the U.S. in Inmarsat is the economy possible by avoiding the need to form a new corporation to act as the signatory to Inmarsat. The desire to save carriers and their customers this overhead does not justify excluding traditional carriers from new technology or denying them some role in the operation of that technology.

A few relatively simple changes to the draft Senate bill would give participating carriers some degree of voice in the operation of the system. Retail carriers should be allowed to invest in the entire Inmarsat system in proportion to their usage and to play a meaningful role in the operation of the system.

On the positive side, the draft Senate bill corrects a great deficiency in H.R. 11209 by providing that only authorized common carriers should be allowed

to connect, insuring that all users, large or small, will receive fair and equitable access, and reap the benefits of a low cost operation and good service provided by multiple suppliers at the retail level.

In the final analysis, Inmarsat legislation should do no more than designate Comsat as the signatory entity and as a carrier's carrier, further establishing that retail carrier shall invest and participate in the overall operation of the system in proportion to their use of the capacity of the system. Such a simple, straightforward statutory scheme would meet the overall objective of the bill, do it in the most economic manner, and at the same time, avoid doing unnecessary violence to the existing industry structure which has operated reasonably well for 16 years in providing international satellite communications to the American public.

This direct approach, which builds on an existing, working industry structure, also has the decided advantage of assuring a timely designation of an Inmarsat entity so as to enable United States participation in this important international communications organization.

Senator HOLLINGS. Thank you very, very much, Mr. Nichols. I believe the next gentleman is Mr. Gallagher.

**STATEMENT OF EDWARD GALLAGHER, CHAIRMAN OF THE BOARD,  
WESTERN UNION INTERNATIONAL**

Mr. GALLAGHER. Thank you, Mr. Chairman. I would like to have my prepared testimony incorporated in the record.

Senator HOLLINGS. It will be so included, and you may summarize it as you will.

Mr. GALLAGHER. I should just like to make a few comments. First, I should like to draw your attention to the policy statement made by the late President John F. Kennedy in 1961 and 1962, when we were trying to get satellites going; those policy statements included the following, and they were carried forward into the 1962 act: "nondiscriminatory use and equitable access into the system by present and future authorized communications carriers."

The policy statement also supported "effective competition" and the maximum possible competition. It also supported: "Development of an economical system, the benefits of which will be reflected on overseas communications."

Senators, I'm going to see whether or not I can call it as it is, and just say to you that it is only within the last couple of months that I have been hearing about a participating carrier theory. For 3 years, we have been filing papers with the Federal Communications Commission that have to do with the structure of this new organization, and on several occasions the House and Senate have been told that they are going to receive the FCC's decision in this particular matter. We are still waiting for it. And in any event, this participating carrier theory has only reared its head within the last couple of months, and we have been unable to comment to the FCC with respect to it.

Senator Schmitt, you asked a question with respect to the participating carrier theory. It is a method for throttling competition. Let me explain—and I should like to pass this little map to the desk, if I may. Some time ago a Comsat assistant vice president, in testimony before the House stated that, in addition to serving as an improved management tool, maritime satellite communications can aid and maintain improved morale. The ability to communicate with one's

family quickly and reliably is a substantial factor in keeping morale up among crew members.

But nothing was done about it until we did something about it. And Western Union International reduced the rates. We established the Marigram service at \$2.25 per message from crew members and shipboard passengers. Additionally, Western Union International took the bull by the horns and reduced Marisat telex rates. And the gentleman that testified just a few moments ago indicated that the rates for Marisat telex, for example, were 2 and 3 times higher than the HF rates. Well, we just reduced those rates.

Now, under a participating carrier concept we would not have been able to do that. We would have to have gone to the designated entity in H.R. 11209, namely Comsat, and said to Comsat, we would like to reduce the rates. Comsat may have said fine; they may have said no. But we were not our own master.

But when we decided to reduce the rates, we did in fact reduce the rates, subject to FCC approval, and we did not have to ask anybody else. Now, that we cannot do under a participating carrier theory.

Now, at the present time, having to do with participating carriers and joint ventures, we have been operating in this particular mode on a participating carrier theory, if you will, but under a different mode, for the last 20 years. We will invest, all of the various international carriers, in cable systems going across the Atlantic and the Pacific, costing \$150 million to \$180 million per system. We have no special corporation for this purpose. We just sign the documents, and we enter into those arrangements. But we have to control, each and every one of us, our respective channels within the cable system. If we make a decision with respect to the reduction of rates, we don't have to ask anybody.

Now, the participating carrier is bringing the traffic forward.

Senator HOLLINGS. You would agree with Mr. Geller, then, that it should be a carrier's carrier, and provide the on demand channel capacity to provide service.

Mr. GALLAGHER. My preference is for discrete channels. The new corporation could act as a carrier's carrier with discrete channels.

With respect to demand assignments, such as Mr. Nichols has talked about, that might be acceptable provided that I had control over the rate structures or the new services, and that I could go in and compete, as I am competing now. Under H.R. 11209, we are totally devoid of any competitive abilities. You see by the map that I sent up to you where we are relegated. That is our miniscule portion of the service. We have never operated under that guise before. We bring our traffic in, we bring our channels in all the way to the Earth station, we go all the way up to the satellite, and we come down at the other end.

We have control now. We can determine whether we want to reduce rates or innovate services. But not under the participating carrier theory which has reared its head in the last couple of months.

Now, I do want to make one comment that has to do with Senator Inouye. Over a year ago, I testified before Senator Inouye and indicated, as far as my company was concerned, we wanted to extend

to Hawaii full effective competition by all carriers. And no action has been taken on Senator Inouye's bill in the House. We support Senator Inouye's bill. If this subcommittee is looking toward a bill for maritime communications, you certainly have our support for an amendment to implement Senator Inouye's bill for Hawaii.

Adverting again to Senator Schmitt's questions, under H.R. 11209 what we've got is a total disenfranchisement of existing carriers. Let us assume that there is a road going from New York to San Francisco which is bumpy and rocky, and people are providing service, trucking service, along that road. And it hasn't been all the best, but it has been there, and they have been doing it for years, 40 or 50 years, as some of my friends here at this table have.

Now, suddenly there is a new road being built, and that new road is a five-lane superhighway. And then somebody else is designated as the trucker to carry that service from New York to San Francisco. And the people who have been carrying it over the rocky road for 40 years are disenfranchised.

I wonder whether or not—and I'm not speaking as a lawyer—you have a constitutional law question here.

The minority counsel in the House raised the question of Mr. Charyk, and this was a hearing of the Subcommittee on Communications. This was March 15, 16, 22, and 28. Mr. Coleman said, quote:

I am still troubled. What objection does Comsat have to the participation or the presence of the carriers in the Intelsat board of governors meetings?"

There are several paragraphs of an answer, but Mr. Coleman, after listening to those several paragraphs of an answer, came back and said, quote:

I understand all of that. But I just do not understand why the Intelsat board of governors meeting are closed meetings.

Mr. CHARYK. The Intelsat board of governors represent those countries that have an investment in the system. They are the owners of the satellite system. That is what we do, and that is how the thing works. So there is no basis for a carrier participation in the Intelsat councils.

That is what he said.

Now, what happened? We tried to get the minutes of these meetings as carriers from the Intelsat board of directors. We can't get them. We write to the FCC under the freedom of information law. But we go through a lot of redtape and wait maybe 2 or 3 months. Meanwhile we do get the minutes from our friends overseas, so that we can perhaps see what is happening in this world of communications.

And what do we find when we get these minutes? We find in the board of governors something we did not know when we were planning this Inmarsat program, even though we were members of the joint venture, the views of Intelsat which say as follows: "Comsat and the other members will decide the objectives with respect to providing space-segment capacity in a leased form to Inmarsat or directly to Intelsat signatories and other users." They come along in those same board meetings and contend that the shared Intelsat V system is more economical than a system based wholly on dedicated systems, such as the Inmarsat.

They then go on to say that there is nothing to prevent Intelsat from offering the service directly to the signatories of Intelsat. If

this were to happen, it would be the end of Inmarsat. There would be no necessity for Inmarsat. It gets into what has been referred to before by NTIA as in this entire question of conflict of interest. The designated entity, Comsat, for Inmarsat under H.R. 11209, is also the manager of Intelsat.

I would like to read to you what the GAO report says. This is a report by the Comptroller General just issued recently: "As noted by a Comsat official, by virtue of its large investment share and considerable influence, Comsat could block any unpalatable Intelsat action."

Now, obviously, if they can block an action, they can push an action. This is the sort of conflict of interests that is being considered by very many people overseas. As a matter of fact—and I don't know it to be true, but from what I hear—there has been a consideration of putting out an agenda.

Senator STEVENS. How can it be a fact if you don't know it to be true? How about just telling us facts? You're a lawyer, aren't you? Just tell us facts.

Mr. GALLAGHER. All right, I will let that go.

Senator STEVENS. This isn't a rumor table. I got called over here because I understood there was a controversy. I would like to hear facts.

Mr. GALLAGHER. Okay, good. I read to you a statement by the FCC of just a couple of years ago—although I guess they have changed their minds—"We anticipate that any designated entity would primarily be an interface between the carriers and Inmarsat, that it would provide representation on the council on behalf of the carriers, and pursuant to appropriate instructions." In other words, there was a position by the FCC looking toward the new corporation.

We, in looking at H.R. 11209, are very concerned over the anti-competitive effects and the disenfranchisement; and are also wondering whether or not we're going to be confronted with what we have since the inauguration of Intelsat, namely, that notwithstanding eight successive rate reductions by Intelsat to its members, that there hasn't been a rate reduction granted to the American carriers from Comsat, to such a degree that over an 18-month period \$100 million of excess charges have been placed in escrow for refund to customers. That followed a rate proceeding which went on for 13 years.

As a matter of fact, I understand that conceivably it may be settled tomorrow.

Now, if in fact the FCC had followed the recommendations of its staff in 1974 of a 25 percent rate reduction, instead of having \$100 million in excess charges—there could conceivably be \$200 million, because the \$100 million of excess charges was only fixed as between July of 1976 and December of 1977. We have operated, except for the excess charges by Comsat, in the carrier's carrier mode quite effectively. We have in fact reduced our rates. We have had continual rate reductions. But under a participating carrier theory, we would not be our own masters.

We look toward, a new corporation with discrete channels, but leaving open the question of channels on demand, where we could

effectively compete in accordance with the mandate laid down by Congress in 1962 in the Communications Satellite Act.

Thank you.

[The statement follows:]

STATEMENT OF E. A. GALLAGHER, CHAIRMAN, WESTERN UNION  
INTERNATIONAL, INC.

Good morning, Mr. Chairman, I am E. A. Gallagher. I am Chairman and Chief Executive Officer of Western Union International, Inc., and President and Chief Executive Officer of its parent, WUI, Inc. For your convenience, a summary of my testimony follows:

SUMMARY

1. Comsat is a carrier's carrier, not a carrier's competitor, and its only authorized users are the international full service carriers. This was Congress' intent when it created Comsat in 1962 for its Intelsat mission, and the FCC has followed that intent to date. This is an equitable result because of the monopoly benefits conferred upon Comsat by Congress, and the financial benefits conferred upon Comsat by both the U.S. Government and the international carriers.

2. This basic industry structure and national telecommunications policy should not be revamped in legislation for the infant maritime satellite market, which legislation is only needed for the purpose of enabling the U.S. to sign the multinational Inmarsat agreement by the third quarter of 1979.

3. The public will benefit from a continuation of the competitive offering of maritime satellite service in which WUI and any other qualified international carrier fills a meaningful role through ownership of its satellite circuits. Neither Comsat nor any other carrier should be granted sole U.S. ownership of either the earth stations or the spacecraft.

4. WUI, by virtue of its existing maritime satellite circuit ownership, was able to announce, subject to FCC approval: (i) a 33 percent rate reduction for maritime telex calls; and (ii) a new Marigram message service to enable shipboard crews and passengers to contact their friends and families via satellite at \$2.25 per Marigram message, as compared with \$30 for a telephone call via satellite. WUI's strong credentials in maritime satellite communications are outlined later in this testimony.

5. Comsat has virtually an uncontrolled stranglehold over satellite communications. Any further statutory monopoly powers for Comsat would be harmful to the consumers and would increase the many conflict-of-interest positions now occupied by Comsat.

COMSAT WAS CREATED FOR A SPECIFIC LIMITED PURPOSE, NOT TO DOMINATE  
INTERNATIONAL COMMUNICATIONS NOR TO RESTRAIN COMPETITION

Under current law, international point-to-point telecommunications via the Intelsat system is provided to the consumers by international full service carriers, including WUI. These carriers obtain satellite circuits from a sole source—Comsat, who is a carrier's carrier. Comsat has not been unleashed in competition with the carriers. Indeed, fair competition would be impossible because Comsat has a statutory monopoly over Intelsat satellite circuits and has been accorded subsidies and other support by the U.S. Government and by the international carriers.

In the case of the pilot maritime mobile satellite system (Marisat), both the international carriers and Comsat have been accorded a parity of opportunity. Each of the four Marisat carriers—Comsat General, RCA Globcom, WUI and ITT Worldcom—own and operate its own discrete circuits in both the space segment and the earth stations. Accordingly, there is no carrier's carrier concept today in Marisat. However, we accepted this compromise arrangement without prejudice to our firm views regarding Comsat's more proper role as a wholesaler, because this pilot system is dedicated primarily to the U.S. Navy and there is limited commercial capacity. Moreover, we shared the FCC's expectations (since proven wrong) that Comsat and its wholly-owned subsidiary, Comsat General, would operate independently and at arm's length.

A brief history underlying the establishment of Comsat is instructive. In 1961, the FCC conducted a proceeding (Docket No. 14024) to consider the institutional arrangements for communications via satellite. The international carriers recommended, and the FCC accepted in its first report, a joint venture of existing and future international carriers to own and operate the U.S. share of a global satellite system. Meanwhile, several bills emerged in Congress. One bill would have vested ownership in the U.S. Government. A compromise was finally adopted in 1962 establishing Comsat.

Comsat's wholesale role was stamped indelibly into the legislative history of the Communications Satellite Act of 1962, as illustrated by the statements of Senator Pastore, the manager of the bill:

"The satellite corporation and the carriers will not be competing in the same market. Let me repeat these simple but all-important facts. The market to be served by the corporation consists of the carriers who will use its facilities. The market to be served by the carriers will be the senders and recipients of communications traffic. The corporation will depend upon the carriers for its revenues; the carriers will depend upon the corporation for facilities." (108 Cong. Rec. 16920).

During the creative and formative years of Comsat, four former FCC chairmen reiterated Senator Pastore's remarks. For example, Chairman Minow stated that Comsat "will not be rendering service directly to the public; it will be rendering service only to the other carriers."

In 1966 in its *Authorized User Decision*, the FCC reaffirmed that "Comsat is to be primarily a carrier's carrier."

"In reaching our basic policy determinations we are aware that in this instance we are not confronted by a normal competitive situation; namely, one where one entity through its initiative, ability, or inventiveness produces a cheaper or better means of providing service and thus captures a market. Instead, we have a situation where *there is an artificial restraint upon the terrestrial carriers*. They cannot ordinarily be licensed to provide the essential space segment of the international satellite circuits and thus compete with Comsat on equal terms, but must rely on Comsat which was created to provide these facilities to them. Sound policy indicates that, absent a statutory requirement to the contrary, that they should not be required to depend solely on Comsat for satellite circuits while Comsat is simultaneously allowed to siphon the most profitable part of the business from them. Neither Comsat nor anyone else proposes that Comsat meet the needs of all users, i.e., message, Telex, and all other switched services. Thus, this is not a situation where a proposed competitor would meet all or even a major portion of the essential public needs should it supplant the other carriers." (Emphasis Added) (4 FCC 2d 421, 431, 436).

"When the Satellite Act was enacted, Congress, in order to assure that the fledgling corporation—Comsat—received needed communications expertise and guidance, made provision for communications common carriers to own up to 50 percent of Comsat stock and to elect six members of Comsat's Board of Directors. \* \* \* Comsat was created by Congress primarily for the important and immediate purpose of representing and promoting this nation's interests in the establishment and operation, in conjunction with other nations, of a global international communications satellite system [Intelsat]. That mission with the aid and support of AT&T and other carriers, has been achieved with a high degree of success." (38 FCC 2d 665, 679).

Comsat was nurtured and supported by both government and industry. Comsat was the beneficiary, at no cost, of a wealth of technology developed by NASA and other entities. Launch services have been provided to Comsat at less than NASA's full costs. The FCC has compelled the international carriers to lease unneeded satellite circuits from Comsat. In one case, involving the Caribbean area, the FCC authorized the carriers to negotiate a subsidy with Comsat providing for their payments to Comsat, not for satellite circuits, but merely for the privilege of activating their owned cable circuits (11 FCC 2d 781).

As Comsat's ratepayers, the carriers have been overcharged for many years and have reduced their rates to the consumers in reliance upon unfulfilled promises by Comsat of rate reductions. Nevertheless, these consumers, including government agencies, have incurred excessive charges due to Comsat. Monopoly

pricing by Comsat for Intelsat circuits is illustrated by the \$100-million escrow fund representing Comsat's overcharges for just an 18-month period, with massive additional overcharges irretrievably lost. WUI is willing to flow its overpayments to Comsat through to its users, and has been repeatedly calling for a meeting with the FCC since January 5, 1976, for the purpose of devising a voluntary, reasonable methodology for passing the benefits of reduced Comsat rates through to the end-users.

Comsat has received substantial subsidies from American taxpayers, the U.S. international carriers, and ultimate communications users.

Despite all of these unprecedented benefits, Comsat has manifested predatory instincts toward the carriers. Comsat's current endeavors to dominate maritime satellite communications, to the exclusion of the carriers, have been furthered through Comsat's conflicting roles. Through its Comsat General subsidiary, Comsat has been planning the second generation Marisat system in—what we thought—was a cooperative effort with its Marisat partners, including negotiations with the European Space Agency. At the same time, through its Intelsat relationship, Comsat has been attempting to annex the next Marisat generation to the Intelsat V spacecraft. Also, Comsat has been promoting legislation for its own exclusive designation as the U.S. representatives to Inmarsat, as the sole supplier of maritime satellite facilities, and as the prime retail carrier.

We have come full circle with Comsat. In 1961, the international carriers proposed their own joint venture for the development of satellite communications. In 1962, they accepted as a compromise the creation of Comsat as a carrier's carrier. For the next 15 years, the international carriers nurtured and subsidized Comsat. Now their progeny has turned predator and seeks to displace, if not, devour them.

#### BASIC INDUSTRY STRUCTURE SHOULD NOT BE REVAMPED IN LEGISLATION FOR THE INFANT MARITIME SATELLITE MARKET

The only need for legislation is for the purpose of enabling the United States to sign the multinational Inmarsat agreement by the third quarter of 1979. The Inmarsat organization is not expected to own or operate a satellite system until well into the 1980s at the earliest. Accordingly, there is no pressing need to revamp the basic industry structure and the existing national telecommunications policy in order to accommodate the infant maritime satellite market.

There is a bill pending in the House, H.R. 11209, which would prematurely revamp the basic industry structure, without an adequate supporting record, merely to create a designated U.S. entity to sign the Inmarsat agreement.

Not only would H.R. 11209 grant to Comsat additional monopoly roles as the sole source supplier of maritime satellite space segment capacity and as the exclusive U.S. participant in Inmarsat, but Comsat would also gain the foundation to build a de facto monopoly over all maritime satellite services in the U.S. This foundation is contained in the provision of the bill giving Comsat access to all end users, through the undefined, but wide-open, classification of "private communications systems." Although both "domestic common carriers" and "international common carriers" also are granted access to Comsat's space segment by the bill, the role of these carriers in maritime satellite communications is more apparent than real. Armed with its additional statutory monopolies, Comsat should have little difficulty in sweeping aside the domestic and international carriers and in monopolizing all of the consumer requirements.

If Comsat were to attain a maritime space segment monopoly, as contemplated by H.R. 11209, competition would likewise be restrained in the marketing of shipboard terminals.

Any resulting total monopoly in maritime satellite communications would be contrary to the public interest. Deprived of the benefits of competition, end users will eventually suffer the ills of many consumers who are solely dependent upon a monopoly source of supply—higher rates and deteriorating service.

Since the inception of Intelsat service in 1965, history has taught that vesting exclusivity in Comsat is the way to obtain inflated satellite rates. Although Intelsat has reduced its annual space segment charges to Comsat by about 66 percent, the U.S. international carriers have never been granted rate reductions by Comsat over many routes for satellite full-time voice-grade channels,

have received token reductions over other routes, and have obtained no reductions since 1971, other than to Hawaii when the domestic satellite competition was introduced. Although Comsat has consistently heralded the economic advantages of satellites, particularly during cable authorization proceedings, Comsat has been especially adroit in retaining such benefits for itself. As a matter of fact, the FCC has found Comsat's rates to be excessively high, and is now considering large-scale reductions including refunds of over \$100 million in excess charges by Comsat.

This history is likely to be repeated in the maritime sector if Comsat is again granted a de jure monopoly over space segment capacity and over Inmarsat representation, and a de facto monopoly over all maritime satellite consumer services. In my opinion, H.R. 11209 would grant all of these monopolies to Comsat.

There is no need for such drastic legislation merely for the purpose of designating a U.S. entity to sign the Inmarsat agreement.

THE PUBLIC WILL BENEFIT FROM CONTINUING MEANINGFUL COMPETITION IN THE MARITIME SATELLITE MARKET

WUI, by virtue of its existing maritime satellite ownership, was able to announce, subject to FCC approval: (1) a 33 percent rate reduction for maritime telex calls from \$6 per minute down to \$4 per minute; and (2) a new Marigram telegraphic message service to enable shipboard crews and passengers to contact their friends and families via satellite at \$2.25 per Marigram message, as compared with Comsat General's minimum charge of \$30 for a telephone call. Comsat General has not even offered any telegraphic message service to date.

WUI also has its own program underway for the development, manufacture, and marketing of high-quality satellite shipboard terminals. These terminals uniquely feature gyroscopic stabilization and are among the best available today.

The foregoing pioneering rate and service advances by WUI for the benefit of the consumers represent the epitome of the competitive market-place. Since WUI owns its own Marisat circuits, both at the land-based earth stations and in the spacecraft, WUI can control its own revenue requirements and can innovate its own service features.

If WUI were legislatively barred from any ownership, as H.R. 11209 would do, WUI would be denied any meaningful role. WUI would be relegated to a mere communications delivery agent for Comsat from the earth station. WUI's revenue requirement for the 70-mile agency route between the earth station in Connecticut and our New York operating center would be miniscule, as compared with Comsat's revenue requirement for its system ownership and its 45,000 mile routing from the shore into space and back to the ship. Accordingly, WUI could not grant the public any meaningful rate reductions, and might need Comsat's approval for even a nominal reduction. Similarly, WUI could not develop any real service innovations without Comsat's consent because Comsat would control the entire satellite system, both earth and space segments.

Even aside from Comsat's overwhelming control, WUI would have little if any incentive to pioneer rate and service innovations and to continue its advanced shipboard terminal program.

The public would be the loser if WUI were effectively legislated out of the maritime satellite market.

WUI, an international common carrier, has strong credentials in satellite communications, including maritime communications. We have operated via Intelsat satellite channels since the inception of commercial satellite technology in 1965. Commencing in 1967, WUI became a co-owner of the U.S. Intelsat earth stations, which now total seven and are located in the continental United States, Hawaii, Puerto Rico and Guam.

During the timeframe of 1968-75, we operated maritime satellite stations on board U.S. Navy vessels for the world-wide television transmission of the splashdowns of the 11 Apollo missions, two Skylab missions and one Apollo/Soyuz mission. We have also located our satellite earth stations in foreign nations for televised coverage of special events, such as the 1972 Presidential visit to the People's Republic of China. WUI now provides high-speed data service to the Department of Defense via our domestic satellite earth stations

in California and Hawaii, and plans to construct domestic satellite earth stations at Andover, Maine, and Etam, W. Va., subject to FCC approval, for service to NASA in support of its space shuttle program.

Commencing in 1973, WUI joined other carriers in planning the pilot Marisat program. The Marisat carriers in the order of magnitude of their ownership shares are Comsat General, RCA Globeom, WUI and ITT Worldcom. Although WUI is a minority shareholder, its investment is about four times the minimum established by the FCC.

The Marisat system commenced operations in 1976 with the launch of spacecraft over the Atlantic and Pacific regions, followed by a third spacecraft in the Indian Ocean area. Marisat now serves U.S. Navy vessels, worldwide, and commercial vessels in the Atlantic and Pacific regions. Commercial service in the Indian Ocean area is expected later this year, subject to FCC approval, via a maritime satellite earth station in Japan. The Marisat system also includes earth stations located in Connecticut and California.

A WUI official was the communications chairman six weeks ago of the prestigious International Navigational Aid and Communications Conference, which was addressed by leaders of industry and government, including Senator Ernest F. Hollings, Chairman of this subcommittee.

WUI has expended considerable effort in negotiations with other U.S. carriers and with the European Space Agency for the establishment of the second generation maritime satellite system to follow Marisat, whose 5-year design life expires in 1981.

Neither WUI nor any other eligible carrier should be legislatively barred from a meaningful role in maritime satellite communications.

LEGISLATING ANOTHER MONOPOLY FOR COMSAT, AS THE SOLE U.S. OWNER IN INMAR-SAT, WILL NOT SERVE THE PUBLIC INTEREST

It is not in the public interest to vest any further monopoly power in Comsat by legislation. Comsat's plate is already overflowing with its multifaceted and conflicting positions:

1. U.S. monopoly role in Intelsat, and its monopoly position as the sole source wholesale supplier of international space segment capacity in the United States to the international carriers;
2. Alliance with American Telephone & Telegraph Co. in the domestic satellite market, as the sole source wholesale supplier of domestic satellite space segment capacity to A.T. & T.;
3. Partnership with International Business Machines Corp. (IBM) as an emerging powerful force in the retail domestic satellite market in contravention of antitrust policy and over the objections of the Justice Department and the Federal Trade Commission;
4. Recipient of excessive earnings in its Intelsat monopoly role, which has burdened the ratepayers with more than \$100 million in overcharges since mid-1976, and untold millions for prior years;
5. Large-scale role in Marisat;
6. Supplier of shipboard terminals for operation with Marisat;
7. Control of several foreign Intelsat earth stations;
8. Consultant for the establishment of a regional satellite system for 21 countries by the Arab Satellite Communications Organization;
9. Recently-disclosed sole-source contract with the U.S. Postal Service for international electronic mail service, which may well be in violation of existing law and policy;
10. Advocacy of the annexation of maritime satellite capacity to the Intelsat V spacecraft in derogation of the proposed separate and independent Inmarsat organization;
11. Ability to play off U.S. Government regulatory agencies and, thus, avoid any effective governmental regulations or instructions. This regulatory vacuum and the lack of any controls over Comsat were exposed in the General Accounting Office Report of March 31, 1978, ("Greater Coordination And A More Effective Policy Needed For International Telecommunications Facilities," pages 37-45, 50-52); and
12. Failure to comply with FCC Orders mandating arm's length dealings between Comsat and Comsat General, and directing that Comsat General operate

as a separate corporate entity and not as a mere division of its parent (48 FCC 2d 529).

Comsat already has a stranglehold on satellite communications, aided and abetted by its statutory monopoly under the Communications Satellite Act of 1962. Comsat's many-faceted roles, as outlined above, make it the bridge between A.T. & T. and IBM, and give it the allure abroad of a U.S. quasi-governmental entity. Consequently, Comsat is possessed of tremendous commercial leverage, domestically; and is clothed with the appearance of near-governmental power, abroad. Less advantaged U.S. companies will find it ever more difficult to compete with Comsat in its non-monopoly endeavors, and they will be absolutely foreclosed in the Comsat-monopoly sectors.

NO ELIGIBLE CARRIER SHOULD BE EXCLUDED FROM A MEANINGFUL ROLE IN MARITIME SATELLITE COMMUNICATION

WUI and the other three Marisat carriers assumed the risk and provided the seed money for the world's first commercial maritime satellite system. Each of these carriers has acquired valuable experience in maritime satellite operations, but there is no assurance that they will gain any financial profit, or even recover their investment from this developmental system. Additionally, WUI and the other Marisat carriers have expended considerable efforts in their negotiations among themselves, with A.T. & T. and TRT Telecommunications Corp., and with the European Space Agency, all concerning the second generation system. WUI has also supplied expert representation to the U.S. delegation to the many pre-Inmarsat conferences, and to the Inmarsat Agreement International Preparatory Committee.

Any legislative exclusionary policy disqualifying carriers from ownership eligibility in ultimate communications systems, after such carriers undertook the risk of funding the initial developmental system, would be highly inequitable. Not only would these pioneering carriers be deprived of their ultimate opportunities to recoup their losses from the pilot system, but also the consumers would be deprived of the expertise of these carriers and the competitive benefits that they would bring to maritime satellite services and shipboard terminals.

If WUI is to be disqualified by legislative fiat from any future meaningful role in maritime satellites, WUI will be forced to reexamine its proposed participation in the second generation system, whose planning must move forward expeditiously this year.

A new broad-based corporation should be established to become the U.S. entity for Inmarsat. Each of the four existing Marisat carriers should be deemed eligible to participate, as should any other U.S. carrier whose participation is determined by the FCC to be in the public interest. The magnitude of the ownership participation by each carrier should be determined by the FCC. However, no single carrier should be authorized to own more than 49 percent of the new corporate designated entity, unless such greater ownership is required for the purpose of reaching 100 percent.

There are various bills available to the Subcommittee which would accomplish this result. One of those bills is S. 2211 which was introduced by Senator Hollings for himself and Senator Stevens on October 17, 1977. This bill was introduced at the request of the Administration, and its companion H.R. 9647 has been supported by the State Department, the former Office of Telecommunications Policy, and the Maritime Administration.

This Subcommittee's staff working draft, dated April 28, 1978, contains the framework of an acceptable bill, and WUI's counsel has submitted some proposed revisions to your staff. WUI's counsel will be pleased to work with your staff in implementing policy decisions of the Subcommittee. Hopefully, they will provide the basis for a meaningful role for WUI and any other qualified carriers in maritime satellite communications.

Thank you for accordng us the opportunity to testify.

Senator HOLLINGS. Thank you, Mr. Gallagher.

Mr. Knapp, I think you are the next gentleman—Mr. George F. Knapp.

**STATEMENT OF GEORGE F. KNAPP, PRESIDENT,  
ITT WORLD COMMUNICATIONS, INC.**

Mr. KNAPP. Thank you, Mr. Chairman.

Just to correct the agenda there; I'm not president of ITT. Mr. Hamilton is. I'm president of ITT World Communications, which is a subsidiary of ITT.

If you will, Mr. Chairman, my testimony has been submitted to you, and I would like to put it in the record as a whole. However, at this time, I'd like to just highlight some aspects of it.

Senator HOLLINGS. Very good.

Mr. KNAPP. As you undoubtedly know, Worldcom has been in the business of providing coastal marine service for the past 50 years. Presently, we operate radio stations on the east coast, west coast, and the gulf coast. We have also been an active participant in the ongoing negotiations looking toward the establishment of the second generation of the Marisat. We likewise are partners in the Marisat I venture. We have been actively participating since 1971 as a member of the U.S. delegation in negotiation of the Inmarsat Convention and Operating Agreement.

What I would like to just briefly comment on is the proposition of the FCC with respect to participation in maritime satellite services. The initial judgment of the FCC that maritime satellite services should be open to participation by all carriers authorized to provide direct service to maritime users should not be reversed without sound reasons for granting an exclusive franchise to Comsat and rejecting the expressed desires of other maritime carriers to utilize satellite as well as high frequency technologies.

I will comment briefly, subsequently, about how I perceive the market for maritime services to exist.

ITT Worldcom urges this subcommittee to adopt legislation for the Inmarsat-designated entity which would authorize the creation of a new corporation, to be owned by the existing maritime carriers, which would serve as the Inmarsat-designated entity and would provide maritime communications services to the public and to other interconnecting carriers. This would, of course, parallel the structural form which has already been agreed upon by the maritime carriers negotiating for the provision of the Marisat II system.

H.R. 11209 can be rather simply amended to provide for such a carrier-owned corporation as the designated entity. I have attached to my testimony proposed amendments of that bill for the use of your committee, sir.

The argument may be made that a carrier-owned corporation, such as we have proposed, offers no greater benefit to the public than would be provided if Comsat were the Inmarsat-designated entity. This argument will not, however, withstand serious analysis. In the first place, the ownership of the U.S. Inmarsat facilities by maritime carriers which are competing with one another for high frequency and other international services will be a substantial stimulus for creative design of the services available via the Inmarsat system. Such a stimulus would be materially diminished if the satellite medium, and

the planning of services via that medium, is under the exclusive control of a single carrier.

However, a more important consideration, relates to the public coast station services, which today provide the preponderance of high seas maritime communications. Although the satellite medium undoubtedly represents the future of maritime communications, and can be expected to attract increasing portions of the total maritime traffic, there will remain a significant requirement for public coast stations well into the foreseeable future. Small ships and other operators which are unable or unwilling to spend the substantial sums required to equip their vessels to access the satellite system will continue to rely on high frequency radio for ship-to-shore communications and, even more vital, for safety of life at sea.

Presently, ITT Worldcom and other maritime carriers handle approximately 1 million telegraph-type messages per year between the United States and ships at sea. As satellite communications increase, the traffic and revenue base for this high frequency radio service can be expected to erode to the point that it will not be economically viable as a separately maintained service. With the long-term continuing requirement for high frequency radio services and the declining economic viability of such services, the public coast station carriers will have to either raise their rates or reduce the level of services.

By providing the existing maritime carriers with an economically viable participation in the satellite system, those maritime carriers will be in a position to coordinate the high frequency and the satellite services into an integrated whole, which will better serve present user needs and facilitate an orderly and efficient transition from the current level of reliance on high frequency radio to the domination of maritime services by the satellite system. Through such an integration of services, the users of maritime services would be in a better position to seek and obtain rates and levels of service which satisfy their total requirements.

I would like to point out, Senator, that the total market last year for maritime services was something in the vicinity of \$8 million among the maritime carriers.

One further comment, if I may. It deals with this question of problems that I foresee that Comsat may have in attempting to wear two hats in this field of international communications and the maritime communications realm. Intelsat has announced that it is evaluating the inclusion of the maritime capability in its next generation of Intelsat satellites, which may or may not be used by the Inmarsat system. Obviously, Comsat would be placed in a position of having to determine whether its allegiance to Intelsat or Inmarsat would govern its actions in such a situation. I note parenthetically that Intelsat recently sent to the Inmarsat Preparatory Committee a paper describing how Intelsat could provide the Inmarsat space segment.

Indeed, it is noteworthy that the House bill appears to acknowledge that Comsat has existing and potential conflicts of interest between its Inmarsat role, its Intelsat role, and its roles in other ventures. Given this acknowledged question as to possible conflicts on the part of Comsat, the designation of Comsat as the Inmarsat entity by the

House bill and now by the Senate draft bill would seem, at the very least, premature and unwarranted.

Senator, I thank you for the opportunity to comment. And of course, I'm available for further questions and to assist you.

[The statement follows:]

STATEMENT OF GEORGE F. KNAPP, PRESIDENT OF ITT WORLD COMMUNICATIONS INC.

Mr. Chairman, we appreciate this opportunity to participate in the Subcommittee's hearings on International Maritime Mobile Satellite Telecommunications.

I am George F. Knapp, President of ITT World Communications Inc., commonly known as ITT Worldcom.

ITT Worldcom is one of six international record carriers competing in the United States. These competing record carriers provide overseas message telegram, telex, private line record, alternate voice/data and various new data services. ITT Worldcom employs the latest in computer technology to meet the special telegraphic, telex and lease requirements of customers. New service features are continually being added, and the quality of services has been continually improved without increasing our rates.

ITT Worldcom, and its predecessor companies have also been engaged in the provision of maritime communications service to the public for over 50 years. Throughout that period we have provided telegraph-type service to maritime users from FCC-licensed public coast stations.

At the present time we operate one public coast station on the Atlantic coast, one station on the Gulf coast and three stations on the Pacific coast. We have also been a participant and investor in the MARISAT program which provides maritime telex and other services to ships equipped to handle such communications. We have been an active participant in the ongoing negotiations looking toward the establishment of a Second Generation MARISAT System, either as a wholly owned U.S. system or as a joint venture with a number of foreign telecommunications entities. And we have actively participated, since 1973, as a member of the official U.S. delegations in the negotiation of the Inmarsat Convention and Operating Agreement.

In addition to ITT Worldcom, a number of other carriers, notably RCA Global Communications and TRT Telecommunications, have a long history of providing maritime, telegraph-type services via public coast stations. Similarly, maritime telephone service has long been provided by the American Telephone and Telegraph Co. via its public coast stations. A few years ago, Western Union International, an international record carrier, started providing maritime, telegraph-type services through its participation in the Marisat program.

During the negotiations for the establishment of a second generation Marisat system, the maritime carrier participants (including Comsat General Corp. which is a subsidiary of the Communications Satellite Corp. (Comsat)) had reached agreement that this second generation system should be owned by a new corporation or partnership which would contract the day-to-day operation of the system to a system manager. It was expected that Comsat General would be that system manager. The new entity would provide maritime communications services directly to the public. Further, there seemed to be a likelihood that this second generation MARISAT system would be established as a joint venture between the United States entity, just described, and interested telecommunications administrations from Europe and other regions. If such an international joint venture were established, it could logically be expected to ultimately evolve into the International Maritime Satellite communications system, known as Inmarsat, or at the very least would serve as a prototype for the Inmarsat program.

Notwithstanding the successful Marisat joint venture on the part of several of the U.S. maritime carriers and the substantial groundwork undertaken by those carriers (and other maritime carriers which were not parties to the original Marisat program) for the development of a Marisat-II program—including serious negotiations with European, Russian, and Japanese interests which were undertaken on behalf of those carriers by Comsat General, a Bill is now pending in the House of Representatives which would give Comsat exclusive

authority to own and operate maritime satellite communications facilities. That Bill, HR 11209, which would establish a U.S. designated entity" for participation in the Inmarsat program, would give Comsat exclusive ownership and control over the Inmarsat space segment and the right to own all or part of the U.S. earth stations. Under that Bill, those maritime carriers which have long served the public through Marisat and the public coast stations would be relegated to the *possibility* of minor and in actuality meaningless roles in the earth stations (as determined by the FCC) and the right to provide domestic connections between their gateway subscribers and the Inmarsat earth station.

Comsat was created by this Congress to develop the commercial application of a new technology—satellite communications. As a substantial bonus, Comsat's proposed services were established with the free use of and access to basic research and development which had been financed by the U.S. taxpayers. Therefore, Comsat has enjoyed not only the "PR" advantages of its association with the glamour of space technology, but has found the venture to be immensely profitable as well. For the Congress to now seek to gold-plate the silver spoon with which Comsat was spawned, by giving it the exclusive opportunity to provide future maritime satellite communications at the expense of the existing maritime carriers which have provided over fifty years of public maritime communications service—often with minimal, or even negative return on their investments—is plainly repugnant to considerations of fairness and to the spirit of American free enterprise.

Although Comsat's subsidiary, Comsat General, has played a major role in the development of maritime satellite communications, through its role in the Marisat program, it has never offered maritime services via public coast stations. Indeed Comsat General has consistently rejected any participation on its part in the provision of those very essential public coast station maritime services. Even its entry into the maritime service three years ago was the result of a fortuitous contract which it obtained from the U.S. Navy for the provision of a satellite communications service to Navy ships. Because the satellites which it purchased to meet the Navy requirements had a communications capacity somewhat in excess of that necessary to satisfy those Navy requirements, Comsat General was able to propose a commercial service, using that space capacity, that would otherwise have been unfeasible.

Indeed Comsat General sought at the outset of the Marisat program to create for itself a monopoly in the provision of maritime satellite services. However, in response to protests by several of the existing maritime carriers, the FCC determined that such a monopoly would not be in the public interest and required Comsat General to permit participation in that Marisat program by existing maritime common carriers. As a result of this FCC determination, ITT Worldcom, RCA Global Communications and Western Union International each filed applications to participate in this program and entered into negotiations with Comsat General looking toward the establishment of institutional and operational arrangements for the Marisat system.

Although the percentage investments on the part of these three carriers were significantly lower than the Comsat General investment, this reflected a judgment, at least on ITT Worldcom's part, that Comsat General had seriously misallocated costs between the Navy service and the commercial service in the contract which it had negotiated with the Navy. Because of this misallocation and based on our own analysis of the limited market at the time for such commercial services, we were convinced that there would not be sufficient commercial traffic available to cover the costs attributed to the provision of such services. Thus, with fixed revenues from the Navy side and a predictable revenue shortfall for the commercial side (a prediction which experience has shown to be correct), this plainly did not represent a sound investment opportunity, except as a market entry vehicle for a new carrier. (Parenthetically, I would note that even though these existing maritime carriers undertook relatively small monetary investments in the MARISAT systems, each of those carriers has contributed technical and administrative expertise toward the development of that program which were well in excess of their relative contributions from an investment share perspective.)

The initial judgement of the FCC that maritime satellite services should be open to participation by all carriers authorized to provide direct service to maritime users should not be reversed without sound reasons for granting an

exclusive franchise to Comsat and rejecting the expressed desires of other maritime carriers to utilize satellite as well as HF technologies.

ITT Worldcom urges this Subcommittee to adopt legislation for the Inmarsat designated entity which would authorize the creation of a new corporation, to be owned by the existing maritime carriers, which would serve as the Inmarsat designated entity and would provide maritime communications service to the public and to other interconnecting carriers. This would, of course, parallel the structural form which has already been agreed upon by the maritime carriers negotiating for the provision of the Marisat-II system.

The House Bill, H.R. 11209, can be rather simply amended to provide for such a carrier-owned corporation as the designated entity. The principle change to the House Bill requires the deletion of references to the Communications Satellite Corporation as the entity designated to represent the U.S. in Inmarsat, and to substitute therefor, a new corporation which would be funded by interested maritime carriers. Additionally, the Bill would be amended so as to provide for ownership by the new corporation of the Inmarsat earth stations located in the United States. Services to be provided by the new corporation would be offered pursuant to authorization granted by the FCC, and in accordance with tariffs filed with the FCC. We have prepared amendments to HR 11209, which will accomplish this result. These amendments are appended to my written testimony as Appendix I. We urge the Subcommittee's consideration of those amendments.

I would observe that the new corporation, which our proposed amendments would authorize, will still retain the benefit of participation by Comsat General as a maritime carrier, most likely as a major investor in that corporation. Additionally, to the extent the U.S. is successful in negotiations with other Inmarsat participants, it can also be expected that Comsat General will be designated as the system manager for Inmarsat. ITT Worldcom knows of no reason why Comsat General should not be the choice of this new corporation for INMARSAT system manager, and we would expect to support its selection.

The argument may be made that a carrier owned corporation, such as we have proposed, offers no greater benefit to the public than would be provided if Comsat were the Inmarsat designated entity. This argument will not withstand serious analysis. In the first place, the ownership of the U.S. Inmarsat facilities by maritime carriers which are competing with one another for HF and other international record services will create a substantial stimulus for creative design of the services available via the Inmarsat system. This will be a natural outgrowth of those carriers' efforts to satisfy the needs of their own subscribers and thus to channel maritime traffic via their respective facilities. Such a stimulus would be materially diminished if the satellite medium, and the planning of services via that medium, is under the exclusive control of a single carrier.

A more important consideration, however, relates to the public coast station services which, today, provide the preponderance of high seas maritime communications. Although the satellite medium undoubtedly represents the future of maritime communications, and can be expected to attract increasing portions of the total maritime traffic, there will remain a significant requirement for public coast station services well into the foreseeable future. Small ships and other operators which are unable or unwilling to spend the substantial sums required to equip their vessels to access to the satellite system will continue to rely on HF radio for ship-to-shore communications and, even more vital, for safety of life at sea communications.

Presently, ITT Worldcom and other maritime carriers handle approximately 1 million telegraph-type messages per year between the U.S. and ships at sea. As satellite communications increase, the traffic and revenue base for this HF radio service can be expected to erode to the point that it will not be commercially viable as a separately maintained service. With the long-term continuing requirement for HF radio services and the declining economic viability of such services, the public coast station carriers will have to raise rates or reduce the level of services, or both.

By providing the existing maritime carriers with an economically viable participation in the satellite system, those maritime carriers will be in a position to coordinate the HF and satellite services into an integrated whole which will better serve present user needs and facilitate an orderly and efficient transition

from the current level of reliance on HF radio to the domination of maritime services by the satellite system. Through such an integration of services the users of maritime services would be in a better position to seek and obtain rates and levels of service which satisfy their total requirements.

The legislation which we have heretofore suggested is intended to conform as much as practicable to the concept embodied in the House Bill, H.R. 11209, and to conform with the structural form which had been intended for the Marisat-II program. In the event this conceptual arrangement is not acceptable to this Subcommittee, I would note that a Bill sponsored by the Administration, S. 2211, is presently before this Subcommittee, which would generally address our concerns with H.R. 11209 and would appear to satisfactorily serve the public interest. If, however, this Subcommittee is disposed to adopt S. 2211, we would urge that this bill be modified to the extent of requiring any private systems, which desired to obtain an ownership interest in the corporation proposed therein to make an investment commitment at the outset of the program, not 5 years after the start-up risks have been accepted and borne by the initial investors. Attached as Appendix II to my written testimony is an appropriate amendment to S. 2211 for accomplishing this end. As a further point respecting S. 2211, it is our belief that the drafters of that bill intended that any participation by Comsat, in the new corporation proposed by that bill would be through a separate subsidiary, such as Comsat General, established for the provision of service directly to the public. The language of the bill, however, may be so broad as to permit Comsat to directly participate in that corporation. We therefore urge that if this bill is adopted by this Subcommittee, the legislative history should reflect the consideration that any participation by Comsat must be through a separate "retail" subsidiary.

As a third alternative, we would suggest for the Subcommittee's consideration, a designated entity Bill naming Comsat as that entity, but maintaining the "carrier's carrier" role for Comsat which was developed by the Congress in its enactment of the Communications Satellite Act of 1962. As was stated by Senator Pastore, the Floor Manager of the Bill that became the Communications Satellite Act:

"Let me repeat these simple but all-important facts. The market to be served by the corporation consists of the carriers who will use its facilities. The market to be served by the carriers will be the senders and recipients of communications traffic. The corporation will depend upon the carriers for its revenues; the carriers will depend upon the corporation for facilities."

The development of the "carriers' carrier" concept in the Satellite Act was reached after serious deliberation and substantial debate leading to the enactment of that Act. On the other hand, it is abundantly clear that no in-depth consideration has been given to the implications of eliminating that "carriers' carrier" concept for an INMARSAT program in which Comsat would become the designated entity for the United States. We would suggest that there is no reasonable basis for changing the fundamental policy of the Satellite Act for the Inmarsat program, without such an in-depth study of the full implications surrounding such a change. Indeed, we note that the House Subcommittee on Communications of the Committee on Interstate and Foreign Commerce has already stated an intent to review the entire Communications Act of 1934 as well as the Satellite Act, with the "carriers' carrier" concept from the Satellite Act clearly being one of the items to be considered in such a review. Thus, as has been pointed out by several members of the House Subcommittee on Communications, it makes no sense to change that "carriers' carrier" policy for the Inmarsat program when the much larger question of whether that concept should be retained in the Satellite Act is still under consideration.

No basis has been suggested for granting Comsat a monopoly of satellite facilities and then permitting it to compete with the other maritime carriers in rendering services to the public. Such unfair competition would assure Comsat a preferred position in the sale of services to the larger maritime users and would leave the other carriers with the dubious opportunity to compete with their supplier, namely Comsat, in the provision of switched or message services.

I would note that we received on May 4, 1978 a copy of a Senate "Staff Working Draft" which appears to substantially parallel the bill, H.R. 11209, adopted by the House Committee on Interstate and Foreign Commerce. Although time has not permitted a thorough evaluation of this draft bill, our

initial impression is that the primary differences from H.R. 11209 are the elimination of the interconnection of private systems at the Inmarsat earth stations and the granting to Comsat of exclusive ownership of those earth stations, in addition to its exclusive ownership of the space segment. The elimination of direct connection with private users, while unexplained, appears innocuous, but the proposed grant to Comsat of a 100 percent ownership interest in the earth stations would completely eliminate any ownership interest or meaningful participation in maritime satellite services on the part of the existing maritime carriers. Those carriers would thus be reduced to the de minimis role of offering a landline segment between the Inmarsat earth station and their gateway subscribers. (Parenthetically, I note that, on a revenue basis, this degree of participation is expected to amount to about 35¢ out of a \$6 maritime satellite telex call.) Accordingly we see no improvement in this draft bill over HR 11209 and urge this Subcommittee's consideration of one of the three alternatives which we have previously described.

To place the designation of Comsat as the Inmarsat entity into a slightly different perspective, I would urge the Subcommittee to take note of the multiplicity of roles which Comsat has assumed. The designation of that carrier as the Inmarsat designated entity can only exacerbate the current or potential problems associated with its conflicting interests.

At the present time, Comsat is engaged as the U.S. designated entity for the Intelsat system, as the management services contractor for the Intelsat system, as the owner of a system of domestic communications satellites which are leased to the American Telephone and Telegraph Company, as a one-third partner in Satellite Business Systems, a U.S. domestic satellite system designed primarily for computer-to-computer data transfer, as the developer of a regional satellite system serving a number of Arab countries, and as a substantial investor in the Marisat system. As between its Intelsat role and its involvement in the several domestic satellite systems in the United States and the regional system in the Middle East, there appear to be substantial possibilities for conflicting allegiances on the part of Comsat. And, in the maritime communications realm, Intelsat has announced that it is evaluating the inclusion of a maritime capability in its next generation of Intelsat satellites, which may or may not be used by the Inmarsat system. Obviously, Comsat will be placed in the position of having to determine whether its allegiance to Intelsat or Inmarsat should govern its actions in such a situation. (I note parenthetically that Intelsat recently sent to the Inmarsat Preparatory Committee a paper describing how INTELSAT could provide the Inmarsat space segment.)

Indeed it is noteworthy that the House bill appears to acknowledge that Comsat has existing and potential conflicts of interest between its Inmarsat role, its Intelsat role and its roles in other ventures. Section 5 of H.R. 11209 would require the FCC to investigate these multi-faceted roles of Comsat. Given this acknowledged question as to possible conflicts on the part of Comsat, the designation of Comsat as the Inmarsat entity by the House Bill, would seem, at the very last, premature and unwarranted.

While the new corporation which we have proposed as the Inmarsat designated entity will obviously not completely remove Comsat from the decisional process, it will eliminate that entity's ability to make such decisions unilaterally and will provide an important measure of checks and balances which should largely eliminate problems which could arise from expected conflicts of interest on Comsat's part.

Finally, I would like to refute the claim by Dr. Charyk (at the hearings before the House Subcommittee on Communications) that other Inmarsat countries, such as the Europeans and Russians, are meeting and planning the system without the participation of the United States—because the United States does not yet have an official designated entity to represent it—and, that therefore Comsat, as an entity in being, should become the U.S. designated entity in order to expedite participation of the United States in those meetings.

Insofar as any formal meetings of the Inmarsat participants are concerned, the United States has been and continues to be represented through a delegation under the aegis of the Department of State. Further, there have been a number of informal meetings among potential Inmarsat participants looking toward the development of a joint venture program such as Marisat-II.

Until March of this year, the United States maritime carriers had been actively participating in those meetings through Comsat General as the desig-

nated spokesman for the U.S. maritime carriers. Unfortunately, as soon as H.R. 11209 was introduced in the House, Comsat General elected to terminate its role as a participant in those negotiations on behalf of the U.S. maritime carriers. Whether that decision on Comsat General's part was made with the deliberate intention of undermining the future participation of other maritime carriers in the Marisat-II and Inmarsat programs, or was simply a recognition of an internal conflict of interest on that carrier's part, it had the effect of eliminating U.S. participation in those informal negotiations.

Having entrusted to Comsat the role of spokesman for all of their interests in negotiations with representatives of other countries, the remaining U.S. maritime carriers were in no position to instantaneously pick up those negotiations when Comsat General so abruptly advised them that it would no longer act in their behalf. Those U.S. Maritime carriers stand ready, however, to pick up those negotiations, with or without Comsat General, as soon as the cloud, created by HR 11209, upon their right to participate in future maritime satellite systems, is removed.

In sum, ITT Worldcom submits that this Subcommittee should reject the selection of the most recent entrant into the field of international maritime communications services for an exclusive franchise relating to satellite facilities. I believe we have demonstrated here the soundness and consistency with the public interest of legislation which would establish a new carrier owned corporation as the INMARSAT designated entity.

Please be assured Mr. Chairman, that ITT Worldcom stands ready and willing to cooperate with this Subcommittee in its further efforts toward the development of legislation for the designation of a United States entity to participate in the Inmarsat program.

Thank you.

#### APPENDIX I—AMENDMENTS TO H.R. 11209

Page 15—line 7: Strike "Com-" and insert in lieu thereof: "corporation established pursuant to section 3(a) (1)."

Page 15—lines 8 thru 10: Strike all existing language.

Page 15—line 11: Following the language on line 11 and prior to the beginning of language on line 12 insert the following:

#### "DESIGNATED OPERATING ENTITY

"SEC. 3. (a) (1) (A) There is hereby authorized to be created in the United States a maritime telecommunications corporation for profit which shall not be an agency or establishment of the Federal Government. The corporation shall be subject to the provisions of this Act.

"(B) The corporation shall be wholly owned by United States common carriers who are specifically authorized by the Federal Communications Commission to own shares of stock in the corporation, upon a finding by the Commission that any such ownership will be consistent with the public convenience, interest, and necessity.

"(C) Except as provided in subparagraph (D), no United States common carrier specified in subparagraph (B) may own more than 49 percent of any shares of nonassessable capital stock issued by the corporation under subparagraph (E).

"(D) The Commission may permit any United States common carrier to own more than 49 percent of such share if the Commission determines that such permission is necessary to ensure the sale of all such shares issued by the corporation.

"(E) The corporation may issue and have outstanding, in such amounts as it may determine, shares of stock which may be purchased, owned, or held only by common carriers in accordance with subparagraph (B)."

Page 15—line 12: Strike "Sec. 3 (a) (1) (A)" and insert in lieu thereof: "(2) (A)".

Page 15—line 13: Strike "(2), the Communications Satellite Corporation" and insert in lieu thereof: "(3), the corporation".

Page 15—line 25: Strike "(2) (A)" and insert in lieu thereof: "(3) (A)".

Page 16—line 2: Strike "(1) (A) (ii)" and insert in lieu thereof: "(2) (A) (ii)".

Page 16—line 12: Strike “(3)” and insert in lieu thereof: “(4)”.

Page 17—line 3: Strike “(3) (A)” and insert in lieu thereof: “(4) (A)”.

Page 17—line 6: Strike “(1) (A) (ii)” and insert in lieu thereof: “(2) (A) (ii)”.

Page 17—line 7: Strike “(2)” and insert in lieu thereof: “(3)”.

Page 17—line 12: Strike “(2)” and insert in lieu thereof: “(3)”.

Page 17—line 14: Strike “(2) (A) (i) (II)” and insert in lieu thereof: “(3) (A) (i) (II)”.

Page 17—line 16: Strike “(2) (A) (i)” and insert in lieu thereof: “(3) (A) (i)”.

Page 17—line 22: Strike “Communications Satellite”.

Page 17—line 23: Strike “Communications Satellite” and insert in lieu thereof: “corporation authorized to be established by the International Maritime Telecommunications Satellite Act.”

Page 17—line 23: Strike “Corporation.”

Page 18—line 20: Strike “and private communications systems, other than” and insert in lieu thereof: “private users.”

Page 18—line 21: Strike all existing language.

Page 18—line 22: Strike “the corporation has any ownership interest.”

Page 18—line 23: Insert between “Commission” and “; and” the following language “provided, however, that the communications lines connecting the facilities of such private users to such stations shall be obtained by and at the expense of such users.”

Page 19—line 14: Strike “, or any United States domestic common carrier,” and insert in lieu thereof: “shall be the sole owner and operator of any satellite earth terminal station in the United States which provides access to the space segment.”

Page 19—lines 15 thru 19: Strike all existing language.

Page 20—line 3: Strike all existing language and insert in lieu thereof: “(e) The corporation shall undertake to reach agreement with interested international and domestic common carriers upon the financial and operational arrangements under which the corporation shall inter-connect its satellite earth terminal station facilities with United States domestic common carriers and international common carriers. In the event that no such agreement can be reached, the Commission shall prescribe, pursuant to section 201 of the Communications Act of 1934, as amended, (47 USC 201) the financial and operational.

Page 20—line 5: Strike “any.”

Page 20—line 5: Strike “facility” and insert in lieu thereof: “facilities.”

Page 20—lines 6: Between “with” and “United States” insert “such.”

Page 20—line 7: Strike “other.”

Page 20—line 8: Strike all existing language.

Page 20—line 9: Strike “the Corporation has any ownership interest.”

Page 20—line 11: Strike “determination” and insert in lieu thereof: “prescription.”

Page 20—line 13 thru 14: Strike all existing language and insert in lieu thereof: “formal request, by any party to such prior negotiation, for such Commission action.”

Page 22—line 21: Strike “;” and insert in lieu thereof: “, which recommendations shall be a matter of public record and available for inspection by any interested person;”.

Page 22—line 1: Strike “, pursuant to sec-” and insert in lieu thereof: “maritime telecommunications services, in accordance with section 3(b) (1) (B); and”.

Page 23—line 1: Strike “, pursuant to sec-” and insert in lieu “maritime telecommunications services, in accordance with section 3(b) (1) (B); and”.

Page 23—lines 2 thru 5: Strike all existing language.

Page 25—line 10: Following “systems,” insert the following: “The Commission shall make specific inquiry into whether the establishment of such a systematic approach shall include the acquisition by the corporation of the licenses, assets, facilities of public maritime coast stations.”

Page 26—line 3: Strike “communica-” and insert in lieu thereof: “maritime telecommunications corporation authorized to be created under section 3(a) (1) (A);”.

Page 26—lines 4 thru 6: Strike all existing language.

## APPENDIX II

## AMENDMENTS TO S. 2211

Page 4—line 21: Strike “5(f)” and insert in lieu thereof: “5(e)”.

Page 5—line 23: Strike all existing language and insert in lieu thereof: “(e) the corporation shall be owned by”.

Page 6—line 3: Strike “necessity.” and insert in lieu thereof: “necessity: Provided however, that noncarrier entities shall be eligible to acquire ownership in the corporation upon reasonable terms and conditions to be determined by the Federal Communications Commission, subject to a finding by the Federal Communications Commission that such noncarrier entity’s ownership will be consistent with the public convenience, interest, and necessity, and subject further to an election by each such entity to obtain such an ownership interest within 90 days after the date of initial incorporation of the corporation. The corporation shall be authorized by the Federal Communications Commission to provide service directly to such noncarrier-entity investors under reasonable terms and conditions to be determined by the Federal Communications Commission.”

Page 6—line 3: Following “carriers” insert “and noncarrier entities.”

Page 6—line 6 thru 13: Strike all existing language.

Page 6—line 14: Strike “be” and insert in lieu thereof: “include all.”

Page 6—line 15: Strike “restricted to.”

Page 6—line 20: Strike “and 5(f).”

Page 6—line 22: Strike “. ” and insert in lieu thereof: “, and the provision of such other maritime communications services as maybe determined to be in the public interest by the Federal Communications Commission.”

Page 7—line 3: Strike “and 5(f).”

Page 8: Following line 17, insert the following:

“STUDY OF PUBLIC MARITIME COAST STATION SERVICES

“SEC. 8(a) The Commission shall conduct a study of public maritime coast station services, with particular emphasis on high seas services, with a view toward determining whether the rules and regulations of the Commission and the assignment of licenses and radio frequencies in effect on the date of the enactment of this Act should be subject to any alteration in order to establish a systematic approach for the provision of modern and effective maritime telecommunications systems. The Commission shall make specific inquiry into whether the establishment of such a systematic approach shall include the acquisition by the corporation of the licenses, assets and facilities of public maritime coast stations.

“(b) The Commission shall transmit a report to the Congress no later than 6 months after the date of the enactment of this Act relating to the study of public maritime coast station services conducted under subsection (a). Such report shall contain a detailed statement of the findings and conclusions of such study, any action taken by the Commission related to such findings and conclusions, and any recommendations of the Commission for such legislative or other action as the Commission considers necessary or appropriate.”

[The following information was subsequently received for the record:]

QUESTIONS OF THE COMMITTEE AND ANSWERS THERETO

*Question.* If, H.R. 11209 passes the Congress, should Comsat General be allowed to own, manufacture, lease or sell on-board ship terminals?

*Answer.* ITT Worldcom supports, and indeed welcomes, competition in the provision of all maritime communications service, including the supply of terminal equipment for ship-board access to such services. And, unlike basic maritime communications services, H.R. 11209 does not appear to preclude other entities from full participation in the maritime terminal equipment market. Therefore, subject to any regulations found necessary by the FCC to preclude Comsat from obtaining an unfair advantage, ITT Worldcom does not object to

the concept of Comsat General or any other entity engaging in either the manufacture or marketing of on-board ship terminals.

*Question.* In Docket 19554 and its successor, the record carriers advocated the closing of all but 6 coast stations. Yet in this hearing the same carriers are advocating ownership involvement in Inmarsat in order to encourage continued coast station operations. Why are these two positions not contradictory?

*Answer.* Prior to the FCC's action in Docket 19544, the international record carrier operated 14 public coast stations providing high seas maritime telegraphic communications. Although this number of stations may have been required to adequately serve the traffic demand at an earlier time, there is no longer sufficient traffic demand to support all of those stations. As the Commission noted, in its 1972 Order initiating Docket 19544, "[f]or the three major carriers (RCA, ITT and TRT), information available to the Commission indicates that as a group they operated at a loss for calendar year 1970 [for their public coast station operations]".<sup>1</sup> Since that time, the Commission has ordered costly upgrading for these public coast station facilities which will further diminish the economic viability of those stations. The record in Docket 19544 demonstrates that a total of six HF maritime stations (two on each of the East, West and Gulf coasts) adequately provide necessary high seas public coast station telegraphy service. The FCC's further inquiry into this matter, in its Docket 78-67, suggests that this is the configuration which it favors.

Practically, the six station configuration which the FCC now appears to contemplate may be at or near the minimum number of stations which can adequately provide high seas HF maritime service, a service which all agree will be required for some years into the future. It is nearly certain, however, that the growth and development of maritime satellite services will attract an increasing share of the total maritime market, leaving the public coast stations with a steadily decreasing pool of such traffic. In these circumstances, the public coast station carriers will be required to increase rates and/or reduce service in order to compensate for the steadily shrinking traffic base for such services. ITT Worldcom believes, however, that with a viable participatory role in the satellite services by the public coast station carriers, an integration and coordination between HF services and satellite services can be effected which will minimize these problems for the HF service users and will enable all users to better obtain the proper mix of services appropriate to such users' particular requirements.

Thus, in sum, ITT Worldcom submits that there is no contradiction in its actions referred to by this question. It has followed what it believed to be appropriate procedures in seeking elimination of redundant public coast stations, and now seeks to maintain a smaller network of such stations as a viable entity in the era of maritime satellite telecommunications.

*Question.* Would ITT have undertaken a Marisat type venture if the Navy's participation had not been assured?

*Answer.* At the time that ITT Worldcom was offered an opportunity to participate in the Marisat program, the Navy contract represented total revenues of some \$28 million for a system which was then estimated to cost approximately \$100 million (which cost has since escalated to about \$120 million). Although the Navy had options to obtain additional services, the value of which aggregate some \$42 million if all such options were exercised, the prevailing view at that time was that the likelihood of the Navy exercising any substantial portion of those options was less than 50%. ITT Worldcom absolutely did not make its decision to participate in the Marisat program on the basis of the existence of the Navy contract, which even if all options had been exercised would not have made the program a sound investment.<sup>2</sup> Rather, our motivation for participation in the Marisat program was a desire to provide the satellite option for our maritime customers and to have a part in this developing technology.

I would note, however, that the thin commercial market for maritime satellite services in the middle and late 1970's could not reasonably have supported a separate U.S. satellite system. Indeed the total Marisat commercial revenues

<sup>1</sup> *Public Coast Radio Telegraph Stations*, 36 FCC 2d 620, 622 (1972).

<sup>2</sup> Due to unanticipated delays in the Navy's FLEET Satcom program, the Marisat parties were subsequently able to renegotiate the Navy contract so as to provide for additional services to the Navy. As a result the Navy revenues are now adequate to sustain the economic viability of the Marisat service.

for calendar year 1977—\$1.75 million—would not even cover the system operating expenses, much less a return of, or on the capital investment. Even Comsat General would not have invested in a system with a \$100+ million price tag with expected annual gross revenues of \$2 to \$3 million for the five-year expected life of the system. Thus, in the absence of some form of government support for the system, commercial maritime services could only have been provided, in this timeframe, as an adjunct to services already being provided by the Intelsat system. In these circumstances, ITT Worldcom and other established carriers would have participated in the same manner as they do for other Intelsat services.

*Question.* What is ITT's participatory share in Marisat and what do you expect it will be if there is a Marisat II follow-on?

*Answer.* As pointed out in our testimony, ITT Worldcom perceived the Marisat program as having been severely underpriced by Comsat General in terms a proper allocation of system costs for the Navy service. Since the program was obviously intended primarily as a market entry vehicle for Comsat General, ITT Worldcom did not wish to unnecessarily subsidize this effort on Comsat General's part through its own participation in the program. Accordingly, we determined to acquire a 2.5% investment in the system which appeared to be adequate to secure sufficient capacity to serve our maritime users.

As to the possible Marisat II follow-on program, Comsat General made clear at an early stage in those discussions its intent to obtain a 60% ownership interest in such a system. In addition, A.T. & T. expressed, at a relatively early date, a desire to obtain an ownership share of 25%. This left a potential ownership interest for ITT Worldcom and other maritime telegraphic carriers of 15%. Since the satellite capacity for the voice services which would be provided by A.T. & T. and Comsat General is substantially in excess of the capacity required for the telegraphic services which ITT Worldcom and other telegraphic carriers would provide, this 15% share was generally viewed as adequate for the provision of those telegraphic services.

ITT Worldcom was willing to take up to a 5% investment share in order to assure full subscription to the system. However, only a 3% share was believed to be necessary to provide adequate capacity for our maritime services. Since a 3% share, combined with the other carriers' requested shares, produced a total subscription of 101%, we elected that share.

*Question.* There was testimony submitted that indicated that RCA's public coast station traffic and revenue increased rather than decreased during the first six months that Marisat was operational. What traffic activity did ITT experience during this period?

*Answer.* During the first six months of Marisat operation (July to December of 1976) ITT Worldcom's total public coast station message volume decreased by approximately 2% relative to the traffic during the preceding six-month period. Between calendar year 1975 and calendar year 1976, however, ITT Worldcom experienced a 6% increase in total messages and a 9% increase in total revenue, which appears to correspond with the ending of the recession in commercial shipping at that time. This may also explain the apparent fact of RCA experiencing an increase in its public coast station traffic during the second half of 1976 despite the early competition from the MARISAT system. It is our understanding that RCA also substantially automated its public coast station operations at about the middle of 1976 which may have been a contributing factor to an increase to its public coast station traffic.

*Question.* To clarify the intent of the Senate staff working draft—the participating carrier concept would not allow Comsat or Comsat General to market service directly to the end-user. Rather, the concept accomplishes basically a tariffing change. Does that clarification change your position?

*Answer.* ITT Worldcom agrees with the apparent intent of the Subcommittee to prohibit Comsat or Comsat General from marketing maritime satellite services directly to end users. We are concerned, however, that this intent cannot be fulfilled through the use of the participating carrier concept. By long accepted usage, a "participating carrier" does provide service directly to the public, albeit jointly with another carrier. Moreover, in the usual case, the carrier which provides the longer haul in such a joint-service offering is the carrier which tariffs these services directly to the public. In the Inmarsat context, that carrier would of course be Comsat.

ITT Worldcom continues to believe that the "carrier's carrier" concept provides the soundest approach for addressing the question of the relationship between Comsat, as the Inmarsat designated entity, and the retail maritime carriers. If, however, the Subcommittee is committed to the use of a participating carrier concept, we would suggest that the Subcommittee's intent could probably be accomplished by a provision written into the Inmarsat Act which would bar Comsat, or its subsidiaries, from filing any tariff for service directly to the public. But even if this accomplishes the objective of eliminating a formal direct offer of service to the public on the part of Comsat, or its subsidiaries, the basic concept of a participating carrier would eliminate any possibility of real price competition among the retail carriers for Inmarsat services. Presumably, the rate to the public would be a combination of the Comsat rate for its space segment and earth station facilities and the retail carrier's rate for its landline haul and switching functions. The fact that Comsat, operating from a monopoly position, controls a very high percentage of the total revenue requirements for a given Inmarsat rate would leave the retail carriers with only token amounts over which they could exercise any discretion or flexibility. Thus the competition for Inmarsat services would be limited to the service features which the different retail carriers provide through their switching facilities.

Senator HOLLINGS. Dr. Charyk.

**STATEMENT OF DR. JOSEPH V. CHARYK, PRESIDENT, COMSAT,  
WASHINGTON, D.C.**

Dr. CHARYK. Thank you, Mr. Chairman.

I would like, with your permission, to submit my prepared statement for the record and make a few appropriate observations at this point.

Senator HOLLINGS. Very good, sir.

Dr. CHARYK. I would like to simply say that I don't think we are hearing very many new arguments. I'm sure that the draft bill which emerged from the Communications Subcommittee on the House side and was reported out by the full committee, and the draft bill that was introduced by the staff here, and the positions taken by the FCC have only been adopted after studying this matter intensely. They have heard all of these arguments and reached the conclusions that they have for, I believe, good and valid reasons.

I think the important thing to note is that enactment of appropriate legislation is critical at this point. I think you see considerable controversy as to how this should be handled and the role that the United States should play, and I think the important thing is that the United States make a determination on policy grounds as to who will be designated to carry out that policy under the appropriate controls, so that the United States can move out and play an important role in fashioning this new technology. We believe that it is going to be extremely important to the maritime business in the future, and I think that the United States, through its leadership role in Intelsat, through its leadership role in the development of satellite communications generally, should play a significant and meaningful role here.

The essence of solving the problem is the designation of a U.S. entity and the determination of U.S. policy, and that is why I think that appropriate legislation at this particular time is urgent.

We have become the pioneer in maritime satellite communications through the Marisat system. That business is growing. But the design

lifetime of the present set of satellites is due to expire in 1981. The draft charter of an Inmarsat organization has been published. It is important that the United States becomes a signatory to those agreements if they meet U.S. objectives.

I think that the ambiguity about U.S. participation has hurt the leadership role of the United States in the international forums, and I would hope that with the passage of the legislation we could correct that deficiency and move out.

I think that the proposed designation of Comsat to represent the U.S. interests in Inmarsat or any other organization properly reflects our success in Intelsat and our experience in satellite communications and the major role that we play in the development and operation of the Marisat system.

We have no objectives other than the development of satellite communications and bringing the benefits of that technology to users everywhere, be it point-to-point communications or be it mobile communications. We think that satellites can play an important role in the development of maritime communications and change the way in which maritime systems operate. We look forward to the opportunity to provide the kind of leadership that we think the United States should provide in the international consortium that would be dealing with this problem.

Just a few observations. We do feel that putting the Earth station ownership and the participation in the space segment together is essential. This system has got to work in a way where the space segment and the Earth segment interact intimately, and we can perceive of no public benefit for dividing ownership among multiple parties; particularly, as is fairly clear here, parties with diverse and conflicting interests. We think that the Earth station, after all, is the gateway to the system, and you can't have a gateway guarded by people with conflicting interests and conflicting investments.

We hear a lot of talk about creating some kind of a new organization, and perhaps a few historical observations here might be useful.

These are basically old arguments. Many of them go back over 15 years when the debate was being conducted as to how the United States might best pursue the development of commercial communications via satellite.

Many possibilities were considered.

A new company owned by the carriers might be created; the Government might do it; a new company completely owned by private shareholders might be formed.

The decision, actually a compromise, was to create a new corporation: 50 percent of the stock of that company could be owned by the general public; 50 percent could be owned by the carriers.

All kinds of protective machinery were built into that legislation. The President appoints the directors of our company, and several agencies and departments of the Government have an oversight responsibility in regard to Comsat.

The charter and the national policy were very clearly spelled out, and we moved out to seek to establish an international global system. I think that no one can deny that it has been an outstanding success. More than 100 countries now participate in the system. It carries

better than two-thirds of all the world's long-distance international traffic. And there has been not a cent of U.S. taxpayers' money involved.

We think this is a remarkable achievement.

The carriers were given the opportunity to invest in that company, to own shares, as was the general public. More than 100,000 shareholders invested in our company. Most of those shareholders were small. We have people who bought the shares for their children, their grandchildren, and many of those faithful shareholders continue to have a belief and a hope that satellite communications can play an important role in world communications. They have maintained their investment in Comsat. They purchased their shares at \$20; the stock is now selling at around \$40.

The carriers have all sold out their interest, some voluntarily, some with encouragement. Our friend, Mr. Gallagher, for example, invested some \$550,000 in the enterprise. He sold out at a profit of \$1.138 million.

Now, meanwhile, our little shareholders have had no such financial largesse but continue to have faith in where this company is going and the leadership that we can provide.

Let me give you a brief history of the maritime satellite business.

We moved out to propose to the U.S. Navy a system that would have a capability to serve them as well as provide some commercial capability. The Navy was having difficulty developing its own system. We felt that perhaps some interim capability might be of use to them, and we thought at the same time that some useful commercial capability could be provided.

The Navy accepted the proposal, at which point the carriers objected on the basis that the Navy should not be allowed to deal with Comsat. The Navy reflected and then permitted a new opportunity for bids to be submitted. The only bid that was submitted was our original bid.

The carriers then went to the Commission and asked for the Commission to deny the opportunity for Comsat to provide service to the Navy and also to provide commercial maritime service. The Commission considered that and offered each of the carriers an opportunity to invest in the system on an equal basis.

The maximum carrier participation was 8 percent. The minimum was zero. We picked up the balance and we own 86 percent of the Marisat system.

We went out and purchased 200 terminals because we felt that there had to be stimulus to the development of satellite communications. I think that 1 carrier bought 20 terminals, then sold them back to the manufacturer, and I think that Western Union International has two terminals on board at this point.

So this background is just to put the thing in focus and to cut through some of the emotion and imagination that has been reflected in some of the earlier remarks.

I think that this legislation, as I have indicated, has been well thought out. It has properly reflected the essential elements. I think that the Chairman of the Federal Communications Commission has highlighted the relationship between connecting carriers and carrier's

carrier in a proper fashion. We welcome the opportunity to continue the development and the leadership role in satellite communications, and we thank the committee for its trust and confidence in our organization.

Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF DR. JOSEPH V. CHARYK, PRESIDENT, COMMUNICATIONS  
SATELLITE CORP.

On behalf of the Communications Satellite Corp. (Comsat), we are pleased to have this opportunity to provide comments to the Subcommittee on Communications on the question of participation by the United States in arrangements for providing international maritime satellite telecommunications services.

The enactment of legislation on this matter is most critical at this point. It would appear that a fully functioning international system under the aegis of the International Maritime Satellite Organization (Inmarsat) cannot possibly be in operation prior to the expiration of the design life of the present generation of Marisat satellites. Comsat and its wholly owned subsidiary, Comsat General, have been engaged in the active consideration of several possible maritime satellite communications system concepts looking toward a second generation of maritime satellites. We are also concerned with how best to proceed with developing the longer term requirements for maritime satellite services. To assure that the United States can assert an effective overall leadership role in developing and implementing an integrated plan to meet both interim and longer-term requirements for international maritime satellite services, legislation to clarify the U.S. role and representation is vital now.

Given the complexities involved in developing the best arrangements to meet interim and long-term needs, the most effective leadership would obviously result if these efforts were managed by the same entity that would be responsible for U.S. participation in Inmarsat or any other organization designed to provide international maritime satellite telecommunications services. Continuing uncertainty and ambiguity about U.S. participation in current international activities on this subject have inhibited the United States from assuming the kind of leadership role that it logically ought to play in developing plans for an international global maritime satellite communications activity. Speedy passage of appropriate authorizing legislation would cure this significant defect.

Based on our review of your Subcommittee's staff working draft, we believe it incorporates all of the essential elements necessary to permit an effective role by the United States in this important international program. As you know, the House Committee on Interstate and Foreign Commerce, its Subcommittee on Communications, and the Committee on Merchant Marine and Fisheries have considered and approved a Bill that establishes the basis for future United States participation in appropriate international arrangements for the conduct of global maritime satellite communications. Comsat appreciates the confidence that is placed in it by both the Subcommittee draft and the House bill.

The two proposed Bills are comparable in many respects, but there are certain differences. The most significant difference from our point of view is the provision in the Subcommittee draft that would grant sole ownership of the earth terminal station facilities to Comsat. We fully support this provision. We believe that inordinate complexities would be involved in attempting to establish the criteria for joint ownership and operation of the earth terminal station facilities, which could only result in unnecessary and undesirable delays and added costs. And since there would be full and nondiscriminatory access to both the earth terminal station and space segment facilities, we can perceive no public benefits resulting from divided ownership of the earth terminal station facilities. Moreover, the earth stations are really the doors to the system. Access to these doors should not and need not be prejudiced or inhibited by placing the ownership of the earth station facilities in multiple parties having diverse interests, some of which parties may have other maritime facilities. The customers of maritime satellite services can only lose under such an arrangement.

The designation of Comsat as the U.S. entity in the international arrangements would be a natural extension of the principle reflected in the Communi-

cations Satellite Act of 1962 and acknowledges the leading role played by Comsat in contributing to the recognized success of the Intelsat system. This designation would also be consistent with, and in recognition of, the substantial resources and effort that Comsat and Comsat General Corporation have contributed in initiating and developing the first and only existing international maritime satellite communications system.

Comsat has been heavily involved in the subject of international maritime satellite communications for many years. We have studied the technical, financial and operational considerations associated with this evolving sector of the communications industry in carrying out our functions as the United States Signatory in Intelsat and as Intelsat's Manager.

We firmly believe that the approach taken in your Subcommittee's staff working draft and in the Bill now being considered in the House is based on a pragmatic recognition of the effectiveness of authorizing a single entity to represent U.S. interests in an international organization providing satellite services. The success of the Intelsat system, in our view, can be attributed in large measure to the ability of the United States to move rapidly and decisively through a single company, Comsat, in implementing United States policy objectives. We believe Comsat is the logical choice to discharge this responsibility in any international maritime satellite organization in light of our long experience in Intelsat and based on the predominant role of Comsat General in Marisat.

Of even greater practical importance, Comsat General Corporation, in 1973, designed and pioneered an advanced maritime satellite system concept for the provision of both communications capacity to the United States Navy and commercial maritime communications services to shipping and offshore users. This system, known as Marisat, was developed successfully in 1976. The Marisat System consists of three in-orbit satellites located over the Atlantic, Pacific and Indian Oceans, together with ground communications and control facilities located in the United States and abroad. Commercial maritime satellite communications are now available in the Atlantic, Pacific and Western Indian Ocean regions and are expected to commence this summer in the entire Indian Ocean region through a shore station being constructed by the Japanese.

Although the Federal Communications Commission afforded all U.S. maritime carriers an opportunity to invest in equal shares in the Marisat System with Comsat General, only RCA, WUI and ITT came forward and subscribed to ownership shares totalling in the aggregate less than 14 percent. Comsat General assumed an 86.29 percent ownership share of the Marisat System and, accordingly, has shouldered 86.29 percent of the capital costs and the O&M expenditures related to the Marisat program. These costs and expenditures well exceed \$100 million and represent a major assumption of risk by Comsat General. In addition, as Marisat Manager, Comsat General technical personnel established the Marisat System, and Comsat General operations personnel now operate its space and ground communications facilities.

One major concern that we have had in connection with maritime satellite communications services centers on the expectation that the volume of traffic generated by the maritime community is estimated to produce a return that will fall short of the compensatory revenue requirement associated with a maritime satellite system dedicated exclusively to commercial use, at least during the start-up years of operation. The international owners of the maritime satellite system will be required to sink substantial capital, as well as O&M costs, into the program. According to projections, these investments will not be reasonably compensated for several years until a mature stage of market development is achieved. This investment picture is the result of embarking upon a capital-intensive undertaking which involves the establishment of high cost dedicated satellite facilities to serve an embryonic market that can only be built up gradually and be expanded as users are themselves persuaded to spend appreciable funds to acquire shipboard terminal equipment. These market characteristics obviously constitute an important factor that must be taken into account by a potential investor.

As a private company with shareholders, Comsat must, of course, make prudent investments. Over the past two years, in correspondence with the Commission, the executive branch and the legislative branch, we have emphasized the importance of a satisfactory advance solution to the problem of insufficient earnings during the start-up years. The particular solution determined will, of course, be largely dependent on the ultimate regulatory frame-

work devised for providing international maritime satellite communications services. At any rate, we believe the carrier investing in this project should be given adequate assurance that it will be afforded a reasonable opportunity to recover investment and to earn a fair cumulative rate of return on investment.

We strongly support the provision in your Subcommittee's staff working draft and in the House bill that would place Comsat and the terrestrial carriers in the relationship of connecting or participating carriers for the provision of a through service. With the assurance of full, equal and nondiscriminatory access to the space segment and earth station facilities, the Subcommittee's working draft establishes a sound framework to permit each of the carriers, including Comsat, to exercise its ingenuity and marketing skills in stimulating new and expanded uses of maritime satellite services. This is especially important in the generally recognized limited market that exists today. Comsat welcomes this opportunity in view of its significant investment in space segment and earth terminal facilities. An active, competitive environment, with a free reign for the carriers to exhibit imagination, initiative and responsiveness to customer needs is clearly in the best interests of the user.

It is particularly important to note that Comsat would not have an exclusive franchise for providing maritime satellite communications services. Comsat would be a participating carrier, working with other carriers and through their facilities in providing such services to end users. As stated earlier, the other carriers would have equal and non-discriminatory access to the space segment and earth station facilities and would have a complete opportunity to market services.

Another substantial benefit that would be achieved by the designation of Comsat would be the opportunity to assure the development and implementation of coordinated and consistent policies and actions in two international organizations, Intelsat and Inmarsat, in the satellite communications field. The market for maritime satellite services is a limited one and the provision of such services by both Intelsat and Inmarsat is economically infeasible. In addition, the membership of Intelsat and the potential membership of Inmarsat are predominantly the same. Of the forty nations that have agreed to take initial investment shares in Inmarsat, thirty-five are members of Intelsat. It is both illogical and unreasonable to expect that the entities involved are going to risk substantial financial commitments to two international organizations that would be competing against each other for the same limited market. Recognizing the interrelated nature of the two organizations, it is essential to avoid potentialities for inconsistent actions and to eliminate any possibilities of unnecessary duplication of effort or services. A total, integrated approach by the U.S. in the two organizations is clearly best accomplished by a single representative and would best serve the ultimate customers of maritime satellite services.

Thus, contrary to the view that Comsat's participation in Intelsat and Inmarsat would represent conflicting interests, our view is that representation in both organizations by a single entity would preclude possible divergent courses of action that could be harmful to both U.S. government and commercial user interests.

Mr. Chairman, in closing I would like to reemphasize Comsat's strong support for the Subcommittee's staff working draft. We would welcome its enactment as a basis for initiative and action in this complicated, but vital, area of satellite communications services. Comsat is prepared to apply its full energies and its long experience in the field of satellite communications to this effort. Because we have already established and currently operate the only existing maritime satellite system, our future intentions are of crucial interest and importance to potential foreign participants in follow-on maritime systems. We have an opportunity now to continue our leadership. We urge the Congress to proceed with legislation as expeditiously as possible toward that end.

[The following information was subsequently received for the record:]

#### QUESTIONS OF THE COMMITTEE AND ANSWERS THERETO

*Question.* I understand that the FCC has recently found that Comsat overcharged its customers in the operation of the Intelsat system, and that the amount of overcharges was close to \$100 million. Can you provide us with the details of this matter?

Answer. The amounts to be refunded to Comsat's customers cannot be characterized as "overcharges". Rather, the refunds are being made as a result of the acceptance by the FCC of a proposed settlement of the Comsat rate proceeding, and will be made from an escrow account established in 1976. The establishment of accounting and refund procedures are commonplace in situations where fundamental ratemaking issues remain in dispute between a utility and its regulatory agency.

After extensive rate proceedings during 1971-75, the FCC issued a Decision in December 1975 primarily because the Commission concluded that certain elements of Comsat's rate base relating to the recoupment of past return deficiencies during Comsat's "start-up" years should not be included in determining Comsat's revenue requirements for its international services. Comsat appealed the FCC Decision to the U.S. Court of Appeals for the D.C. Circuit.

The Court determined that there was sufficient uncertainty about the ultimate outcome of the appeal that the *status quo* should be maintained pending completion of legal review of the FCC Decision. Accordingly, the Court granted Comsat a "stay" of the effectiveness of the FCC Decision, and ordered the FCC to establish an appropriate accounting and refund procedure to protect the rights of all parties, including both Comsat and its customers. The Commission's resulting Order of July 1976 allowed Comsat to charge its existing rates during the appeal process, but required Comsat to file an "informational tariff" consistent with the December 1975 decision and to deposit in an escrow fund the difference between the amounts Comsat collected under its existing rates and the amounts which would have been collected if the informational tariff had been put into effect. Under this arrangement, if the Commission's decision were ultimately affirmed, the amounts in the escrow fund would be distributed to Comsat's customers; on the other hand, if Comsat were to prevail, Comsat would be entitled to the escrow funds.

In October 1977, the Court issued a decision which generally upheld the FCC decision in major respects, but found in Comsat's favor on several issues, and indicated that certain errors were committed which required that the matter be remanded to the Commission. Comsat petitioned the Court for reconsideration of this decision and suggested an *en banc* hearing. While this matter was pending, members of the Commission staff and representatives of Comsat management reached agreement on an appropriate settlement of the Comsat rate proceeding, including those matters which would have been reconsidered by the Commission on remand. The settlement agreement, approved by the Commission on May 9, 1978, made a number of adjustments in the principles to be used by Comsat for the setting of its future rates, and also provided that Comsat will refund to its customers the amounts included in the escrow fund.

The remaining question, in which we have no role, is whether the users are going to benefit from the escrow fund from a "flow-through" of those funds from the carriers. The deposition of this issue will determine the extent to which the users gain from distribution of the fund or Comsat's stockholders bear the loss.

Although we continued to believe that the unusual and significant risks taken by Comsat's stockholders in the early years have not been given adequate recognition, we also considered it important to bring the litigation to an end so that we could return to an orderly and certain business environment.

*Question.* If you were the designated entity and able to market the service directly to consumers would you be in a competitive advantage over those carriers who had to compete with you in the marketing, but had to buy the space segment from you?

Answer. Under the staff working draft of your Subcommittee, Comsat, as the designated entity, would not have a competitive advantage over other carriers required to obtain space segment from Comsat. The effect of the staff working draft is to require Comsat to operate as a participating carrier with other carriers in providing services to consumers. Comsat would be responsible for that portion of a total maritime satellite service that is provided by the space segment and earth terminal facilities. The other carriers would be responsible for the portion of such service that is provided by their terrestrial facilities between the consumer and the earth terminal station. Although Comsat would be able to engage in marketing activities directly with consumers, that activity would redound to the benefit of all the carriers participating in the through service (which would necessarily involve another carrier or carriers) and not just Comsat. Arrangements for a through service could be made by Comsat, by

a terrestrial carrier, or by both jointly. In any event, the charges by Comsat for use of the space segment and earth terminal facilities portion of a through service would be the same and access to such facilities would be on an equitable and nondiscriminatory basis.

*Question.* We have heard much about the difficulties involved in the management of the Marisat system. Can you please tell us what the current structure is, and give us some idea of the problems that have been encountered?

*Answer.*

*(a) The current management structure of Marisat*

The Marisat system is owned by a Joint Venture consisting of Comsat General, RCA Global Communications, Western Union International and ITT World Communications. Management of the Joint Venture is vested in a "Committee" of one Representative and one alternate from each participating Company. Each Representative has a weighted vote equal to his Company's ownership share in the Marisat System. In view of the investment decisions of the parties, the Representatives' weighted vote is as follows: Comsat General: 86.29%, RCA: 8.00%, WUI: 3.41%, and ITT: 2.30%. A majority of the total weighted vote (e.g., greater than 50%) is necessary for decisions to carry. The Joint Venture also created a "Technical Working Group," made up of representatives of each participating Company, to review and make recommendations to the Committee with respect to the technical aspects of proposed additions or improvements to the system.

Comsat General also serves as Manager for the Joint Venture and is responsible, in accordance with the policies and directives of the Committee, for the establishment, operation and maintenance of the Marisat system.

*(b) Difficulties among the Marisat participants*

On August 30, 1973 the FCC decided to permit RCA, WUI and ITT to participate with Comsat General as co-owners of the Marisat system and ordered the four parties to report back in 20 days as to the conclusion of a contract among them governing their joint venture or as the status of negotiations looking towards such a contract. Roughly two years later, on August 15, 1975, the parties executed the Marisat Joint Venture Agreement. In the interim, efforts by the parties to establish a mutually acceptable framework for the establishment and operation of the system became stalemated and numerous controversies were referred to the FCC for solution. Among the issues which the parties were unable to settle were matters relating to: the decisionmaking process and voting rights in the Committee; allocation of commercial communications capacity and use of the system; capital contributions for earth station telephony switching equipment; access to shipboard terminals; use of test equipment; expansion of system capacity; changes in relative ownership share; and interconnection among the telex switches of the four carriers. In addition, other controversies related to the proposal of one carrier to establish an earth station in lieu of a Joint Venture earth station and the proposal of a second carrier to participate in the Marisat system as a lessee of communications facilities rather than as a co-owner.

Finally, in May 1975, the Commission declared that any party not legally committed to its share of financial obligations associated with Marisat by a specified deadline would forfeit its right to participate. (Up to this time, Comsat General shouldered the entire financial burden of establishing the system.) The June 16 deadline was extended twice at the request of two parties. Petitions by these parties for stay of the extended deadline were subsequently denied by the FCC, and thereafter, in August of 1975, the Marisat Joint Venture Agreement was concluded. The Agreement was submitted to and approved by the FCC in December 1975, and entered in force in February 1976.

After the Commission had expressly lodged centralized control over the Marisat system in Comsat General through its dominant vote in the Committee and by its role as Manager, relations among the parties stabilized. The operation of the Marisat system itself, with Comsat General in control, has not been characterized by the problems encountered during the stage when the parties were in the process of constituting the Joint Venture.

*Question.* Am I correct in assuming that you are not now eligible to market Inmarsat service directly to the consumer? What impact has that had on the growth of the market?

Answer. Under the Marisat program, Comsat General is eligible to, and does, market maritime satellite services directly to the consumer.

*Question.* I understand that plans are being made to replace the existing Marisat system with a second generation system. What is the status of those plans? What is the ownership arrangement for that second generation? What effect will passage of this legislation have on the implementation of those plans?

Answer. The five-year design lifetime of the Marisat satellites ends in 1981. Given the two- to three-year period necessary for construction of satellites, it was necessary that planning for a follow-on second generation system start at an early date. As it became clear that Inmarsat would not be in a position to launch its own system by the beginning of 1981, Comsat General, in order to provide continuity of service to the Marisat system, began to explore, in conjunction with other U.S. carriers, alternatives for the establishment of a follow-on system.

One alternative for a follow-on program was a multipurpose second generation system which would contain communications capacity for services to both the U.S. Navy and the commercial maritime community. Just recently the Navy has released a Request for Proposals for leased communications services for a five-year period following the expiration of the design life of the Marisat satellites in 1981. In 1976 Comsat General began to explore another alternative, the feasibility of an arrangement with telecommunications administrations of European and other countries to establish a second generation system based on the European Space Agency Marecs (formerly Marots) satellite program. Consideration of this alternative has led to a proposal by the European Space Agency for the supply of satellites and to preliminary discussions of arrangements pursuant to which an international joint venture might be created. This international joint venture is considered as a possible predecessor organization to Inmarsat.

A third alternative considered was a system dedicated to the provision of communications services to the commercial maritime community, but probably procured from a U.S. manufacturer and designed for launch by the space shuttle. Such a system might offer significant economic and reliability advantages as compared to the Marecs proposal and would be owned and operated on an international basis by interested countries.

Discussions among other countries for a second generation system based on the Marecs system have continued, although the U.S. was not represented at the last session since the legislation currently under consideration would affect the identity of the U.S. participant in those discussions. We understand that it is the intent of the other foreign participants in those discussions to negotiate a definitive joint venture agreement based on the Marecs program sometime this fall.

Passage of the legislation currently under consideration by the Subcommittee would permit the U.S., through the designated entity, full flexibility to explore the alternatives, including participation in further discussions with telecommunications administrations of other countries, looking toward a follow-on system.

*Question.* Is it true that this second generation is oversubscribed? Does your company have any studies on the potential market for Inmarsat services? If so, could the Committee obtain copies of those studies?

Answer. The answer to the subscription question varies depending upon which second generation alternative is involved.

With respect to the possible international joint venture planned as a predecessor organization to Inmarsat, only Comsat General and A.T. & T. have stated intentions to take specified ownership shares. Only one other carrier has stated a definite desire to participate, and other carriers have inclined towards not participating. This system alternative has remained undersubscribed, although Comsat General and A.T. & T. have accounted for prospective subscriptions of 60% and 25%, respectively.

With respect to a possible multipurpose system serving both the Navy and the commercial maritime community, only Comsat General and A.T. & T. have stated intentions to take specified ownership shares on an unconditional basis. The prospective subscriptions of the remaining carriers either have fluctuated with conditions or have been wholly predicated on conditions. Comsat General and A.T. & T. have accounted for prospective subscriptions of 60% and 25%,

respectively. Leaving aside the conditions offered by the other carriers, the total prospective subscriptions amounted to about 102%.

Comsat has no studies itself of the potential market for Inmarsat services. However, Comsat has participated in the development of market studies on a global basis in the Inmarsat Preparatory Committee. Attached is a copy of a relevant portion of an Inmarsat Economic Panel Report that contains information concerning these efforts.

#### APPENDIX 7

##### 4. PERCEIVED REASONS FOR AND AGAINST EQUIPPING VESSELS WITH SATELLITE TERMINALS

4.1 The following reasons were cited by potential users in six countries, and described as "very important" or "important" reasons for equipping vessels: Immediate accessibility; increased safety; avoidance of dangerous situations; global availability; improved quality of transmission and 24-hour availability.

The degree of importance varied country by country.

4.2 Some of the consequences of the above were seen to be: Operational gains; reduced time in port, and improved crew morale.

4.3 Additional comments provided by some countries were:

The degree of centralisation of operations/organisation might influence demand.

Some companies do not believe that there will be any overall operational gains.

The need to install and run an additional system (satellite as well as conventional) militates against the satellite system.

Newly built ships are considered to be the prime candidates for satellite terminal fitting and traffic generation.

The objective characteristics of company fleets (e.g. size/type of vessel and routes) are not correlated with propensity to fit ship terminals.

##### 5. INSTITUTION FOCUS

5.1 One country noted that increase in the process of decentralisation will generate more telex traffic.

5.2 Shipping concerns in the same country were of the opinion that the communication system should be accessible to as many persons on board as possible without unnecessary go-betweens and that the terminal equipment should be capable of location in any suitable part of the ship, not necessarily in a dedicated radio office.

5.3 Another country noted that the deep depression in the shipping business made it difficult to get reliable views on potential demand for a satellite system from small to middle-scale shipping companies.

5.4 Four countries reported their shipping company's contention that the ability to use the ship's satellite terminal while in port would be a particular advantage for the shipping industry. To of these countries reported that to disallow this facility would reduce demand.

5.5 Two countries' shipping companies were of the opinion that the present need to maintain on board one, and in practice sometimes two, Radio Officers militated against the adoption of a satellite system.

##### 6. OPERATIONAL AND COST BENEFITS

6.1 Companies in one country believed that satellite communications would provide more efficient operational and technical management of ship's arising from improved speed of communications and access to circuits. Four spheres of operational activity would be rendered more effective; namely—freight agreements, re-routing, loading and unloading and technical operation (e.g. speedier handling of spare parts). As considerable sums of money are often involved in these particular spheres of activity, the benefits should readily warrant investing in satellite communications.

6.2 On the other hand, some companies in another country could see no merit or net savings flowing from the utilisation of a satellite system, and companies in another country would invest only if it would result in a reduction of personnel costs.

6.3 One country reported a great difference of estimated traffic volumes among selected companies, which could be attributed to the difference of management principles of ship operating control systems, etc.

#### 7. TARIFF ELASTICITY

7.1 Two countries among those not quantifying tariff elasticities contributed qualitative assessments. One concluded that for their shipping companies the perceived high cost of ship terminals and of call tariffs drastically suppressed potential demand, and that companies approached with extreme prudence any investment in a service likely to increase overall operating costs. In the other country, shipping companies registered dismay and disbelief at what they perceived to be very high Telephony and high Telex call charges.

7.2 A different country reported interestingly that they had conducted marketing/elasticity experiments by first charging for Marisat traffic for 6 months at a reduced rate, and then raising the charge to the 'full cost'. Practical experience proved that Telex tariff was inelastic and Telephone traffic very elastic.

#### 8. SATELLITE SERVICES COMPARED WITH CONVENTIONAL SERVICES AND THE EFFECT ON TRAFFIC

8.1 Evaluation of MARISAT Services: Marisat services were evaluated by users in one country as "extremely superior" to conventional services in these respects: circuit accessibility, 24-hour availability, setting-up time, quality of transmission, secrecy of telephone calls, and global coverage.<sup>1</sup> Accessibility and secrecy for telegram traffic, were regarded as "superior", but transmission speed "not superior". The same users showed less extensive use (than the conventional system) of telephony for business communication. Telex and telegram via MARISAT was seen to be taking over a part of telephone traffic and also a certain amount of correspondence by mail.

##### 8.2 Effect on Traffic:

###### (a) Telephone traffic

A traditional resistance to using telephone for business should diminish because of shorter waiting times and better quality via satellite communications. The quantity of traffic will be highly dependent upon telex/telephone cost relationships as well as the absolute costs of telephony.

###### (b) Telex traffic

Contributory factors to an increase in demand for telex will be decentralised decision making, more technically sophisticated ships, ships with lower crew numbers etc.

###### (c) General

One country observed that as maritime satellite communications gain global acceptance, ultimately there will be some reduction of the use made of conventional HF services.

8.3 Views of some Marisat users: Only three countries provided qualitative observations from users or on usage of MARISAT, and the following points are not to be construed as representative of all users.

(a) In one country two users, though enthusiastic regarding quality, etc., could not at present justify the cost of the system.

(b) Another country with very many more installations has experience that once a few early installations have demonstrated economic or operational success, the owners tend to fit quickly the remainder of their fleet. The same country observes that while total demand for telephone service has been greater than for telex, the latter is expected to generate more traffic in the future as users become more familiar with the equipment and develop (new) fleet management techniques.

(c) The third country reported that utilisation of MARISAT is found by users to be: More useful than expected for immediate accessibility, 24-hour availability, and crew welfare (subsidised calls, see paragraph 7.2); and less useful than expected for crew welfare when calls are not subsidised.

<sup>1</sup> Not in any order of priority.

## 9. SOCIAL ASPECTS

Two countries commented on social aspects.

A ship using satellite communications need no longer be regarded as a unit separated from the remainder of the community. Improved quality, reliability, promptness and privacy of transmission, especially on telephone calls, will allow regularity of contact which makes it possible for mariners and passengers on board to take part in life at home. One of these countries reported that mariners gave this aspect very high priority.

## 10. NEW APPLICATIONS/NEW SERVICES

10.1 One country examined this aspect in depth and reported that the reliability and immediacy of communications via a satellite system will encourage existing applications, and probably stimulate others not presently envisaged.

10.2 One country observed that the need for communication between ships was regarded as of low importance.

APPENDIX 8  
 TABLE A.—WORLDWIDE MARITIME SATELLITE TRAFFIC FORECAST, 1980-95  
 [Totals for reporting and nonreporting countries, two different assumptions on end-to-end user tariffs]

Year (midyear or year average)	Total number of shipboard terminals installed and operating (including fishing and structures)	Telephone				Telex				Other (in voice-grade equivalent quality)			
		\$10/minute user tariff assumption		\$6/minute user tariff assumption		\$6/minute user tariff assumption		\$4/minute user tariff assumption		\$10/minute user tariff assumption		\$6/minute user tariff assumption	
		Traffic in paid minutes ship daily <sup>1</sup>	Total traffic per year <sup>2</sup> (1,000 paid minutes)	Traffic in paid minutes ship/daily <sup>1</sup>	Total traffic per year <sup>2</sup> (1,000 paid minutes)	Traffic in paid minutes ship/daily <sup>1</sup>	Total traffic per year <sup>2</sup> (1,000 paid minutes)	Traffic in paid minutes ship/daily <sup>1</sup>	Total traffic per year <sup>2</sup> (1,000 paid minutes)	Traffic in paid minutes ship/daily <sup>1</sup>	Total traffic per year <sup>2</sup> (1,000 paid minutes)	Traffic in paid minutes ship/daily <sup>1</sup>	Total traffic per year <sup>2</sup> (1,000 paid minutes)
1980	334	2.5	301	3.4	401	3.7	407	5.0	550	0.3	32	0.4	44
1981	501	2.4	419	3.4	584	3.7	613	5.3	872	.4	60	.5	82
1982	752	2.4	610	3.5	890	3.8	949	5.7	1,425	.5	118	.6	161
1983	1,099	2.3	852	3.5	1,296	4.0	1,441	6.3	2,284	.6	186	.7	241
1984	1,457	2.3	1,139	3.7	1,781	4.2	2,007	6.8	3,271	.6	267	.7	336
1985	1,948	2.5	1,617	4.2	2,695	4.4	2,831	7.3	4,718	.7	415	.8	510
1986	2,440	2.5	2,108	4.3	3,515	4.6	3,675	7.7	6,213	.7	583	.9	706
1987	2,972	2.7	2,666	4.6	4,508	4.7	4,584	8.1	7,907	.8	751	.9	911
1988	3,515	2.8	3,293	4.8	5,631	4.8	5,594	8.5	9,852	.8	968	1.0	1,153
1989	4,090	3.0	3,867	5.1	6,903	5.0	6,666	8.9	11,943	.9	1,202	1.1	1,436
1990	4,729	3.2	4,384	5.1	8,866	5.4	8,289	9.7	15,011	1.0	1,530	1.1	1,799
1991	5,371	3.4	5,034	5.1	10,668	5.6	9,813	10.1	17,610	1.0	1,807	1.2	2,110
1992	6,101	3.6	5,768	6.1	12,360	5.8	11,665	10.5	21,538	1.1	2,121	1.2	2,463
1993	6,882	3.8	6,566	6.8	14,368	6.2	13,583	10.9	24,725	1.1	2,442	1.2	2,828
1994	7,717	4.0	7,398	7.1	16,368	6.2	15,701	11.2	28,698	1.1	2,800	1.3	3,233
1995	8,621	4.3	8,237	8.0	18,654	6.7	18,951	12.1	34,555	1.2	3,278	1.3	3,764

<sup>1</sup> Assumes 330 traffic generating days per ship annually. Does not include a factor for the additional Canadian traffic of footnote 2 below.  
<sup>2</sup> Includes 10 pct of traffic to potential Canadian Government vessels (excluding Coast Guard) and Arctic shipping and structures plus the remaining Canadian traffic.

TABLE B.—WORLDWIDE MARITIME SATELLITE TRAFFIC FORECAST, 1980-95, ASSUMING CANADIAN USE OF SPARE SATELLITE

[Totals for reporting and nonreporting countries, one assumption on end-to-end user tariff only]

Year (midyear or year average)	Total number of shipboard operating terminals installed and (including fishing and structures)	Telephone			Telex			Other (in voice-grade equivalent quality)			
		\$10/minute user tariff assumption		\$6/minute user tariff assumption		\$5/minute user tariff assumption		\$4/minute user tariff assumption		\$3/minute user tariff assumption	
		Traffic in paid minutes (1,000 paid minutes) ship/daily <sup>1</sup>	Total traffic per year (1,000 paid minutes)	Traffic in paid minutes (1,000 paid minutes) ship/daily <sup>1</sup>	Total traffic per year (1,000 paid minutes)	Traffic in paid minutes (1,000 paid minutes) ship/daily <sup>1</sup>	Total traffic per year (1,000 paid minutes)	Traffic in paid minutes (1,000 paid minutes) ship/daily <sup>1</sup>	Total traffic per year (1,000 paid minutes)	Traffic in paid minutes (1,000 paid minutes) ship/daily <sup>1</sup>	Total traffic per year (1,000 paid minutes)
1980	338	3.0	529	4.0	431	0.3	32	4.0	431	0.3	32
1981	506	2.9	695	3.9	658	.4	59	3.9	658	.4	59
1982	759	3.0	962	4.1	1,030	.5	118	4.1	1,030	.5	118
1983	1,066	2.7	1,211	4.2	1,523	.6	267	4.2	1,523	.6	267
1984	1,464	2.7	1,503	4.3	2,091	.6	415	4.3	2,091	.6	415
1985	1,955	2.7	1,987	4.5	3,763	.7	583	4.5	3,763	.7	583
1986	2,447	2.8	3,045	4.7	4,672	.8	753	4.7	4,672	.8	753
1987	2,979	2.9	3,676	4.7	4,672	.8	968	4.7	4,672	.8	968
1988	3,522	3.0	4,374	4.9	5,682	.9	1,202	4.9	5,682	.9	1,202
1989	4,067	3.1	4,374	5.0	6,755	.9	1,530	5.0	6,755	.9	1,530
1990	4,686	3.3	5,378	5.4	8,378	1.0	1,807	5.4	8,378	1.0	1,807
1991	5,328	3.5	6,430	5.6	9,904	1.1	2,121	5.6	9,904	1.1	2,121
1992	6,108	3.7	7,709	5.8	11,754	1.1	2,442	5.8	11,754	1.1	2,442
1993	6,889	3.9	9,070	6.0	13,792	1.1	2,800	6.0	13,792	1.1	2,800
1994	7,724	4.1	10,625	6.2	15,792	1.1	3,278	6.2	15,792	1.1	3,278
1995	8,628	4.4	12,750	6.7	19,043	1.2		6.7	19,043	1.2	

<sup>1</sup> Assumes 330 traffic generating days per ship annually. Does not include a factor for the additional Canadian traffic of (footnote 2) below.

<sup>2</sup> Includes 100 pct of traffic to potential Canadian Government vessels (excluding Coast Guard), Arctic shipping and structures plus the remaining Canadian traffic.

TABLE C.—REPORTED DISTRIBUTION OF TRAFFIC ON OCEAN AREAS IN 1985<sup>1</sup>

Coverage region: Ships of national registry	Atlantic Ocean region			Indian Ocean region			Pacific Ocean region			Arctic/Antarctic		
	Tele- phone (1,000 minutes)	Telex (1,000 minutes)	Percent	Tele- phone (1,000 minutes)	Telex (1,000 minutes)	Percent	Tele- phone (1,000 minutes)	Telex (1,000 minutes)	Percent	Tele- phone (1,000 minutes)	Telex (1,000 minutes)	Percent
Japan.....	36.4	17.4	21.2	54.6	68.2	26.1	118.0	161.5	56.4	0.2	2.9	1.0
Norway <sup>2</sup> .....	189.2	54.5	54.5	99.0	228.7	28.5	59.0	71.3	17.0	-----	-----	-----
Sweden.....	103.1	50.0	61.8	61.8	114.5	30.0	41.1	76.3	20.0	-----	-----	-----
U.S.S.R.....	143.6	60.0	60.0	35.9	132.0	15.0	47.9	176.0	20.0	-----	-----	-----
Total.....	472.3	1,010.2	51.1	251.3	434.3	25.1	266.0	485.1	24.5	12.0	1.3	46.9

<sup>1</sup> The four countries shown were the only ones who reported a complete distribution by ocean area. They express in percent the following shares of worldwide traffic: Telephone, 32 pct; Telex, 40 percent.

<sup>2</sup> Traffic in overlap region (AOR, IOR) equally distributed on AOR and IOR.

TABLE D.—WORLDWIDE MARITIME SATELLITE TRAFFIC FORECAST, 1980-95 AUGMENTED BY CURRENT MARISAT EXPERIENCE—ASSUMING NO CANADIAN USE OF INMARSAT SPARE SATELLITE  
[Totals for reporting and nonreporting countries, two different assumptions on end-to-end user tariffs]

Year (midyear or year average)	Telephone			Telex			Other (in voice-grade equivalent quality)					
	Total number of shipboard terminals in- stalled and operating (including fishing and structures)	\$10/minute user tariff assumption	\$6/minute user tariff assumption	Total traffic in paid minutes (1,000 paid minutes) ship/daily	\$10/minute user tariff assumption	\$4/minute user tariff assumption	Total traffic in paid minutes (1,000 paid minutes) ship/daily	\$10/minute user tariff assumption	\$6/minute user tariff assumption	Total traffic in paid minutes (1,000 paid minutes) ship/daily		
1980.....	334	4.0	461	664	6.1	675	9.2	1,009	0.4	40	0.5	52
1985.....	1,948	4.0	2,578	4,480	7.5	4,826	13.6	8,947	1.0	632	1.1	729
1990.....	4,679	5.1	7,958	14,516	8.7	13,448	16.9	26,060	1.5	2,304	1.7	2,576
1995.....	8,621	6.6	18,863	35,205	10.4	29,509	20.1	57,322	1.7	4,968	1.9	5,457

<sup>1</sup> Assumes 330 traffic generating days per ship annually. Does not include a factor for the additional Canadian traffic of footnote 2 below.

<sup>2</sup> Includes 10 pct of traffic to potential Canadian vessels (excluding Coast Guard) and Arctic shipping (table F1 of annex 111).

*Question.* What is Comsat's opinion of the relationship between Inmarsat and HF service? In other words, will much traffic convert to Inmarsat upon its startup? Are the services comparable and competitive? What effect would the diversion of heavy volume users to Inmarsat have on the provision of the HF service?

*Answer.* No clear answer to these questions can be given at the present time. The Subcommittee's staff working draft calls for the FCC to conduct a study of conventional HF radiomarine communications. Further, the FCC has recently instituted an inquiry which, among other things, will explore the impact of maritime satellite services on HF services.

The Marisat System appears not to have caused a reduction in traffic carried by the HF coast stations. In fact, after the Marisat System was placed into operation a number of coast station operators increased their rates for HF services without, as far as we know, experiencing any loss in traffic.

Although maritime satellite services will compete to some extent with HF services, we believe that satellites do and will continue to handle substantial traffic associated with communications requirements that cannot be handled via HF. For example, Marisat is now serving seismic ships and offshore drilling platforms which need communications for sending large volumes of data in real time over high quality circuits. These types of vessels have heretofore not utilized HF services in meeting such requirements. The HF services are limited on available frequencies, which are congested and are subject to propagation difficulties. Further, the FCC has recently found that the telegraphy coast station operators provide an unacceptably low grade of service. Due to these problems, at least some communications applications handled by maritime satellites would not in any event be handled by HF.

The cost of equipping ships with terminals for satellite operations is likely to slow the possible diversion of existing HF traffic to satellites. HF terminals cost between approximately \$20,000 to \$30,000. Satellite terminals currently cost approximately \$62,000. In this connection, ship operators acquiring satellite terminals still need HF terminals since most ships on the high seas are required by law (Safety of Life at Sea Convention and FCC regulations) to have HF terminals on board.

For the above reasons, we believe that the effect of maritime satellite services on HF services is difficult to measure. Satellites do, however, provide a significantly higher quality service than HF and this fact should result in at least some transfer of traffic to satellites.

*Question.* Has Comsat completed any studies on the allocation of revenues from INMARSAT Service, i.e., how much of each dollar in tolls will cover the cost of the space segment, the earth station, and the domestic long lines segment?

*Answer.* Comsat not performed any detailed studies on the allocation of revenues and such studies really would not be meaningful until the system is better defined.

In a broader context, however, it may be of interest to note that Inmarsat, through the work of its Preparatory Committee, has undertaken some work to determine the economic viability of the satellite system based on high and low traffic projections, as well as a range of rate levels. This effort indicated that for the first seven years of operation losses would be incurred for the low traffic case. For the high traffic case a marginally profitable return could be realized assuming tariffs at a certain reasonable, but high, level. Conversely, if lower rates are assumed, the high traffic case shows a loss during the first seven-year period. While projections for the second seven years of operation show more favorable trends, these results must be qualified by the higher uncertainty as regards investment requirements and traffic volumes for the 1989 to 1995 period.

*Question.* What incentive would there be for the international record carriers to provide Inmarsat service if Comsat owned the space link, the earth stations, and was able to compete directly with the carriers in the marketing of the service?

*Answer.* Under the Subcommittee's staff working draft, Comsat would not be competing with the international record carriers, but rather would be participating with them in the provision of a through service. Each of the carriers participating in the provision of maritime satellite services would have an investment

in the facilities which it uses in furnishing its portion of such service, and each investing carrier would have the incentive to maximize its benefits from such investment. As a participating carrier under the staff working draft, Comsat would be involved directly in stimulating a market for maritime satellite services. However, any increase in demand would inure to the benefit of all participating carriers as well as consumers. Thus, the fact that Comsat might have a greater incentive to market services than the other carriers because it had a more significant investment would not be prejudicial; rather it would further benefit the other carriers and consumers.

*Question.* The international record carriers argue that the consortium presently serving the maritime market with Marisat should be the designated entity. What would be the costs to the end user of such an approach compared to the designation of Comsat as (1) a participating carrier; or (2) a carrier's carrier?

*Answer.* We believe that the costs to the end user of maritime satellite services would be less with Comsat as the designated entity, either as a participating carrier or a carrier's carrier, than if the designated entity were a consortium of the existing Marisat carriers. We further believe that users would benefit from lower charges if Comsat were a participating carrier rather than a carrier's carrier.

Comsat, as a single entity whose sole activity involves satellite communications, would devote its long, extensive and successful experience to the task of developing and implementing the space segment and earth terminal station facilities. This effort could be carried out more effectively and efficiently by a single entity than by a group of carriers that would continually have to reach mutual agreement on the multitude of issues that would constantly be faced. Timely decision-making would be threatened in a consortium approach. The other carriers involved in a consortium would have conflicting interests as a result of their ownership and operation of competing facilities. Having several individual corporations involved creates duplicate structures for the same activity. Each of the elements described above results in added costs that would have to be passed on to the end user. Keeping costs to an absolute minimum is especially important since the limited market for maritime satellite services represents a built-in constraint on achieving profit targets.

It should be anticipated that costs to the end user would be higher if Comsat were a carrier's carrier rather than a participating carrier. The charges established by Comsat as a carrier's carrier would be augmented by the common carriers with certain additional costs, e.g., their overheads, G&A and the like. These extra costs would then have to be included in the rates the carriers would charge for their respective contributions in providing services. On the other hand, under a participating carrier arrangement the end user would be charged simply the designated entity's rates plus the rates levied by other carriers for their contributions in providing services (e.g., terrestrial extensions) to the end user. In effect, while the rates charged by the designated entity would be the same under either arrangement, the carrier's carrier rate to the end user would have been increased by the additional costs cited above.

*Question.* Several witnesses contended that with the present Marisat consortium, the carriers have been able to reduce rates to their customers but argue they would not be able to do so if Comsat is the designated entity and controls the space segment and earth stations. Please comment.

*Answer.* The controlling element in establishing charges for maritime satellite services will be the costs involved in providing such services. Although in the short term full recovery of costs can be temporarily ignored, over the long term this is not possible and charges will need to reflect all costs. Whether the costs are associated with terrestrial facilities or with space segment and earth terminal stations would be immaterial to the basic requirement to recover those costs. Thus, the ability of carriers to reduce rates to their customers would not be any greater, over the long run, under a consortium approach than with Comsat as the designated entity. In addition, the FCC will be in a position to exercise its regulatory authority to assure the availability of the services to consumers on a reasonable basis.

Moreover, rates are tied to the allowed return on facilities involved. The rates will be lowest when the cost of facilities is lowest. As indicated in the answer to the first question, the lowest cost of facilities would be achieved under the arrangements contemplated in the Subcommittee's staff working draft.

*Question.* Please describe the financial arrangements that govern the division of revenues in the Marisat consortium. What have been the revenues earned by commercial service during Marisat's operations and how have they been divided?

*Answer.* The Marisat system is used to provide two types of service. Revenues from the Navy service are divided in proportion to each carrier's respective ownership interest in the system. Service to commercial maritime customers is individually provided by each carrier using space segment capacity which has been allocated to each carrier in proportion to its ownership interest in the system for this purpose. Each carrier bills the charges and retains the revenues for commercial services which it provides. Gross revenues to date derived by Comsat General for commercial service amount to approximately \$2.8 million.

*Question.* Under H.R. 11209 and the Senate Staff Working Draft, would Hawaii be treated differently from the mainland in services provided and costs charged for those services?

*Answer.* Under H.R. 11209 and the Subcommittee's staff working draft, Comsat, as the U.S. designated entity, would provide satellite services and establish rates for communications between the U.S. earth stations and ship stations. Comsat would interconnect and exchange traffic at the earth stations with other carriers who would be responsible for delivering shore-originated communications to the earth stations and distributing shore-bound communications from the earth stations. Responsibility for the particular services offered and rates charged for communications between land points in Hawaii and the earth stations would be exercised by the interconnecting carriers, not Comsat. H.R. 11209 and the Subcommittee staff working draft do not deal with the basis on which the interconnected carriers would make services and rates available to Hawaii in relation to the mainland.

*Questions.* If Comsat were designated as the entity to represent the U.S. in Inmarsat and if Intelsat became the space segment supplier to Inmarsat, you would then become both buyer and seller. Would this put Comsat in a compromising position?

*Answer.* Comsat would not be placed in a compromising position if it were the designated entity to represent the U.S. in both Inmarsat and in Intelsat and Intelsat became the space segment supplier to Inmarsat. If such a situation occurred, each Organization would have concluded through its own independent processes that each would benefit from the mutually agreed upon arrangement. There is a potentially overwhelming overlap in membership in the two Organizations. Of the forty nations that would subscribe to initial investment shares under the Inmarsat agreements, thirty-five are members of Intelsat. No single member of either Organization, including Comsat, would have a controlling vote in either Organization. If, as a result of the decisional process of each Organization, a space segment supply arrangement were consummated, it must be concluded that the respective interests of Intelsat and Inmarsat were compatible rather than in conflict.

Moreover, Comsat, as the single entity designated to represent the United States in both Organizations, would be in a position to assure the development and implementation of coordinated and consistent U.S. policies and actions in each Organization.

*Question.* The hearing record shows Intelsat rates were reduced on 8 successive occasions and that Comsat never reduced its rate (any of these times) to the carriers (and therefore, to the public). Please explain in specific detail to the Subcommittee why, when your rates charged by Intelsat were reduced you did not in turn reduce the rates charged your customers.

*Answer.* We will answer this question in two parts. First, the reason why Comsat did not reduce its rates to its customers each time that Intelsat reduced its charge for space segment utilization is because the Intelsat charge does not constitute the basis of Comsat's charges to its customers. There is little, if any, relationship between Intelsat satellite utilization charges and the rates Comsat charges its customers. The Signatories to the Intelsat Agreements invest capital to establish, expand and maintain the satellite system proportionately in accordance with their ownership. That ownership is adjusted annually to reflect each Signatory's relative use of the system. Signatories, as well as non-Signatories who use the system, pay the utilization charges. Intelsat retains, from the revenues received, funds for current operation and maintenance.

nance expenses and redistributes the remainder of the revenues to the Signatories. Thus, billings for utilization result for the most part in "wash" transactions, under which each user-Signatory pays itself for its use of that portion of the system which it owns.

In the final analysis, from a cash flow standpoint, each Signatory, including Comsat, pays its share of Intelsat operations and maintenance expenses through the utilization charges and each Signatory must then recover these expenses in its rates, as well as other costs associated with its investment of capital in Intelsat, such as return on investment, taxes and depreciation.

Intelsat only provides the space segment portion of the international satellite communications systems. What Comsat provides to the international carriers is a complete communications service, which includes the space segment, the earth stations and Corporate support. Thus, Comsat's rates cover more costs than just those reflected in the Intelsat utilization charge. They include costs of the satellites, U.S. earth stations, other investment in properties used in connection with the system, research and development, staff and general administrative costs, and interest on funds used during construction.

Second, there have in fact been substantial reductions in Comsat's rates during the 1970s. A 25% rate reduction was made unilaterally by Comsat for most Atlantic Region services (Europe, Africa and the Middle East) in 1971. In addition, Comsat's rates have been under intensive review by the FCC from 1971 right up to the present. As a result of an FCC decision in December, 1975 and the FCC's recent approval of a proposed settlement in the Comsat rate proceeding, the charges to Comsat's carrier customers in all operating areas have been effectively reduced as of June, 1976 and as of September 9, 1977. The June, 1976 reduction was projected, at the time, to result in approximately a 37% reduction in the charges that the carriers would otherwise pay under Comsat's existing rates. The rate reduction effective as of September 9, 1977 is projected to produce approximately an additional 11.5% reduction (for a total of 48.5%) in the charges which the carriers would otherwise pay.

*Question.* Do you foresee Inmarsat eventually assuming navigational responsibilities as well as communications?

*Answer.* It is possible that a navigational capability could be provided eventually through an Inmarsat space segment. This was a topic of great interest during the negotiations of the Inmarsat Agreements and the provision of such services is within the purposes of Inmarsat. One of the study efforts being undertaken by the Inmarsat Preparatory Committee is an assessment of the technical, operational and economic impact of providing a navigational capability.

A significant aspect of this study is a consideration of other systems being used or developed to provide navigational services. As the Subcommittee knows, a number of systems, such as Loran and Omega, are in general use today and increasing use is being made by commercial ships of the Navy navigational satellite system (Transit). If the Global Positioning System (GPS) being developed by the Department of Defense proceeds as expected, there may not be a need for a navigational capability in the Inmarsat system.

Senator HOLLINGS. Thank you very much, Dr. Charyk.  
The next gentleman is Mr. Vasilakos.

**STATEMENT OF GEORGE VASILAKOS, VICE PRESIDENT, OPERATIONS, SOUTHERN PACIFIC COMMUNICATIONS CO., BURLINGAME, CALIF.**

Mr. VASILAKOS. Thank you, Mr. Chairman.

On behalf of SPC I would like to indicate our pleasure at being asked to participate in this panel.

I have already submitted our written testimony, and request that it be entered in the record.

Senator HOLLINGS. It will be included.

Mr. VASILAKOS. In the interest of time I have condensed my oral comments.

SPC is a specialized common carrier offering voice, data, facsimile, and other communications services to a number of industries, like the shipping, petroleum, insurance, and banking industries, whose communications requirements in part may include interconnection of inland continental U.S. points to ships at sea and offshore locations.

Admittedly, the total revenues generated by the specialized common carrier industry are relatively small at present. Nevertheless, it is our belief that the demand for maritime satellite communications will grow in the future as international trade expands and as oceanic energy and resource exploration and extraction endeavors are developed.

SPC is concerned, accordingly, that an opportunity be preserved for our industry, as well as other carriers, to participate in the challenge of developing and providing future maritime satellite communications services.

SPC respectfully recommends that the Congress not adopt any legislation at the threshold of this new age which would vest exclusive control in any maritime communications entity in such a manner that the ownership, operation or control of such entity is frozen in perpetuity or that access to and interconnection with the facilities and services of such an entity are denied to other present or future interested parties, including specialized common carriers.

The Congress has under consideration a number of legislative proposals to designate and define the structure and obligations of the participating entity in Inmarsat; Comsat in H.R. 11209 and a new corporation jointly owned by U.S. carriers in S. 2211.

Under both of these proposals the designated entity would retail services to the public with other carriers providing domestic landline connection on a connecting or participating basis.

Additionally, it has been suggested that noncarrier enterprises could invest in or interconnect directly with this entity.

We feel that these approaches are deficient in several key areas.

First, we see no reason that a single private entity should be granted a monopoly franchise for this important area of communications. Rather, a new corporation, owned by interested U.S. carriers, including domestic, international, and specialized common carriers, should be formed to represent the United States in Inmarsat. Carrier participation should be subject to normal FCC determination that it serves the public interest, convenience, and necessity.

Furthermore, we believe no carrier should be allowed to own more than 50 percent of this entity except under special circumstances approved by the FCC.

The designated entity would provide the space segment services and would own U.S. Earth stations. All U.S. carriers should be permitted direct connection to the Inmarsat Earth stations on a non-discriminatory basis.

We believe that designated entities should be restricted to a carrier's-carrier role, providing services to the various U.S. carriers, who in turn would retail maritime satellite communications to the public.

The alternative, relegation of U.S. carriers to a domestic landline interconnection role would diminish their incentives to participate in

this new entity and to actively market maritime satellite communications services.

Open carrier entry into the retail function should be legislatively mandated for any U.S. carrier wishing to participate, subject to the FCC granting certificates of public convenience and necessity. We see no reason to limit the number of common carrier participants, nor to preclude the specialized common carriers or any class of common carriers from performing the retailing function on an end-to-end basis. In fact, moreover, as long as the retailing common carrier pays a proportionate share of the investment and operating costs for use of facilities, it is not essential to limit the offering of such services to initial investors in this new corporation. In fact, this would be counterproductive.

The expansion of the retailing effort by permitting wide participation of common carriers should more promptly result in full system utilization.

Some of the bills that have been presented in Congress to implement the Inmarsat program provide for participation by noncarrier entities. SPC is opposed to this concept. We believe it would severely limit the incentive of carriers to invest in the program, whether that investment is in the form of equity or the investment is essential to developing the market for services.

If common carriers are to incur all the startup problems and expenses for the developmental phase, they must be offered an opportunity to earn a return. If the large, private operators are permitted to launch their own systems after the startup phase, this will inhibit or discourage carriers from investing. Certainly this would also be detrimental to the interest of the smaller user who could not afford his own system.

None of the pending bills specify the type of services included within the maritime satellite service concept. We feel the definition should be clarified to include fixed maritime stations such as oil production platforms, and aircraft.

In summary, we recommend that ownership in the new corporation be open to all U.S. carriers, and that a monopoly franchise in perpetuity not be granted; that the new carrier, such as the specialized common carriers, not be precluded in any manner from providing maritime satellite communications; that the new entity operate as a carrier's carrier with U.S. common carriers providing the retailing function; and that private operators not be allowed to invest in or to procure services directly from the new entity.

Thank you.

[The statement follows:]

STATEMENT OF GEORGE J. VASILAKOS, VICE PRESIDENT-OPERATIONS, SOUTHERN PACIFIC COMMUNICATIONS CO.

Mr. Chairman and members of the Committee: Southern Pacific Communications Company (SPC) is pleased to be asked to participate in this panel, and to have the opportunity to comment on the pending legislation to provide for the establishment, ownership, operation and regulation of international maritime satellite telecommunications. With me today is Mr. Robert Ross, Counsel for the company here in Washington.

SPC is a specialized common carrier offering voice, data, facsimile and other communications services over a nationwide network serving a total of 45 major metropolitan centers. It employs microwave, broadband cable and satellite facilities in performing these services. Through its Datran system, SPC is one of the few pioneering in the utilization of digital communications facilities and the development of digital data services. It has thus far invested over \$150 million in communications facilities.

SPC serves a number of industries in meeting their domestic communications requirements. Included are a number of enterprises, like the shipping, petroleum, insurance and banking industries whose communications requirements, in part, may include interconnection of inland, continental U.S. points to ships at sea and offshore locations. In addition, we interchange traffic with certain of the international record carriers at gateway cities destined to or coming from foreign locations.

Admittedly, the total revenue generated by all of SPC's different services is relatively small at present compared with the existing common carriers, amounting to \$32 million in 1977. The revenues of the entire Specialized Common Carrier industry, for that matter, amounted only to some \$130 million in 1977. Similarly, revenues from maritime related communications services of the type described above is minimal at present compared to the established maritime communications carriers.

It is our belief, nevertheless, that the demand for communications to serve these industries will grow in the future. The long term trend in international trade, for example, suggests that there will be continued growth, and increased international trade will require increased and ever more rapid and efficient communications services.

Growing demands for additional energy supplies have led to, and will continue to require, the expansion of offshore exploration and resource extraction efforts requiring, in turn, increased offshore communications capabilities for voice, data and facsimile communications services. Exploration of the seas and seabed for other resources, and greater emphasis on the collection of weather and oceanic data all promise to increase the demand for communications as well.

Further prospects for the development and utilization of the resources of the world's oceans, the last true frontier on earth, are almost limitless. That sophisticated communications facilities, systems, and services, will play an integral and indispensable role in this process is certain.

SPC is concerned, accordingly, that the opportunity be preserved for all those carriers ready, fit and able to participate in the challenge of developing and providing future maritime communication services.

SPC respectfully recommends, therefore, that the Congress not adopt any legislation at the threshold of this new age which would vest exclusive control in any maritime communications entity in such a manner that the ownership, operation, and control of such entity is frozen in perpetuity or that access to and interconnection with the facilities and services of such entity are denied to other present or future interested parties. Specifically, we urge that the legislation designed to implement our country's participation in Inmarsat provide for participation by all appropriate common carriers including specialized common carriers.

The program before you involves a number of specific issues on which we will comment in an effort to be as helpful as possible. Our research has necessarily been less complete than we would desire and our comments here will be subject to amendment in the light of the record made before the Subcommittee, our own further research and the advice of our clients.

One of the fundamental issues which this Subcommittee and Congress must address is the designation of an entity to implement U.S. participation in the Inmarsat program, and the structure under which this entity and U.S. carriers will operate in providing maritime communications services. Several proposals have been advanced. One would designate the Communications Satellite Corporation (Comsat) as the U.S. entity. A second would designate a new corporation jointly owned by U.S. carriers as this entity. Underlying both these proposals is the theme that this entity would retail services, with U.S. carriers acting as connecting or participating carriers providing domestic landline connections. Additionally, it has been suggested that private firms could invest in this entity, connect directly to Inmarsat earth stations, and buy services

directly to meet their communication needs. SPC feels these approaches are deficient in several key areas and we have outlined in the following paragraphs changes we suggest would more effectively promote the public interest in the development of maritime communication services.

Firstly, we see no reason why a single corporate entity should be granted a monopoly franchise as the designated entity for this important area of communications services. Instead, SPC favors the creation of a new corporation owned by interested U.S. carriers including domestic common carriers, international common carriers and specialized common carriers as the designated entity to represent the U.S. in Inmarsat, and authorized to sign the Inmarsat operations agreement. Acquisition of an interest in the entity would be subject to the normal Federal Communications Commission (FCC) determination that it serves the public interest, convenience, and necessity. No carrier should be permitted to own more than 50 percent except under special circumstances approved by the FCC.

This new corporation would be authorized to provide the space segment facilities as well as to own the Inmarsat earth stations located in the U.S. U.S. carriers would be permitted direct connection to the Inmarsat earth stations on a non-discriminatory basis. By this vehicle, all interested U.S. carriers will be afforded the opportunity to have a voice in the management and operation of maritime satellite communication services.

We believe this new corporation should be designated a "carrier's carrier" providing facilities to the various U.S. carriers which in turn would retail maritime satellite communications services to the public on an end to end basis. If the new corporation is not limited to a carrier's carrier role, but is allowed to retail services, then the other U.S. carriers would be relegated to a role of providing domestic landline connection to Inmarsat earth station facilities. This we believe, would reduce the U.S. carriers' incentives to participate in this new entity and to actively market maritime satellite communication services. The carrier's carrier concept would provide for an Intelsat type arrangement which is a proven and effective system for delivering quality international satellite communications.

This proposal would still retain the benefit of participation of the Communications Satellite Corporation through Comsat General as a maritime carrier and very probably as a major investor in this corporation. Furthermore, because of its experience and proven expertise, it is highly likely that Comsat General would be asked to act as the system manager for Inmarsat. SPC would certainly support such a recommendation.

We believe that the Congress, in enacting Inmarsat legislation, and the Commission, through its regulation, should adopt and implement a policy of open entry for any qualified carrier wishing to undertake a common carrier role in offering to retail maritime satellite communication services to the public. Subject to the usual FCC standards applicable to the grant of certificates of public convenience and necessity to common carriers in fields where the Commission follows an open entry policy, we see no reason to limit the number of common carrier participants nor to preclude the specialized common carriers or other classes of common carriers from performing the retail function on an end to end basis.

Moreover, so long as the retailing common carrier pays a proportionate share of the investment and operating costs for use of the earth station and space segment facilities, it is not essential to limit the offering of such services to those who initially own an interest in the new corporation. Competition for maritime satellite communication customers between all interested common carriers should result in a more rapid and complete utilization of the system.

Some of the bills that have been presented in Congress to implement the Inmarsat program provide for participation by, and the interconnection of, non-common carrier entities. SPC is opposed to this concept because it would severely limit the incentive of carriers to invest in the program whether that investment is in the form of an equity contribution to the new corporation or the investment essential to developing the market for services. If common carriers are to incur all the start-up problems and expenses inherent in the developmental phase of the program, they must be offered a reasonable opportunity to earn a return. If the largest prospective users are to be permitted to initiate their own private operations after the start-up period, the dedicated efforts of

the participating carriers, necessary to development of the program in its earliest stages, likely would be inhibited or discouraged. Certainly this would not serve the interest of the small user who could not afford to construct his own system.

Domestically, a private entity must provide the whole of the investment for a private, industrial communications system and make use of a separate portion of the available bandwidth from that devoted to common carrier services. Quite obviously the proposed arrangements for non-carrier entities to participate in maritime satellite services do not follow a direct parallel in conditions.

In the House bills reference has been made to global maritime mobile telecommunications services. We believe this should be clarified to include aircraft as well as fixed maritime stations, such as oil production platforms. A wide range of service offerings is not only technically possible, it is needed to help promote market development and the economic viability of the system. This flexibility should be provided for in the enabling legislation and the charter of the corporation.

It is our understanding that Inmarsat may provide for the rendition of safety and navigational aids via satellite facilities which are non-compensatory and traditionally offered under government sponsorship. Financial obligations for such services should be addressed in the final legislation.

If the Inmarsat system is to be used directly by government agencies, it would be appropriate in our view to have that traffic bear its proportionate share of investment and operating costs. Failure to do so will require the non-government traffic to bear a disproportionate share of the investment and operating costs with the inevitable result of restricting the potential commercial market, jeopardizing the viability of the United States' portion of the operation, or delaying achievement of that status.

The investment in Inmarsat is large with an anticipated long payback period. To assist in this endeavor, we feel government agencies should be directed to use the Inmarsat system to serve their needs and only be permitted to use separate government systems which it is clear that Inmarsat use cannot meet their needs or is in conflict with national security requirements or national policy goals.

Senator HOLLINGS. Thank you very much, Mr. Vasilakos. Now, we have Mr. Angliss.

**STATEMENT OF ROBERT J. ANGLISS, EXECUTIVE VICE PRESIDENT,  
RCA GLOBAL COMMUNICATIONS, INC., NEW YORK, N. Y.**

Mr. ANGLISS. Thank you, Mr. Chairman.

As the caboose on this train of witnesses, I shall make a definite effort to be brief.

At the risk of mixing metaphors, may I just add one note, that my company, RCA Globcom, is one of those truckers that Ed Gallagher referred to that has been driving the bumpy road of marine telecommunications now for the past 60 years. Our concern is largely with the fact that the two marine communications systems, the HF marine system as it now exists and the satellite systems that are now being developed, not be looked upon as diverse, separate types of operations but rather be viewed in their totality.

In our view, splitting the existing maritime communications industry would disserve users of the services in at least the following critical respects:

First, the U.S. maritime communications user would be deprived of the ability he presently enjoys to obtain a fully integrated service, employing both satellite and radio technology in a combination that is best suited to his needs.

Further, because of the high cost of shipboard satellite terminals, the use of maritime satellite service for the short term will be limited.

At present, and as you have been advised before, only approximately 100 vessels are equipped to receive satellite services, while more than 20,000 ships still rely entirely on HF radio service. Thus, the vast majority of users will continue totally to depend on HF radio supplied by the existing carriers, regardless of the outcome of the current hearing.

Radio will also be needed for many more years to meet international requirements for safety of life at sea as well as to provide a backup to the marine satellite service.

HF radio provides necessary protection in the event of failures of the satellites, the U.S. Earth stations, or the shipboard terminals, and already, in the very limited span of time that we've had maritime satellite communications, this has been demonstrated routinely and recurrently.

Since high seas maritime communications for some time will continue to encompass both radio and satellite communications systems, and since the economics of both reflect marginal rates of return on capital investment, efficiency and economy dictate an orderly transition from radio to satellite. The demands of the market will then determine the appropriate levels of radio and satellite operations.

Under the scheme contemplated by the pending present bill there will be no impetus for the maritime carriers to invest in or devote any significant effort to maritime satellite communications or to improve radio communications.

The net effect of all of this will be higher cost and reduced levels of service to the customer.

Comsat would be providing the growth service while we, the existing maritime carriers, are left with the declining HF service.

In view of the foregoing, RCA Globcom strongly urges the primary responsibility for Inmarsat and other future satellite communications programs be left in the hands of the U.S. maritime communications industry. This approach, we believe, will best assure continuation of high quality maritime service to the U.S. merchant fleet via both radio and satellite.

I would now like briefly to return to Mr. Gallagher's earlier simile about the transcontinental trucking situation which I think very clearly illustrates the situation which confronts us at the moment. I should like to build on that analogy just a bit though in this respect: yes, we have been driving the bumpy road of marine telecommunications for some 50 or 60 years now; yes, there is now before us a possibility of a super highway that will parallel that bumpy route. Mr. Gallagher did not note that we, the existing maritime carriers, have already participated in the test bed, the development of the basis upon which that new super highway will be built as we go forward, and now we are being told effectively that we cannot use it. Notwithstanding, we must continue to provide service on the bumpy road of maritime HF telecommunications which will be relied upon by some 20,000 "truckers," if you like, over the next 10 to 15 years, and that will continue as a basis of their marine telecommunications services until the satellite service has at last taken over and made HF maritime communications obsolete.

We are aware of no evidence that granting Comsat an exclusive franchise for the satellite communications is necessary in order to assure a quality maritime satellite communications service. To the contrary, it is a very substantial likelihood that this will have a disruptive effect on overall service to the maritime communications users and only serve to increase costs.

Giving Comsat an exclusive satellite franchise would enable it to drive others out of the maritime communications market and eventually to extract monopoly profits from maritime users.

We note in this regard Comsat's resistance to rate reductions in the past and the recent finding of the FCC that Comsat has substantially overcharged its customers.

As legislative history of the 1962 Satellite Act makes clear, Comsat was not created to nor should it properly be allowed to preempt services traditionally provided to the public by existing segments of the communications industry.

The Marisat system is operating successfully today as a joint venture, and we see no persuasive public policy reason to mandate expansion of Comsat's monopoly role.

It is important, in our view, to note that the maritime market is finite and has not shown anything near the rate of growth experienced in international point-to-point communications. Nonetheless, it is an important market to RCA Globcom which we have long served and are interested in continuing to serve in the future.

At present Globcom handles over half of all the telegraph traffic and approximately one-third of the telex traffic between the United States and ships at sea. We believe that the Comsat monopoly would result in a drain-off of existing maritime business now handled by the maritime carriers. We also feel that an industry-owned entity would allow the carriers to continue to participate in both the satellite and the radio business, thereby minimizing the negative effect of revenue diversions.

To the extent that there would be competition permitted under the arrangements proposed in the bill, it would be limited to the land-line interconnection. Under current Marisat practice, the carrier supplying the land-line interconnection receives only about 5 percent of the total revenues for through-telex calls.

I refer you again to Mr. Gallagher's map which graphically illustrates the situation. And in our view, if this practice were expanded to Inmarsat, there would be little incentive for the existing carriers to pursue this traffic.

Keeping the satellite business in the hands of the industry will leave options open for the future to both Congress and the FCC. Flexibility would continue to exist. This may not be the case if the U.S. maritime communications industry is drummed out of existence.

For the foregoing reasons, gentlemen, we strongly recommend that the U.S. designated entity in Inmarsat be a partnership of U.S. entities now engaged in the provision of high seas maritime communications or, alternatively, a new corporation to be owned by such entities. The new carrier-owned entity should operate both the U.S. share of the Inmarsat's space segment and the associated Earth sta-

tions. It would be open to participation by all current suppliers of high seas maritime services, including Comsat General.

In conclusion, the maritime communications industry at large has the requisite skills, expertise, and financial resources to participate in the planning and operation of Inmarsat on behalf of the United States. There is no need to make radical change by legislative action in the existing maritime communications industry, especially when such action could lead to reduced levels of service and higher cost to users.

Thank you very much, Mr. Chairman.

[The statement and supplement thereto follows:]

STATEMENT OF ROBERT J. ANGLISS, EXECUTIVE VICE PRESIDENT OF RCA GLOBAL COMMUNICATIONS

Chairman Hollings and members of the Subcommittee, my name is Robert J. Angliss. I am Executive Vice President of RCA Global Communications, Inc. (RCA Globcom), and my responsibilities in that capacity include RCA Globcom's marine telecommunications business. I am pleased to have been invited to participate in today's proceedings to present our position on future U.S. participation in International Maritime Mobile Satellite Telecommunications.

In the brief time I have been allotted, I would like to put forward the main reasons why we believe that it is in the interests of the users to afford existing suppliers of high seas maritime communications such as RCA Globcom an opportunity for meaningful participation in future international maritime satellite programs. I would also like to dispel the notion that turning over total control of future international maritime satellite systems to a Comsat monopoly will promote competition or improve overall service to the public.

I. KEEPING PRIMARY RESPONSIBILITY FOR MARITIME SATELLITE COMMUNICATIONS IN THE HANDS OF INDUSTRY IS IN THE BEST INTERESTS OF THE USERS

We believe it to be of fundamental importance from the standpoint of the user that the existing and emerging systems for communications with ships at sea be viewed as a totality. At present, the existing maritime communications industry has direct access to, and makes full use of, both radio and satellite facilities. We think it would be a serious mistake to divide responsibility for maritime communications in the future, depending upon which transmission mode happens to be employed, radio or satellite. It is simply not possible to disregard the vital interrelationship of the two systems.

Splitting the existing maritime communications industry, as some have proposed, would disserve users of maritime communications services in at least the following critical respects.

The U.S. maritime communications user would be deprived of the ability he presently enjoys to obtain a fully integrated service, employing both radio and satellite technology in a combination best suited to his needs. Only an integrated system of high-frequency maritime radio communications and satellite communications can meet present user needs and provide a base for the orderly and efficient future transition from radio to satellite systems.

Because of the high cost of shipboard satellite terminals, the use of maritime satellite service for the short term at least will be limited primarily to large ships such as supertankers and ships used for specialized purposes such as mineral exploration and cable laying and repairs. At present, only approximately 100 vessels are equipped for satellite service, while more than 20,000 ships depend entirely on HF radio service. The vast majority of users—including the smaller shipping interests—will still be totally dependent upon the radio services supplied by existing carriers for their communications needs regardless of the outcome of the current proceedings on Inmarsat.

HF and MF radio will also be needed for many years to come to meet international requirements for safety of life and property at sea, as well as to provide necessary back-up to the maritime satellite service in the event of satellite or earth station failure. Based on our experience with Marisat, shipboard satellite

terminal outages have been frequent and require the vessels affected to resort to radio for back-up. If a message cannot be delivered to a ship by satellite, we have the capability under the existing arrangements to retransmit that message automatically via radio.

Since high seas maritime communications for some time will continue to encompass both radio and satellite communications systems, and since the economics of both media reflect marginal rates of return on capital investment, efficiency and economy dictate an orderly transition from radio to satellite. This can be effectively accomplished only if the existing high seas maritime carriers are able to continue to operate and control parallel systems. The demands of the market will then determine the appropriate levels of radio and satellite operations.

There is an ongoing need for technical coordination both between radio and satellite and between existing maritime satellite systems and new systems. This necessary coordination will be impaired if responsibilities are arbitrarily divided. For example, the maritime community must be assured of continued access to maritime satellite service through a system which is technically compatible with existing shipboard terminal equipment pending the establishment of Inmarsat. It is crucial in our view to the viability and development of commercial maritime satellite service that doubt in the mind of the public not be created regarding future availability of service, the cost of such service or whether existing equipment will be adequate without major conversion expense to receive service. Provision must be made this year for the next phase of the current Marisat program to avoid a gap in available satellite communications to the public. The ability of the industry to maintain existing services, as well as decisions by industry to commit funding to new satellite programs, will be directly affected by the adoption of measures which would turn over to others control of the U.S. share of future commercial maritime satellite programs.

Under the scheme contemplated by H.R. 11209, there would be no impetus for the carriers to invest in, or devote any significant effort to, maritime satellite communications or to improve radio communications. The net effect would be higher costs and reduced levels of service available to the customer. Giving Comsat an exclusive maritime satellite franchise would deprive the existing industry, which must continue to supply the essential radio service, of necessary revenues from the larger users. This would create a powerful disincentive to improved maritime communications and impact the needs of large and small users alike. It would also place us in the anomalous position of having to "underwrite" Comsat's entry into this market, since Comsat would be providing the growth service while we are left with the declining HF service.

In view of the foregoing, RCA Globcom strongly urges that primary responsibility for Inmarsat and other future maritime satellite communications programs be left in the hands of the U.S. maritime communications industry. This approach will best assure continuation of high-quality maritime service to the U.S. merchant fleet via both radio and satellite.

It should be recognized that Congress is not dealing with a new technology when it addresses the question of maritime satellites. The Marisat system already exists and is operating successfully as a joint undertaking of U.S. communications entities. RCA Globcom is now supplying both maritime telex and telegram services through the Marisat system. We are also actively engaged in negotiations with other U.S. entities involved in maritime communications to provide for a follow-on satellite system (Marisat II). Such a system will likely be necessary to assure continuity of satellite service to maritime users pending the establishment of Inmarsat. An initial canvass of the industry indicates that the proposed Marisat II program will be fully subscribed. However, passage of legislation which would effectively eliminate the carriers from future maritime satellite projects could compel RCA Globcom and others to reevaluate their positions on participation in a Marisat follow-on program.

RCA Globcom's total financial commitment to the current Marisat program amounts to approximately \$10 million. This includes our investment in the system itself of approximately \$9.1 million representing an eight (8%) percent share and the additional expenditures we have incurred for terrestrial facilities, communications lines, research and marketing necessary to provide commercial service. RCA Globcom's Marisat investment was predicated on our assessment of the capacity we would require to provide an effective grade of maritime

telex service which we viewed as the prime need of the maritime community. We did not regard the Marisat system primarily as an investment opportunity to realize a return from the Navy.

We thus have a firm and continuing commitment to the development of maritime satellite technology. We also have substantial experience and demonstrated technical and operational competence in all phases of satellite communications. For example, we constructed and presently operate the Guam Intelsat earth station and we are a part owner of the six other U.S. Intelsat earth stations. Under the circumstances, we believe it to be of fundamental importance that we and other existing suppliers of high seas maritime communications have the opportunity to participate directly in future satellite programs such as Inmarsat following the precedent of the Marisat program.

## II. CREATING A COMSAT MONOPOLY OF MARITIME SATELLITE SERVICES IS NOT IN THE PUBLIC INTEREST.

Comsat, on the other hand, has never provided, and has shown no interest in providing, radiomarine service. It also has had no prior direct involvement in maritime satellite service which, as you know, is being provided through Comsat General, an independent subsidiary established expressly to conduct Comsat's non-Intelsat activities. Naming Comsat as the U.S. designated entity to Inmarsat would present the possibility of a substantial conflict of interest between its Inmarsat and Intelsat responsibilities. It would also be contrary to the FCC's intention, in requiring Comsat to conduct its non-Intelsat activities through a separate subsidiary, that Intelsat revenues not be used to subsidize Comsat's other more speculative ventures.

There is furthermore no evidence of which we are aware that granting Comsat an exclusive satellite franchise is necessary to assure a quality maritime satellite communications service. To the contrary, there is a substantial likelihood that the approach taken in H.R. 11209 would have a disruptive effect on overall service to the maritime communications users for the reasons I have indicated.

A fully integrated maritime communications system would not be achieved by giving Comsat an exclusive satellite franchise which would enable it to drive others out of the maritime communications market and eventually to extract monopoly profits from maritime users. We note in this regard Comsat's resistance to rate reductions in the past and the recent findings of the FCC that Comsat has substantially overcharged its carrier customers. Indeed, it was only after some thirteen years of litigation before the FCC and the Courts that Comsat has recently entered into a proposed settlement agreement with the FCC which would eventually result in a reduction in Comsat's charges to its carrier customers of nearly fifty (50%) percent. At present, over \$100 million in excess Comsat charges, just covering the past two years alone, is being held in an escrow account for eventual refund.

As the legislative history of the 1962 Satellite Act makes clear, Comsat was not created to—nor should it properly be allowed to—preempt services traditionally provided to the public by existing segments of the communications industry. The Subcommittee should recognize that the situation which existed at the time Comsat was originally formed was unique. Today, however, satellite technology is no longer in a fledgling state and its uses are widespread. The Marisat system is operating successfully as a joint venture. We therefore see no persuasive public policy reason to mandate expansion of Comsat's monopoly role.

We submit that this Subcommittee should weigh Comsat's track record carefully before extending its monopoly powers. We also believe that Congress should inquire into the propriety of Comsat's use of surplus capital resulting in significant part from its retention of excessive monopoly earnings to "buy into" new business ventures such as Marisat. Indeed, had Comsat not had this substantial funding available to it, we question whether it would have been able to make the sizable investment required for the Marisat venture which gave it its initial "foothold" in the maritime communications market.

It has been suggested by some that establishing the existing maritime carriers as a new entity to represent the U.S. in Inmarsat merely would substitute one monopoly for another. We believe there are a number of major distinguish-

ing factors between this plan and H.R. 11209, which would create a Comsat monopoly of maritime satellite service by legislative fiat.

It must be recognized that the maritime market is finite and that it has not shown anything near the rate of growth experienced in international point-to-point communications. Indeed, the U.S. Government estimates that only approximately a third more ships will be in service in the year 2000 than there are today. Nevertheless, this is an important market to RCA Globcom which we have long served and are interested in continuing to serve in the future. At present, RCA Globcom handles over half of all the telegraph traffic and approximately one-third of the telex traffic between the U.S. and ships at sea. These services provide some \$7.5 million in annual revenues to RCA Globcom.

Creating a Comsat monopoly would result in a drain-off of existing maritime business now handled by the maritime carriers and result in undesirable fragmentation of the industry to the ultimate detriment of users. An industry-owned entity, on the other hand, would allow the carriers to continue to participate in both the satellite and radio business, thereby minimizing the negative effect of revenue diversions.

Allowing Comsat to provide service directly to the public in competition with established carriers, which also must obtain service from Comsat, would stifle rather than promote competitive alternatives. Effective competition is impossible in a situation where one company both controls entirely the availability of a product and at the same time competes in the sale of that product with others who can only obtain the product from that single source. To the extent there would be "competition" permitted under the arrangements proposed in H.R. 11209, it would be limited to the landline interconnection. Under current arrangements now in effect for Marisat, the carrier supplying the landline interconnection receives only about five (5%) percent of the total revenues for a through telex call to a ship. If similar practices were extended to Inmarsat, there would be little incentive for the existing carriers to pursue this traffic.

We find it difficult to understand how allowing the expansion of Comsat, with its singular advantages, would further the cause of competition. On the other hand, through a direct participation in Inmarsat, the existing maritime carriers will be able to work more effectively toward an orderly transition from radio to satellite, and the users of maritime communications services will be in a better position to seek and obtain rates and levels of service which satisfy their total requirements.

Keeping the satellite business in the hands of the industry will leave options open for the future to both Congress and the FCC. Flexibility will continue to exist. This may not be the case if the U.S. maritime communications industry is "drummed out" of existence.

### III. THE U.S. "DESIGNATED ENTITY" TO INMARSAT SHOULD BE AN ENTITY IN WHICH THE CARRIERS MAY PARTICIPATE DIRECTLY.

For the foregoing reasons, we strongly recommend that the U.S. designated entity in Inmarsat be a partnership of U.S. entities now engaged in the provision of high seas maritime communications or, alternatively, a new corporation to be owned by such entities. The new carrier-owned entity would operate both the U.S. share of the Inmarsat space segment and the associated U.S. earth stations as well as provide maritime satellite service to the public. It would be open to participation by all current suppliers of high seas maritime service, including Comsat General, which was established for the express purpose of conducting Comsat's non-Intelsat activities and is presently a member of the Marisat consortium.

To the maximum feasible extent, Congress should as a matter of policy encourage ownership by common carriers of the facilities which they use to serve the public. It is the carriers to which the end users look for total service responsibility. The public has received numerous benefits from the many improvements in maritime communications contributed by our industry. Only a few years ago communications with ships were almost entirely limited to the traditional radiogram. Today, RCA Globcom not only offers telex service to ships at sea via both HF radio and the Marisat satellites, but through computer technology has extended the latest state-of-the-art service enhancements to the maritime telex service.

We note that Sec. 6 of H.R. 11209 directs the FCC to make a new study of public maritime coast station services. We endorse the concept of assuring that the traditional marine services receive appropriate and timely attention. However, we believe it would be premature and unwise to make binding decisions which would place the future of maritime satellite communications solely in the hands of Comsat until this study and the companion study of Comsat called for in Sec. 5 of the Bill are completed and the data supplied subjected to critical evaluation. Certainly, a decision which could have the effect of restructuring an existing industry providing vital public services should be made only on the basis of complete data on the total industry.

There is no justification to grant Comsat an exclusive franchise to exploit the latest satellite technology while existing suppliers of maritime communications are relegated to a protracted, expensive phase-out of HF and MF radio. In a sense, what is being proposed is analogous to providing, as a matter of law, that one of two competing manufacturers may use the latest technology available while the other must continue to maintain operations with older, less efficient equipment. I doubt if anyone here would seriously consider such a proposal or deem it to be a fair and equitable arrangement to the entities involved. However, this is precisely the effect H.R. 11209 would have on the existing maritime carriers if adopted in its present form.

Under no circumstances should Comsat be given sole control of the U.S. share of Inmarsat and also serve end users directly bypassing the existing carriers. There is no basis whatsoever to give Comsat control of the essential facilities for maritime satellite communications and at the same time give it a built-in competitive advantage by legislative action over the carriers which have traditionally supplied and supported the maritime service.

However, we note that H.R. 11209 in its present form would eliminate Comsat's role as a "carrier's carrier". Thus, Comsat is not prohibited from serving the public directly. To the contrary, H.R. 11209 allows Comsat to interconnect directly both with "domestic common carriers" and "private communications systems". Although the latter term is not expressly defined in H.R. 11209, we presume it is intended to make it possible for Comsat to serve directly the corporate networks of the major end users, such as the oil companies, which constitute a large and important segment of the total maritime communications market. The current legislation must not alter existing industry arrangements by permitting Comsat to compete directly with others not so favored.

#### IV. CONCLUSION

In closing, as I have stated, there is a compelling list of reasons from a service and cost standpoint to continue existing arrangements whereby the high seas maritime carriers are able to offer a full range of maritime services on satellite as well as radio. The maritime communications industry has the requisite skills, expertise and financial resources to participate in the planning and operation of Inmarsat on behalf of the U.S. In addition to its role in Marisat, RCA Globcom has a proven record of experience in satellite communications.

Accordingly, there is simply no need to restructure in a radical way the existing maritime communications industry, which has served the public long and well and which is fully capable of meeting demands for all forms of high seas maritime communications including satellite. We accordingly urge you to provide for a partnership or new corporation to be financed by existing maritime carriers as the U.S. "designated entity" in Inmarsat. Such action will in the long run better serve the interests of the using public and help assure the maintenance of a healthy, viable U.S. maritime communications industry.

Thank you very much.

SUPPLEMENT TO PREPARED STATEMENT OF ROBERT J. ANGLISS, EXECUTIVE VICE  
PRESIDENT OF RCA GLOBAL COMMUNICATIONS

At the time our prepared statement was printed, RCA Global Communications, Inc. (RCA Globcom) did not have available to it the text of the proposed Senate bill on Inmarsat. Since the draft Senate bill varies in certain material respects from the House bill (H.R. 11209), RCA Globcom is taking the liberty of filing the following brief supplement to its prefiled testimony.

RCA Globcom has set forth in its prepared statement the primary reasons it believes it would disserve the users of maritime communications to create a Comsat monopoly of future maritime satellite programs. We will not repeat these arguments here. However, we note several material changes in the draft Senate Bill which we believe merit further comment.

In addition to naming Comsat as the U.S. "designated entity" to Inmarsat, the draft Senate Bill would further provide in Sec. 3(b)(1)(A) that Comsat shall be the sole owner of any satellite earth station for use with Inmarsat in the United States. The House bill, on the other hand, provides that the common carriers could own all or any portion of any such station.

We believe this change is not in the public interest. Providing Comsat with exclusive ownership of the earth stations in addition to its space segment monopoly will only serve to exacerbate further the problems we foresee with the present bill. It is furthermore in conflict with Sec. 201 (c) (7) of the Communications Satellite Act of 1962 which permits the FCC to authorize the common carriers to invest in the U.S. Intelsat earth stations. Under the existing arrangements for Intelsat, the common carriers have sizable investments in all of the U.S. Intelsat earth stations.

Contrary to the approach taken in the Senate Draft Bill, we believe there are good reasons to prohibit Comsat from obtaining any ownership interest in the U.S. earth stations used to access the Inmarsat space segment. If Comsat were to have 100 percent control of the space segment, ownership of the earth stations would give the existing high seas maritime carriers an opportunity to play a role in the operation of the satellite system. Certainly, given the monopoly accorded by this legislation to Comsat for the space segment, which represents three to four times the capital investment required for the earth stations, the balance of equities supports granting ownership in the earth station facilities to the maritime carriers.

Permitting carrier ownership and management of the Inmarsat earth stations would have no adverse effect on the operation of the system and would not increase the cost to the users. Under the present arrangements for Intelsat, the Intelsat organization manages the space segment while many individual entities own and operate the earth stations used with the system. Indeed, RCA Globcom constructed and has successfully managed the U.S. Intelsat earth station on Guam and has an ownership interest in the six other U.S. Intelsat earth stations. Therefore, there is ample precedent for allowing the common carriers which supply service to the public to participate directly in earth station ownership. This approach will encourage use of the system and maintain desirable flexibility to meet changing conditions.

Our support of a statutory provision which would permit ownership of the U.S. Inmarsat earth stations by the common carriers should not, however, be viewed as diminishing in any way our basic position that both the space segment and earth stations for use with the system should be owned by a new entity to be financed by the existing maritime communications industry. We believe the current proposal to turn over all of these functions exclusively to Comsat will, in the long run, be more expensive to the users than if the industry were to provide this service. First, Comsat has a long and undistinguished history of exacting high markups for its services. As we pointed out in our prepared statement, it was only after protracted litigation that Comsat has tentatively agreed to make substantial reductions in its charges to its carrier customers. At present, Comsat overcharges for just the past two years alone total over \$100 million.

In addition, placing responsibility for Inmarsat in the hands of a carrier-owned entity would spread the potential risks of this venture over a broader base. Comsat itself has noted in its prior testimony to the House Communications Subcommittee that Inmarsat is not expected to provide an adequate rate of return at least during the start-up years of operation. Spreading the risks of the Inmarsat venture among a wider segment of the industry will make it less likely that either the users or the Government will be required to subsidize this venture than if a single publicly-held company is asked to carry the full load of this investment.

There are no demonstrated operational benefits which would accrue to the public from having Comsat rather than the industry furnish this service. Moreover, the likelihood exists that the costs to the users will be higher if Comsat

alone provides the service. Under the circumstances, for the reasons outlined above and in our prepared statement, we believe it would be a serious error to divide arbitrarily the maritime communications market into two segments based upon the technology employed to serve the public.

Several other points in the Senate Draft Bill which differ from the House Bill are also of concern to us. The Senate Bill would extend from 6 to 18 months the time allowed for a study of Comsat to be made by the FCC. Since the Inmarsat Convention must be signed in 1979, this virtually assures that the study of Comsat will not be completed prior to the time action would have to be taken by the U.S. It thus renders the study a meaningless gesture.

We believe it would be a serious mistake to make binding decisions which would place the future of maritime satellite communications solely in the hands of Comsat until the study of Comsat is completed. The very fact this provision is in the Bill recognizes that such a study is a necessary condition precedent to assure Comsat's primary mission in Intelsat is not diminished as a result of other commitments.

We perceive compelling policy reasons, particularly in light of recent experience, for limiting rather than enlarging Comsat's future participation in satellite projects outside of Intelsat. The difficulty to date in effectively regulating Comsat has been a cause of concern both to the FCC and to Congress. We note in this connection the recent report of the General Accounting Office (March 31, 1978) undertaken at the express request of the House Subcommittee on Communications which concluded, among other things, that effective control has not been exerted over Comsat's Intelsat activities. Giving Comsat a larger role to play prior to addressing this basic issue will, in our view, only magnify the problem. We believe provision should be made for effective oversight of Comsat before expanding its functions into new areas.

Finally, we note that the Senate bill deletes references to direct interconnection between the earth stations and "private communications systems" contained in the House Bill. While we support this change as a step in the right direction, we do not view it as a solution to the serious concerns expressed in our testimony. Rather, it would provide little meaningful relief for our industry. Certainly, this revision cannot be considered a *quid pro quo* for granting Comsat total dominance of new maritime satellite programs nor would it by itself serve to restore Comsat to its traditional role as a "carrier's carrier".

[The following information was subsequently received for the record:]

#### QUESTIONS OF THE COMMITTEE AND ANSWERS THERETO

*Question.* How would giving Comsat a facilities monopoly in Inmarsat drive other carriers out of business?

*Answer.* The present Bill would give *all* of the maritime satellite business to Comsat. This would deprive the existing carriers of virtually all their maritime satellite revenues as well as drain off revenues from their HF and MF radio operations, which will be needed for many years to come. This revenue drain will increase as more ships come to depend on satellite as their primary transmission mode. Under the scheme contemplated by the Bill, there would be no impetus for the carriers to invest in or devote any significant effort to maritime satellite communications or to improvements to existing radio communications. The net effect will inevitably be higher costs and reduced levels of service.

At present, we obtain over 20% of our total marine business through interconnection with Western Union facilities. An additional 8 percent originates overseas. Thus, if Comsat could interconnect directly with domestic carriers such as Western Union and also handle the overseas portion of incoming traffic through its exclusive control of the Inmarsat space segment, we could be deprived of approximately 30 percent of our existing maritime business. Based upon 500,000 messages handled annually by RCA Globcom, approximately 150,000 messages could eventually be diverted to Comsat solely by virtue of the interconnection provision in the Bill. With respect to the remaining traffic which originates on our own system, if we are relegated to the role of a connecting carrier rather than a participating carrier, we would be deprived of the major portion of the revenue generated from our customers.

At present, Comsat General and ITT Worldcom have an arrangement for handling interconnected Marisat telex calls between the U.S. and ships at sea. Of the \$6 per minute telex charge, ITT Worldcom receives \$.32 for its share, with the balance going to Comsat General. Thus, if we were to be limited to supplying Inmarsat calls solely through interconnection with Comsat, rather than over our own share of the space segment, we would be left with only approximately 5% of the tolls for our involvement in the service if the current arrangements for Marisat were extended to Inmarsat. Thus, the lion's share of the maritime satellite revenues, even where the call originated or terminated on the facilities of one of our customers, would accrue to Comsat and we would be left with very little in the way of a return.

If Comsat is given an exclusive maritime satellite franchise, the loss of revenues could place in jeopardy the existing carriers' ability to continue to provide HF service for the more than 20,000 ships which now depend directly on this service. It will also adversely affect even those ships equipped for satellite communications, since they will continue to rely on radio for backup service in the event of terminal failures aboard ship or when satellite or shore station problems deprive them of satellite service.

Thus, the existing industry will be deprived of substantial revenues supporting the total maritime communications service. This will exacerbate the economic pressures which the carriers presently face and increase the likelihood that one or more of such carriers will be forced to discontinue marine communications operations. This in turn will tend to diminish the service available to the public generally.

*Question.* How many public coast stations does RCA own? Do you have applications pending before the Commission requesting closure of any? How many?

*Answer.* RCA Globcom presently owns and operates four public coast stations (San Francisco, Chatham, Lantana, and Port Arthur). At the present time, RCA Globcom has no applications pending for closure of any of its coast station facilities. However, we plan to file new applications for closure of Lantana and Port Arthur in conjunction with the Commission's pending inquiry into public coast station matters (FCC General Docket No. 78-67, released February 27, 1978, FCC 78-118).

It is generally agreed that the current number of stations (17) is not necessary from an operational viewpoint. A comprehensive study initiated by the FCC and conducted by Advanced Technology Systems, Inc. (ATS), an independent contractor selected by the Commission to analyze the total problems and issues associated with the HF Marine industry, found that "[t]he industry would be financially viable and could provide improvements in equipment and service if certain small stations were allowed to close." [Emphasis supplied.] ATS further stated that "[i]t appears that too many PCRT [public coast radio telegraph] stations (18) are competing for the PCRT industry revenue base of approximately \$5,000,000. This leads to operating inefficiencies and a fractionalization of service provided. Implementation of improvement is discouraged. The closure of carefully selected stations and the realignment of others to improve service and financial viability is indicated."

ATS noted that "it is evident that the remaining stations, after closure of the six requesting closure, will provide adequate traffic coverage for all coasts. The ports at which stations have been closed will receive MF/HF coverage from other stations which would remain in service." Therefore, based upon the above findings, the first and primary "Conclusion" of ATS was that "[t]he closure of small stations by the major carriers would permit the industry an opportunity to establish viability and to provide improvements in equipment and service."

The ATS study recommended that the proper configuration should be for ITT Worldcom and RCA Globcom to maintain their best station on each coast and TRT to retain its best station in the Gulf and Florida areas. The three smaller stations at Mobile, Tampa and Baltimore would also be allowed to continue to operate. This provides for eight coast stations with the remainder to be closed. RCA Globcom's previous closure applications were filed in accordance with the ATS recommendation as will be our new application.

*Question.* Would there have been a Marisat system in the first place if there had been no U.S. Navy involvement?

Answer. Probably not. U.S. Commercial requirements at the time Marisat was proposed—and even today—are insufficient to support a separate satellite system.

The history of the events leading to the establishment of the Marisat system are set out in detail in the FCC's Order granting a partial waiver of the requirement for a construction permit to proceed with the construction of the Marisat satellites. (*Communications Satellite Corporation*, 40 FCC 2d 496 (1973)). This Order makes clear that Marisat was conceived and developed primarily to meet an urgent Navy need. Commercial use of the system was permitted primarily to take advantage of additional capacity built into the satellite not required by the Navy.

*Question.* Mr. Strichartz testified that RCA projected a decrease of 25 percent or higher in the use of coast stations during the first year of Marisat operation. In fact, there was an *increase* in both traffic and revenue for the first six months. Nonetheless, you still advocate closing coast stations. Why?

Answer. First of all, we wish to point out that, contrary to the inference which might be drawn from Mr. Strichartz's remarks, there was no significant increase in HF traffic. The increase in HF revenue was due in the main to a rate increase.

When RCA Globcom made its initial projections, it was anticipated that the Marisat system would grow at a more rapid rate than it has to date. A number of factors have resulted in the slower than anticipated rate of Marisat growth, including the high cost of shipboard terminals required to receive service which averages over \$60,000 per unit not including installation costs which can add an additional \$10-20,000, and uncertainty within the maritime industry as to the future availability of service.

Notwithstanding the fact that the immediate negative impact of Marisat on HF was not as great as originally anticipated, we still firmly believe that consolidation of existing coast stations is essential to the continued viability of HF service. Furthermore, it should be noted that closure and consolidation of coast stations was proposed *before* Marisat was ever contemplated. The maintenance of redundant and duplicative coast station facilities continues to add unnecessary cost burdens to this service. Closure of unnecessary stations and upgrading of the remaining stations will provide a grade of service overall more than adequate to meet the existing and foreseeable needs of the maritime community. Such action will also assist in keeping the costs of maritime radio service at the lowest reasonable levels.

*Question.* If H.R. 11209 passes the Congress should Comsat General be allowed to own, manufacture, lease or sell on board ship terminals?

Answer. RCA Globcom believes that if Comsat is granted a monopoly of the Inmarsat space segment, provision should be made to assure that all suppliers of shipboard terminal equipment have fair access to the maritime market. Certainly, Comsat should not be allowed either directly or through a subsidiary such as Comsat General to "tie-in" the lease or sale of terminals to the provision of service through Inmarsat or any other maritime satellite system. At the present time, ship owners have the option of obtaining satellite terminal equipment either from Comsat General or from independent manufacturers such as Magnavox. We believe that measures should be adopted to assure that competition will exist in the provision of ship board terminal equipment just as the FCC has in recent years promulgated policies which have allowed independent equipment suppliers to compete with A.T. & T. in the provision of various terminal equipment.

*Question.* In Docket 19554 and its successor, the record carriers advocated the closing of all but 6 coast stations. Yet in this hearing the same carriers are advocating ownership involvement in Inmarsat in order to encourage continued coast station operations. Why are these 2 positions not contradictory?

Answer. If the maritime carriers are excluded from the satellite business, their existing HF operations will become increasingly less viable economically as more and more traffic and revenues are diverted from traditional HF service to the new satellite service with no opportunity provided to recoup any of the lost business with satellite revenues.

Existing public coast station operations will have to be continued for many years into the future and will impose an increasing economic burden given the

age of the equipment and labor costs. In these circumstances, the carriers would be unable to earn a fair rate of return without increasing rates to the public or reducing the quality of service.

Closing of all but six coast stations is necessary in order to make the *existing* radiomarine industry viable at this time. However, based upon current projections, the maritime radio industry will be subject to increasing traffic diversions to satellite. It can therefore be reasonably anticipated that, at some future date, even 6 stations will not be viable. Nonetheless, there will still be a need for radio service.

In sum, as maritime satellite communications activity increases, revenues derived by this new service will be comprised almost entirely of those drained from traditional HF marine services. Thus, at some point in the future HF marine operations will not be financially viable unless rates are substantially increased (which would negatively affect this service) or the government provides some form of subsidization.

For the above reasons, RCA Globecom's advocacy for the closing of unneeded public coast stations is not inconsistent or contradictory with its advocating for an ownership involvement in Inmarsat. In fact, these positions compliment each other.

Senator HOLLINGS. Thank you, Mr. Angliss, and each of you.

Now, let me ask you just a couple of questions before I yield.

Mr. Angliss, when you talk about multiple carrier ownership the experience with the Marisat System shows otherwise. We know now all of the carriers had an opportunity to buy in, and Comsat owns 86 percent of the system. It is very expensive in the beginning stages of Inmarsat and the provision of this new service, and someone could use the analogy of not just another highway but, really going from a highway to jet service.

How do you envision the breakdown? Everybody says what Comsat shouldn't have, but how much would you be willing to put into it? What share would A.T. & T. have, as you see it? What share would Comsat have? And what share would RCA have? And who would manage the new corporation? That is what we're trying to start with. In starting a new venture of this kind, that is the case. It's not just another highway; it is a jet passenger plane. You can't put an ordinary driver like me in the cockpit; you're going to have to have special training, special facilities and everything else. And it is going to be awfully expensive.

Now, tell us who is going to manage that and how the share is going to be broken down, as you see it?

Mr. ANGLISS. Fine, sir, if I may. The consortia members, that is, those companies that now own and operate the Marisat I system, have been engaged in recent months in discussions looking to the development of a Marisat II system. Marisat II, as of the time that we sat last at the table, was oversubscribed by A.T. & T., Comsat General, ITT, Western Union International, and ourselves.

The share which each of these participants might choose to put up, I submit, would be quite capable of fully subscribing to the U.S. share in Inmarsat.

Remember, if you will, please, that the Inmarsat system is a global venture in which the costs are shared by other nations of the world, whereas the Marisat system is wholly U.S. owned and therefore has to be entirely funded by U.S. entities.

We should have little problem, if any, coming up with full subscription to the ownership shares necessary for the U.S. participation.

in Inmarsat, functioning as a corporation or whatever legal structure that we might choose to establish ourselves as.

As far as the management of the system is concerned, as far as the representation in Inmarsat, I think that we could achieve that representation by vote, by consensus. We have, I would point out, operated rather successfully the Marisat I venture on a consortium basis, where policy decisions have routinely been a requirement as that system has moved forward, and we have had very few problems with that type of approach to the management of the system.

Indeed, I think that the management generally has been very laudatory, and I think our friends at the FCC will indicate that in recent months—recent years, for that matter—there have been very, very few things that have been escalated to the FCC level, where we ourselves have been unable to reach a decision.

So, I see the management as going forward along the patterns of those that now exist in the Marisat system, which patterns seem to be doing very, very well.

Senator HOLLINGS. Senator Stevens had to go back down to the floor. He has some questions here. And one of the first ones was referred to by a previous witness, Dr. Charyk:

I understand that the FCC has recently found that Comsat overcharges customers in the operation of the Intelsat system. The amount of overcharge is close to \$100 million. Can you give us the details of that?

Dr. CHARYK. Well, we have had underway for some period of time a rate case before the Federal Communications Commission which would determine what our rate structure should be. While the case was in its last stages, over the last couple of years, we have been required to put into an escrow account the difference between what we had been charging prior to that and what the Commission thought that we should be charging. The escrow account has been outstanding now for some period of time and has reached a number of the order indicated.

The Commission has not made a final decision as to whether the proposed new rates that we have come up with are appropriate, although we have reason to think that the Commission will probably approve the agreement that has now been developed.

The issue now becomes whether the ultimate user is going to get any benefit out of this, and the carriers are all questioning in various ways the flow-through of that escrow to the ultimate customer. And I don't know when that problem will be resolved.

The carriers, I think, have all taken a position that the FCC cannot legally make them flow the money through to the ultimate customer; I hope that the ultimate customer gets some benefit out of that \$100 million. I hope he does. I think that is the objective of the game.

Senator HOLLINGS. What is your answer to the contention that, as a participating carrier in charge, if you were granted such someone else using the system and wanting to lower rates or make individual judgments, would be stultified in every direction? Do you think that would be the case?

Dr. CHARYK. I think the monopoly question has been sort of distorted. The situation, really, is the question of ownership of the

Earth station and the investment in the space segment. There is only going to be one international space segment, probably, at the early stage, at least; and there is certainly going to be a very limited number of Earth stations. And everyone is going to have access to that Earth station and that space segment, and the real competition is going to arise in the ingenuity of the carriers in marketing new services to the users. Can they convince customers that they should conduct their business in a different way? Can they give them a better kind of service? And what we're really talking about, I think, is perhaps a new superhighway. But the access to that superhighway is under the same terms and conditions to all parties. There aren't multiple roads. The superhighway—if that's what you want to call it—will be accessed by any carrier under the same terms and conditions. The real test is going to be in the ingenuity of how do you use that highway in the most efficient fashion. Can you convince the customer that he should ship his goods via that superhighway?

Senator HOLLINGS. Well, Mr. Gallagher says he can convince them; he will lower the rates. You wouldn't deny that?

Dr. CHARYK. I think if he wants to lower his rates, that's wonderful, and I think that the competition is going to be in the rates that are charged and in the kinds of services that are offered.

And so, it is going to be a single superhighway, and the real question is going to be: Can the various retailers of service convince their customers that it is a useful thing to use?

As far as the Earth station is concerned, that's like a tollgate to the superhighway, and I can understand why people would want to own the tollgate to the highway. But I suggest that as far as the user is concerned, he is better off if he is offered a complete spectrum of services and can then choose which carrier he wants to work with, which carrier is going to be more responsive, which carrier is going to offer better service and better rates. And I think that is the nature of the competition that we want to see.

Senator HOLLINGS. Mr. Gallagher, briefly, would you like to comment?

Mr. GALLAGHER. Yes.

The situation is this: If we were to take a hypothetical rate, let's say, a reduced Telex rate of \$4—it had been \$6 under the H.R. 11209 situation—that particular rate has two components. It has that component which I've indicated with the red line on the map, which might be, let us say, 20 cents; 50 cents, or whatever the figure happens to be. And then the balance is for the satellite run on the superhighway, up and down. And let's say that's \$5.50.

Now, I have no control over that superhighway at all. All I can do is deal with that 50 cents or 20 cents that goes from the point of origin to the point, as Joe put it, to the tollbooth.

Now, if I wanted to reduce the rate, I have to go to Joe and say, "Joe, will you reduce your \$5.80 out of the \$6 rate?" And if Joe is in a good mood, he might say yes. But experience over the past 13 years has indicated no.

Senator HOLLINGS. He doesn't ever get in a good mood?

Mr. GALLAGHER. I've never had him in a good mood, and Joe and I are very good friends. But on the other hand, we have, in fact, over

the past 13 years, reduced our rates consistently on the basis of unfulfilled promises that Comsat's rates were going to be reduced. The Intelsat rates were, in fact, reduced on 8 successive years and we never got a reduction from Comsat.

In this particular situation that you ask, I go to Comsat and I say, "We would like to reduce our Telex rate to \$4." He says, "Be my guest. I will keep my \$5.80 for myself; you take your 20 cents." And he says, "How are you going to reduce it?" And I can't reduce it. Rate competition is throttled. I am not the master of my own destiny.

However, at the present time, if I decide to reduce a rate, I can reduce it, subject to FCC approval. Having to do with the flow-through to the customers that Joe was talking about just a few moments ago, just to clear the record up, we went to the FCC over 2 years ago, and we asked it to draw a plan for the flow-through of Comsat's excess charges to the customers. Two years ago we asked the FCC for such a plan. There was no response.

Now, suddenly—tomorrow, we think—there is going to be a final settlement, having to do with this over-\$100 million of excess charges, and now we are being asked, are we going to flow through and when are we going to flow through?

This is after 13 years. Now, they want us to do it on 24 hours' notice. We are ready to do it, and we will flow through. I make that absolutely clear.

Senator HOLLINGS. Dr. Charyk, I have other questions from Senator Stevens, and some from myself and some from the other members of the panel. You would be willing to answer those, I take it?

Dr. CHARYK. Absolutely.

Senator SCHMITT. Mr. Chairman, we have questions for all the witnesses, and we would like to submit those for the record.

But I would like to follow up on this discussion because I believe this is the critical point, and that is the cost to the user. And what is of interest to me is, how much flexibility does any participating entity have in setting rates for use of the Earth station and space segment in this kind of a system?

Dr. Charyk, would you like to comment on that? How much flexibility do you have to reduce rates?

Dr. CHARYK. I think that the real challenge here is going to be to create a system at the lowest possible cost and with the greatest efficiency.

The question has been raised, and maybe I should address it, as to the conflict of interest between Intelsat and Inmarsat.

Senator SCHMITT. First of all, I would like to have you comment on the conflict of interest. The argument has been made that the cost to the user is going to be greater if Comsat, for example, is the designated entity, versus some other entity. And I'm trying to determine why Comsat's costs might be lower than some other entity.

Dr. CHARYK. Well, I think because of the fact that our sole business is communications satellites. We have lived with that technology over the years. We probably have more expertise in communication satellite technology than anybody else. We think, therefore, that we can develop the plans and lay out the parameters of the system in

concert with our international associates in a way that will produce the most efficient system at the lowest possible cost. That is really the objective here.

Senator SCHMITT. Do you believe Comsat can manage the highway and its maintenance and the tollgates and the collection of fees and the switching of traffic more efficiently than can any other entity?

Dr. CHARYK. Absolutely. That's the answer.

Senator SCHMITT. Why would your costs be lower? Is it just experience that made you capable of doing that? Or is it something that you wouldn't have to do that some other entity would have to do?

Dr. CHARYK. I think, in the first instance, it is the background and the experience; and second, the fact that we have no conflicting interests. We are solely dedicated to satellite communications and the advantages that satellite communications can bring to the picture. We are not going to balk on adding improvements to the highway because we have an investment in some other facilities across the road, even if it is a rocky one.

Senator HOLLINGS. Well, just as Mr. Angliss says, suppose all the record carriers would come in, all but Comsat, all having competing commercial interests. And then the group bought it up and everything else, and you really would lose control; wouldn't you? Well, go ahead. I was just completing the thought that you were making. I don't know how you can get any lower costs there.

Dr. CHARYK. Well, I think, just as a quick answer there, I think that speed is of importance—the ability to make decisions. I think you can probably envision the decisionmaking process if you had this collection of people acting on every single item.

I think the United States has got to move out a little faster than that. We've got to make decisions. We've got to make good decisions. We've got to make economical decisions. And we think that the responsibility should be clearcut and well-defined.

Senator HOLLINGS. Do you want to comment, Mr. Knapp?

Mr. KNAPP. Senator, just to clarify one point here. The proposal of ITT in the formation of a new corporation—we never discarded the possibility of Comsat General being a participant in that organization, for the simple reason, as Mr. Charyk says, they've got a level of competence. After all, we did this in Marisat I. Up to the time when the House bill was introduced, we were very, very actively dealing with the issue of Marisat II, but we have now come to a complete stop.

And I would emphasize that Comsat General would be a participant in this proposal that I've advanced.

Dr. CHARYK. In this context, could I answer the other part of Senator Schmitt's question having to do with conflict between Intelsat and Inmarsat.

That, I think, is a bit of a red herring. The real question here is what is in the best interests of the United States. It is true that Intelsat may offer to provide certain kinds of services that can be of use to the maritime community, possibly to Inmarsat as an organization. I think what is important is that the designated U.S. entity, whether it be participating in Inmarsat or in Intelsat, operate on the basis of what is in the best interests of the United States.

Therefore, I think it is clearly quite important that the United States speak with one voice and that we don't have one U.S. interest in one organization trying to promote one set of conclusions, and another U.S. organization in another forum trying to promote some contrary positions.

I think we are looking out for the U.S. total interest, in the interest of the U.S. user, and I think essential to that is common U.S. representation in both international forums.

Thank you.

Mr. GALLAGHER. Senator, if I may add one final comment. It has to do with the superhighway and your question having to do with the international record carriers and other carriers getting into this joint venture.

I don't think that anybody who is going to review this particular bill should ever lose sight of the fact that we have, in fact, been operating jointly on superhighways for 20 years. I mentioned it before, and I think it is perfectly analogous. We build a cable costing \$150 million or \$180 million. We build it all together. Mr. Nichols' company, the A.T. & T., they take a predominant interest. As a matter of fact, in many ways they are the manager of the system. They do the procurement.

We subscribe to  $x$  number of channels. We may take a \$5 million investment or a \$10 million investment or a \$20 million investment in that particular cable. And our partners overseas do likewise.

And I would leave it to the gentlemen who are participating in those cables and in those ventures over the last 15 or 20 years as to whether or not we have ever had one bit of difficulty in such a joint-venture operation. We have never had one bit of difficulty.

Now, we get those challenges, and I can assure you that insofar as Mr. Knapp's company is concerned, he is competing hard and fast against my company. Mr. Angliss' company is doing the same. We are all competing. We are looking for customers. We are trying to give customers conveniences. We are reducing rates; innovating services. But we are in the common facility. That common cable facility is no different than a common satellite facility. I wish that the people who are reviewing this situation having to do with the so-called joint venture would look at it in that same way.

Senator SCHMITT. Mr. Gallagher, your statement is true with respect to an Intelsat-type satellite system; but is it true with respect to a demand system, such as Inmarsat would have to be?

Mr. GALLAGHER. I think so, sir, because one of the important things, of course, is whether or not we can all access the system. Having to do with how we are going to utilize the demand circuits, that is an operational question that we could work out within the corporation. That is easy to work out. Once we have the guidelines, that we can work out.

As a matter of fact at the present time, on the satellite operations, they have such systems—we call them the spade system. We are familiar with this operation. We know what to do. We need the guidelines; we need the corporation; we need the new venture. And we need it quickly, because the family of nations around the world, as

Dr. Charyk has indicated, are looking here for a designated entity.

But that designated entity does not necessarily have to be the monopoly entity. It could, in fact, be the new corporation, as the NTIA has suggested and as many others have suggested.

I was just looking at one just a few moments ago from Mr. Mansour, formerly from the OTP, and now head of Aeronautical Radio, Inc. He recommends it, and he says that competition must be maintained; and we do have, in fact, that competition.

Thank you.

Senator SCHMITT. Thank you, Mr. Chairman. I will submit some more questions.

Senator HOLLINGS. Yes; we will have to submit questions. We don't have consent to meet past 1. We are a little past that time now, but you have all made a wonderful contribution, and we appreciate your appearance here, and we will submit questions for the record, if you don't mind.

Thank you very much.

[Whereupon, at 1:10 p.m., the hearing was adjourned.]

## ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

### STATEMENT OF MAGNAVOX GOVERNMENT AND INDUSTRIAL ELECTRONICS CO.

Magnavox appreciates the opportunity to provide this statement for the Senate Subcommittee on Communications as it considers legislation to authorize the United States to participate in an international organization providing telecommunications by satellite for ships at sea.

#### MAGNAVOX

Magnavox Government and Industrial Electronics Company is a manufacturer and supplier of marine electronics equipment to the maritime industry. Magnavox developed and marketed the widely used MX 1102 Satellite Navigator, which uses signals from the Transit satellites to provide ships at sea with complete and accurate navigation information at all times and in all weather conditions with high reliability. Magnavox now also manufactures and sells the MX 111 Shipboard Communications Terminal, which provides a ship at sea with instant two-way contact via the Marisat satellite to any telephone or telex in the world or any other ship with a suitable shipboard terminal.

Magnavox maintains a world-wide sales and service network, the largest of any manufacturer of satellite navigation and communication products. Magnavox is maintaining a production line for shipboard terminals and has the capability to expand production several-fold to meet the needs of the market. It also has an engineering development group thoroughly versed in satellite technology to develop products for advanced marine satellite communications.

Based on records available to Magnavox on May 1, 1978, approximately 112 shipboard terminals have been commissioned, of which Comsat General has supplied 79, Magnavox 23, Japan Radio Corporation 8, and Toshiba 2.

#### BASIC QUESTIONS

In this statement, Magnavox wishes to address the following questions: Are the benefits of the satellite system for maritime operators worth the additional costs? Does the maritime industry want a satellite communications system? Is a commercial maritime satellite communications program viable over the long term?

Magnavox has studied these questions, and to each of them, Magnavox answers with a resounding "Yes". Moreover, Magnavox has been and is willing to put its own money at risk in developing the market for maritime satellite communications.

*Advantages.*—First, the system provides, as indicated, immediate communications from and to any ship or fixed platform at sea. Voice, telex/teleprinter, high-speed data and document facsimile transmission are all instantly available no matter what the hour or the weather or the location of the ship. A fleet operator can be in minute-to-minute contact with an entire fleet. Cargo documentation can be prepared and transmitted after departure but before arrival. Oil drilling rig data can be transmitted for immediate analysis onshore and timely guidance. Design information can be sent from shore installations for on-the-spot repairs. Crews can be in oral and written contact with their families no matter where they may be or how far away from the next port. The savings in time are substantial and translate into significant gains in efficiency. Elimination of communications delays means lower operating costs.

*Industry Reception.*—Second, the reception of the maritime industry to this new service has been encouraging, notwithstanding concern about whether the service will continue to be available over the long term. Magnavox is well acquainted with the industry and its innate conservatism. Magnavox's experience with its Satellite Navigator is illustrative. It took several years for this

truly invaluable navigational aid to be accepted, but once its reliability and usefulness were demonstrated in many different vessels, Magnavox's sales have grown as fast as the equipment can be produced. Magnavox has confidence that the same growth can occur in maritime satellite communications, if suitable conditions are created.

*Market Potential.*—The potential market for shipboard terminals—ships and fixed platforms at sea—is quite large. We estimate, for example, that the number of vessels which would be candidates for satellite communications systems exceeds 5,000, and may well be substantially more. Such a potential market is large enough, in our judgment, to support a separate satellite system. But savings in satellite costs may also be possible if, for example, a maritime capability were added to the next generation of international telecommunications satellites. From our point of view as a supplier of shipboard terminals, the market is sufficient for us to be prepared to make a major investment in meeting its needs.

#### CONDITIONS FOR FURTHER GROWTH

To this conclusion we have to indicate several caveats. To assure continuing growth in this market, the existing users and potential customers must have reasonable assurance that their investment in present-day equipment will not become obsolete. Thus, any system which succeeds Marisat must be designed to be compatible with existing terminals.

In addition, there must be reasonable assurance that there will be a satellite communications system in place at the end of the life of the Marisat satellites, presumably in 1981. This, in turn, requires, we submit, that the United States promptly indicate its willingness to join with other nations in creating such a system.

Lastly, we think it important that the maritime communications satellite system be promoted vigorously throughout the world—not just by communications carriers selling communications services—but by the shipboard equipment manufacturers and suppliers of many countries.

#### SEPARATION OF SHIPBOARD EQUIPMENT FROM COMMUNICATIONS SERVICES

In this connection, Magnavox endorses very strongly the recommendation of the Common Carrier Bureau of the Federal Communications Commission to keep the provision of shipboard terminals clearly separate from the provision of communications services and the ownership of the space segment and the earth terminal stations. As the Bureau recommended to the House Subcommittee on Communications on April 4, 1978, the United States participant in any international maritime satellite communications system should not “provide the shipboard communications stations as part of this communications service, since those stations typically will be used at different times to communicate with various nations and traditionally have been a part of the ship's own complement of equipment, provided by a variety of competing international equipment suppliers.”

The Chairman of the Commission also endorsed this concept in testimony before this Subcommittee, stating that “it is important to maintain the present practice of providing shipboard terminal equipment competitively independent of the other aspects of the maritime communications service” and that “any operating arrangement which impairs competition in the provision of shipboard terminal equipment should not be established.”

At the present time, Magnavox understands that there are six shipboard terminal types which have been qualified by Comsat General as compatible with the Marisat system. Two of these are of United States origin, the others are from other countries. Of these, only Magnavox now has a production line in being, but several other companies both in the United States and abroad are considering whether to enter the market. They will undoubtedly do so under the right conditions.

In these circumstances, Magnavox submits that a positive move by the United States to establish confidence in the future of maritime satellites—and particularly to provide conditions in which the international suppliers of shipboard terminals could freely compete with each other, separate from the provision of communications services—would surely create the necessary conditions

for the establishment of a permanent maritime communications satellite system. Such a system would, in turn, increase the efficiency and enhance the safety of international commerce at sea.

Magnavox appreciates the opportunity to present these views.

STATEMENT OF THOMAS J. O'REILLY ON BEHALF OF THE HAWAIIAN TELEPHONE CO.

Mr. Chairman and members of the Subcommittee, I am Thomas J. O'Reilly, Washington counsel for Hawaiian Telephone Company, for whom I have the privilege and pleasure of submitting this prepared statement for your consideration. Hawaiian sincerely appreciates the opportunity to share its views on the proposed international maritime satellite system with you.

Hawaiian Telephone is and has been in the business of providing not only local exchange and other intrastate communications services to the over 900,000 residents of our State, but also interstate telecommunications services between Hawaii and the U.S. mainland, and foreign services to over 200 countries in the rest of the world. We are the only telephone company in the United States that offers local exchange, intrastate, interstate and foreign communications services. We provide these interstate and foreign services thru submarine cables and domestic and international satellite facilities, facilities which Hawaiian has acquired and operates pursuant to the appropriate and necessary authorizations from the Federal Communications Commission. In 1977, Hawaiian served 642,085 telephones, handled 1.7 billion local calls and 24 million toll calls, and owned and operated telephone plant representing an investment of \$666 million.

In the maritime satellite system proposed by H.R. 11209 Hawaiian Telephone would be relegated to essentially the status of a "connecting carrier", i.e., a carrier that engaged in interstate or foreign communication only thru interconnection with another carrier, with the other carrier in this instance being Comsat. Under the bill as written, it would be Comsat that would own, control and operate the space segment, provide channels to the public (Sec. 4(B)(3)(A)), and permit interconnection with the system by both common carrier and private communications systems. This provides literally no incentive for Hawaiian Telephone to invest or participate in the maritime satellite system contemplated by this proposed legislation.

It is true, of course, that the House bill (committee print) would also permit the acquisition of total or partial ownership interests in the earth stations by carriers and private systems. Whether ownership would carry with it operating rights in the earth station is not clear, nor is it clear how or by whom ownership shares would be determined. But if Hawaiian Telephone's sole function in the proposed satellite system is to collect or distribute traffic within the State of Hawaii, why should it contribute funds to an earth station? Since an investment under the circumstances would not afford Hawaiian Telephone a voice in the operation of the satellite system itself, it would appear that Hawaiian's participation in the ownership would not be that of a carrier but simply that of an investor, a role subject to question from a legal standpoint and of no discernible practical benefit.

Hawaiian Telephone's concern over these aspects of H.R. 11209 are heightened by the provisions of the bill which would permit direct service to the public by Comsat and the acquisition of ownership interests by operators of private communications systems. Hawaiian Telephone anticipates a relatively limited market for maritime satellite services, an anticipation based in part on the recent closure of Hawaii's only high seas maritime station because of insufficient traffic. To the extent that a significant demand for maritime service materializes, it would seem reasonable to assume that large customers, i.e., operators of sizable fleets, would represent the bulk of that demand. It would be precisely those customers who could be expected to have private communications systems, and who under H.R. 11209 would be permitted to bypass Hawaiian Telephone in favor of dealing directly with Comsat, thus leaving Hawaiian with the responsibility for serving only the small or occasional users. Parenthetically Hawaiian Telephone is also concerned that under H.R. 11209 Comsat would apparently be permitted to provide services to those potentially large users without regulation of its rates by the FCC, whereas all of Hawaiian Telephone's rates are fully subject to regulation.

Although the Senate staff draft does not propose interconnecting the earth terminal stations with private communications systems, it does continue to permit provision of space segment channels to the public by Comsat, and limits ownership and operation of the earth terminals to Comsat alone. Whereas the House bill provides no incentive for Hawaiian Telephone to invest in earth terminals, the Senate version precludes such ownership entirely.

Hawaiian Telephone, therefore, cannot support either H.R. 11209 or the Senate staff draft for their present forms. An arrangement which provides Hawaiian Telephone and other authorized domestic and international carriers ownership in the earth terminals and participation in the international maritime satellite organization is needed and would be supported by Hawaiian Telephone. This could be accomplished by designating Comsat as the manager of the system for the United States. For this activity Comsat would be compensated. Comsat's function would include U.S. representation in the international maritime satellite organization or other entity providing international maritime satellite services, and the provision and operation of earth terminals in the United States under the direction of the authorized domestic and international carriers who will invest in the terminals and satellite system.

The promotion, marketing and provision of maritime satellite services would remain the responsibility of the authorized domestic and international carriers who are presently providing telecommunications services to the public and are therefore in the best position to perform these functions most effectively and efficiently. Management of the earth terminals and U.S. representation in the international maritime satellite organization would be the responsibility of Comsat which, because of its expertise in international satellite communications, is in a good position to perform these functions.

In conclusion, Hawaiian Telephone believes that such an arrangement would effectively utilize Comsat's experience and expertise in the management of satellite systems, provide the incentive for the domestic and international common carriers to invest in and participate in the operation of the international maritime satellite system, and continue their role as primary providers of telecommunication services.

Thank you, Mr. Chairman, for permitting me to present Hawaiian Telephone's thoughts on H.R. 11209 and the Senate staff draft.

COUNCIL OF AMERICAN-FLAG SHIP OPERATORS,  
Washington, D.C., May 17, 1978.

Re: Inmarsat, the International Maritime Communications Satellite System.  
Senator ERNEST F. HOLLINGS,  
Chairman of the Senate Subcommittee on Communications, Russell Senate  
Office Building, Washington, D.C.

DEAR SENATOR HOLLINGS: This letter is written to express the general support of the Council of American-Flag Ship Operators for this legislation now pending before your Subcommittee, and we offer several specific suggestions. The eight U.S.-flag liner companies represented by CASO operate a varied fleet of 168 vessels in the foreign trade of the United States. They have all had significant experience with different communications systems.

The inadequacy of conventional radio communications between vessels and their corporate headquarters has been documented in exhaustive testimony before our Congress and at international forums. The Inmarsat program was developed to remedy this problem. We believe it is a practical and commercially effective solution which the United States should support.

At the present time, it requires over 12 hours on the average to transmit non-emergency messages over conventional equipment from a corporate headquarters to a distant ship. Delays in communications are sometimes measured in days rather than hours. This can occur because of the fact that ships normally cannot use their long-distance transmitting equipment in port and many countries, particularly the developing nations, have inadequate shoreside communications facilities. In addition, conventional radio communications are quite susceptible to disruption by weather and other natural phenomena. For instance, it was only because of the availability of satellite communications capability that one of our members was able to reroute a vessel bound for Rumania during a recent earthquake there and thus save many days of ship operating time.

The cost of existing Marasat satellite communication capability is high; however, our experience has clearly demonstrated that the cost is well worthwhile because direct, and virtually instantaneous, voice to voice communication with the vessel permits operational efficiency. These efficiencies are essential when you realize that 12 hours of a modern ship's time represents a cost of about \$25,000.

As the Inmarsat system becomes operational, the Marasat system will be phased out. However, it must be kept in mind that Marasat is presently an operating system upon which our member companies and many others rely for communications purposes. Thus, it is essential that the Marasat service not be disrupted until the Inmarsat service is fully available to replace it. We would urge that your Committee so instruct officials of Comsat, Marasat and others in your Committee report.

We should also note that there is and has been for some time a push towards reducing the number of coastal maritime telecommunications facilities. This is a matter of significant concern to our member companies. We therefore urge that support for this bill not be viewed in any way as support for the diminution of coastal telecommunications facilities and that the Committee in its Report emphasize this. It is absolutely necessary to prevent any further derogation of the existing high seas and/or coastal maritime radio systems on which virtually all vessels—large or small, private or commercial—rely for operational and safety communications.

Unlike the Senate draft, H.R. 11209 the House bill, provides that the Satellite Communications Service provided by Inmarsat may connect directly with a private communications system operated by a steamship carrier or may connect with such private system through an international communications common carrier. We strongly support this optional approach, and urge that your Committee include it in the bill. There is absolutely no reason to require that a private communications system incur the added cost of using an international common carrier to connect with Inmarsat. Conversely, there is no reason to bar private communications systems from using international common carriers where they find it economically and operationally desirable to do so.

We trust this letter will be made a part of your record, and if we can be of any further assistance to you, please let us know.

Sincerely,

ALBERT E. MAY,  
*Executive Vice President.*

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AMERICAN INSTITUTE OF MERCHANT SHIPPING,  
*Washington, D.C., May 18, 1978.*

HON. ERNEST HOLLINGS,  
*Chairman, Subcommittee on Communications, Committee on Commerce, Science, and Transportation, U.S. Senate, Washington, D.C.*

DEAR MR. CHAIRMAN: The American Institute of Merchant Shipping (AIMS) is the national association of the U.S.-flag steamship industry. Our 25 member companies own, operate or charter a substantial number of tankers, bulk and liquefied gas carriers in our nation's foreign and domestic commerce. As the representative of this important segment of maritime satellite communications users, AIMS has a substantial interest in S. 2211, implementing legislation for the International Maritime Satellite (Inmarsat) Organization.

We have strongly supported the development of satellite communications systems for our industry and participated extensively in work done by the Inter-Governmental Maritime Consultative Organization, which culminated in the convention whose implementing legislation is now being considered. AIMS is in accord with the purpose of S. 2211 to provide for an international telecommunications system for the maritime community.

As users of satellite services, we believe we are not in a position to comment on the establishment of a designated entity to represent the United States in the Inmarsat Organization or another satellite telecommunications agency. However, we do emphasize the importance of preventing any interruption of the present Marisat system services in operation today. Any future legislation

which might impact on the transition from Marisat to Inmarsat should assure continuity of service for users of these maritime telecommunication systems.

Shipowners' support for maritime satellite communications is in recognition of the fact that enhanced telecommunications capability will lead to greater management efficiency, provide for greater safety at sea and minimize the risk of marine pollution.

To better achieve the objectives of S. 2211, we urge the addition of a provision to give users of such maritime satellite services the option of interconnecting directly to the earth stations of the satellite system and the designated entity or the authorized record carriers. We believe this option will give users, large and small alike, the leverage to obtain better services, both in the application of new technology and in the development of more economically viable systems for the operation of their individual ships or fleets, than would likely be available if they are forced to rely solely upon the common carriers. Since this service must be accepted and utilized by the maritime community if it is to be economically viable, consideration of users' needs is imperative.

AIMS therefore urges prompt and favorable action by this Committee on S. 2211 with the expressed modification. We would appreciate the inclusion of this statement in the record of your hearing on this legislation.

Sincerely,

JAMES J. REYNOLDS,  
*President.*