REPORT BY THE U.S.

General Accounting Office

U.S. Preparations For An International Conference On Broadcast Satellites

Currently, the Federal Communications Commission, the National Telecommunications Information Administration, the State Department, and the National Aeronautics and Space Administration are preparing for the 1983 Regional Administrative Radio Conference on broadcasting satellite service. The international Conference will plan for the Western Hemisphere nations' implementation of broadcast satellite service.

This is a status report on the preparatory activities of the principal Federal agencies responsible for representing the United States at the Conference. The report focuses on the areas of interagency coordination, delegation selection and support, budget planning and its effects on preparatory efforts, and computer support for the Conference.

120788

GAO/RCED-83-121
MARCH 4, 1983

B-210778

The Honorable Glenn English
Chairman, Subcommittee on
  Government Information, Justice,
  and Agriculture
Committee on Government
  Operations
House of Representatives

Dear Mr. Chairman:

Your November 8, 1982 letter requested that we provide
information on technical, diplomatic, and policy preparations
taken by Federal agencies for the Regional Administrative Radio
Conference (RARC-83) to be held between June 13 and July 15,
1983. This conference will plan for the Western Hemisphere
nations' broadcasting satellite service implementation. Addi-
tionally, the conference will consider the problems of sharing
the designated broadcasting satellite service radio frequencies
with existing communications satellite services.

Broadcasting satellite service will be able to deliver
television directly to homes equipped with dish antennas or to
community antenna systems. The significance of the broadcasting
satellite service is that it will provide a signal much stronger
than previously available and is intended to make possible
smaller, less expensive receivers likely to be affordable within
most household budgets. While the Federal Communications Com-
mission (FCC) has conditionally licensed this service in the
United States, it is not available partly because international
agreement on a plan for the Western Hemisphere has not been
reached.

The information we obtained is summarized below and dis-
cussed in detail in appendixes I and II.

CONFERENCE BACKGROUND

The United States is a member of the International Telecom-
munications Union (ITU), a specialized agency of the United
Nations charged with managing the electromagnetic spec-
trum. Administrative Radio Conferences, either World (WARC) or
Regional (RARC), are held under the auspices of the ITU, as
needed, to consider communications matters. The ITU divides the

world into three regions: Region 1 includes Europe, Africa, and all of the Soviet Union; Region 2 includes North and South America; and Region 3 includes Asia and the Pacific. RARC-83 will deal specifically with planning broadcast satellite service in Region 2.

Many Government and private sector sources predict that broadcast satellite service could develop into a multibillion dollar industry in the United States by the end of the decade. U.S. officials believe that planning broadcast satellite service in detail, before the service develops, will waste orbit/spectrum space[1] and hinder technological advances. For instance, U.S. officials told us that the detailed plan implemented in 1977 for ITU Regions 1 and 3 has created a broadcasting satellite system wedded to early 1970s technology. Meanwhile, broadcasting satellite technology has steadily improved. U.S. officials say that Region 2 may be able to take advantage of these advances if the United States can convince other nations to adopt a more flexible planning approach.

However, some of the less-developed countries, those that are not now ready to utilize broadcasting satellite service, prefer detailed planning to ensure them orbital space in the future. They are afraid that if specific planning does not take place now, all of the most preferrable orbital spacing will be used up. Orbit positions and frequencies are a finite resource. Since members vote on a one-vote, one-country basis, the United States may find itself outvoted at the Region 2 Conference, which includes many less-developed countries. (See app. III for list of Region 2 countries).

Besides the issue of planning, U.S. officials say that other issues are possible sources of tension at RARC-83. Canada, whose broadcasting satellite system is most closely interrelated with our own because of geographical proximity, is currently proposing a system for itself which, if adopted,

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[1]. Orbit space--A crucial requirement for satellite communications involves the satellite's placement in orbit. Above the Earth's equator, at an altitude of 22,300 miles, is an area called geostationary orbit. A satellite placed there completes one revolution of the Earth at precisely the same rate as the Earth makes one rotation on its axis (24 hours). Thus, a satellite placed in the geostationary orbit maintains the same position relative to any point on Earth at all times. This is advantageous to communications satellites since it allows them to communicate steadily without changing position. Since this is a finite space, there is competition for slots within it.

severely limits the broadcasting satellite system proposed for the United States by the Government. Canada advocates a "prior consent" policy to programming originating on foreign soil but which beams into Canada, either purposely or by "spilling over" from the intended service area. The United States is opposed to a "prior consent" policy because it views this as a form of government censorship. (See. app. I.)

Our work concentrated on reviewing the technical, diplomatic, and policy preparations of the principal Federal agencies involved in representing the United States at the Regional Conference. We were chiefly concerned with the preparations made in these areas:

--Interagency coordination of conference preparation.

--Delegation selection, composition, and support.

--Budget planning for the conference and its effect on bilateral and multilateral conferences.

--Computer support for the conference.

INTERAGENCY COORDINATION OF CONFERENCE PREPARATIONS

There has been continuing congressional concern that the Federal agencies responsible for preparing and representing U.S. interests at past ITU conferences have not devoted sufficient time and resources to coordinating and preparing this effort. In the case of RARC-83, we found that interagency committees have helped coordinate both policy and technical preparations for the Conference. In June 1980, the State Department established a Coordinating Committee for Future Radio Conferences, which included representatives from the State Department, National Telecommunication Information Administration, and FCC. This Committee formed an initial steering group for RARC-83 preparations. In addition, the State Department has a senior-level interagency group which will review the U.S. positions developed for the Conference. (See app. I, pp. 5 to 6.)

NTIA established a working group, under the auspices of the Interdepartmental Radio Advisory Committee, a Committee under NTIA's jurisdiction. At 26 meetings, the working group discussed technical issues to be addressed at the Conference. It formed a computer user group to help facilitate computer use at the Conference and also kept representatives of U.S. Government agencies informed about individual agency preparatory activities. (See app. I, p. 7.)

In addition to these activities, individual Federal agencies have been responsible for those items which affect them most directly. For instance, FCC, which is primarily responsible for regulating domestic broadcasting satellite service and for preparing initial U.S. proposals, initiated two separate proceedings relating to broadcast satellite service--one for domestic broadcasting satellite service, and the other relating directly to preparations for RARC-83. The domestic proceeding helped FCC establish broadcasting satellite service needs for companies wishing to operate the service in the United States. The Final Report and Order from the proceeding relating to preparations for RARC-83 will set the underlying principles for the final U.S. positions for the Conference. (See app. I, pp. 7 to 9.)

FCC also established an Advisory Committee which helped integrate private sector views on broadcasting satellite service into Conference preparations. The private sector also commented on FCC proceedings, and representatives of the private sector have been nominated as U.S. delegates. (See app. I, p. 9.)

DELEGATION SELECTION AND
PREPARATION ACTIVITIES

RARC-83's Chairman was nominated by the State Department and appointed by the White House on September 17, 1982. On October 27, 1982, the delegation Chairman transmitted his recommendation for delegation members to the State Department which, in turn, transmitted the list to the White House in January. No action on the delegation list has yet been taken by the White House, but the delegation Chairman told us on March 1 that it is expected soon. (See app. I, pp. 9 to 10.)

An agreement between the State Department and FCC has provided for the delegation Chairman's continued employment by the FCC from October 1, 1982, through August 31, 1983. Compensation and benefits for the Chairman and his two staff members plus travel, office space, and telephone for the period were estimated at $156,973. The State Department has transferred $100,000 to FCC toward these expenses.

Although private sector delegates fund themselves, the State Department partially funds delegates from U.S. Government agencies. A February 23 agreement between the State Department and FCC resulted in the State Department's funding expenses of FCC delegates to RARC-83. The Department will also fund several other Government delegates. In return, FCC will pick up the conference-related computer hardware expenses--both in Washington and Geneva.

Of the 32 nominated U.S. delegates for RARC-83, 16 are Government employees, including 10 from FCC, 2 from NTIA, 2 from the State Department, and 2 from NASA. Two of the nominated delegation vice-chairmen come from the private sector, although one will be on a consultant contract to NTIA. The conflict of interest laws concerning official representation of U.S. positions by private sector delegates to telecommunications conferences have recently been changed, and the laws' implementation is still being worked out by the State Department. (See app. I, pp. 11 to 13.)

BUDGET PLANNING

Each Federal agency, for the most part, funded Conference activities important to its own responsibilities. Although the State Department and FCC agreed to jointly fund the delegation Chairman and his staff, (both from FCC), funding for other preparatory activities was not formally coordinated in advance among the agencies. A National Aeronautics and Space Administration official involved in the preparations said that this made overall planning difficult because no one was ever sure of what agency, if any, was responsible for funding a given activity. (See app. I, p. 13.)

Agency officials told us they had difficulties planning budgets for future conferences because the preparatory activities necessary for these were uncertain, and the present budget-cutting mood encouraged concentration on concrete activities. (See app. I, p. 14.)

PREPARATORY INTERNATIONAL MEETINGS
AND COMPUTER SOFTWARE SEMINAR

Many U.S. Government and private sector officials agree that most of the necessary technical negotiations should take place before the Conference begins. In addition, U.S. officials say good interpersonal relationships between U.S. delegates and delegates from other countries eases conference work. To facilitate technical agreement and interpersonal understanding at the Conference, emphasis has been placed on a series of bilateral and multilateral conferences. These conferences have been particularly important with Canada because its broadcast satellite system will most affect our own, primarily because of geographical location.

A multilateral seminar which might enhance both technical and interpersonal relationships is presently in doubt because of funding and scheduling difficulties. This seminar would demonstrate to the delegates from the other Western Hemisphere nations the computer software which has been developed for the

5

Conference to illustrate alternative broadcast satellite sce-
narios. According to FCC's Chief, Technical Analysis Division,
the software is presently not particularly "user friendly,"
i.e., delegates may have difficulties using and analyzing the
programs. The Chairman of the delegation said he is working
with the State Department and FCC to determine the best time and
place for the computer seminar.

OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this review was to provide the subcommit-
tee a status report on the preparatory activities of the princi-
pal Federal agencies responsible for representing the United
States at RARC-83. We concentrated on the activites of FCC, the
State Department, NTIA, and NASA. In addition, we reviewed the
activities of a private sector advisory group which reported to
the FCC, and the organization of several multinational commit-
tees to evaluate where they fit into conference preparation. We
did not evaluate broader policy issues involved in broadcast
satellite service, either domestically or internationally, such
as the importance of flexible planning as opposed to detailed
planning. In addition, we did not reach conclusions on the ade-
quacy of conference preparations, either by one particular Fed-
eral agency or by the many Federal agencies involved.

This review was performed in accordance with generally
accepted government audit standards. Our work was conducted at
FCC, NTIA, the State Department, and NASA headquarters in Wash-
ington during the period December 1982 through February 1983.
Information in this report was developed through discussions
with agency officials and our review of related agency docu-
ments. We reviewed legislation concerning responsibilities for
international conferences, agency budgets, and reports prepared
by the Office of Technology Assessment, Congressional Research
Service, and the Subcommittee on Government Information and
Individual Rights, House Committee on Government Operations. In
addition, we attended a meeting of the Advisory Committee, three
meetings of the RARC-83 delegation, and technical seminars pre-
pared by FCC on the broadcasting satellite service.

We have not obtained official agency comments on informa-
tion contained in this report. However, we have discussed the
factual content of the report with the delegation Chairman.

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As arranged with your office, unless you publicly announce
the contents of this report earlier, no further distribution
will be made until 7 days from the date of the report. At that
time, we will send copies to the Chairman, Senate Committee on

Commerce, Science and Transportation; Chairman, Subcommittee on
Communications, Senate Committee on Commerce, Science and Trans-
portation; Chairman, House Committee on Energy and Commerce; and
the Chairman, Subcommittee on Telecommunications, Consumer Pro-
tection and Finance, House Committee on Energy and Commerce;
Senate Committee on Foreign Relations; and the House Committee-
on Foreign Affairs. We will also send copies to interested
parties and make copies available to other on request.

Sincerely yours,

J. Dexter Peach
Director

Contents

ABBREVIATIONS

BSS   broadcasting satellite service
FCC   Federal Communications Commission
IRAC   Interdepartmental Radio Advisory Committee
ITU   International Telecommunications Union
NASA   National Aeronautics and Space Administration
NTIA   National Telecommunications and Information
         Administration
NOI   Notice of Inquiry
RARC   Regional Administrative Radio Conference
WARC   World Administrative Radio Conference

U.S. PREPARATIONS FOR RARC-83

A Regional Administrative Radio Conference (RARC-83) for Region 2 will be held in Geneva, Switzerland, between June 13 and July 15, 1983, to plan the new broadcasting-satellite service (BSS).[1] Additionally, the Conference will consider problems of sharing designated BSS radio frequencies with existing fixed satellite service. U.S. domestic regulatory policies will be critically affected by the Conference outcome because it will establish the technical rules for BSS service throughout Region 2--the Western Hemisphere.

At RARC-83 the United States is faced with the prospect of a majority of Region 2 countries (see list in appendix III) voting for a rigid orbital position and frequency plan, which differs from the more flexible and evolutionary planning system which the U.S. has traditionally preferred. In addition, U.S. interests are affected by such issues as "spillover" and "prior-consent,"[2] which may also surface at the Conference. A private sector delegate nominee said that the technical and policy issues involved in RARC-83 underscore the need for the United States to identify justifiable BSS requirements, and analyze specific strategies and options in order to maximize its position at the Conference.

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[1]FCC uses the term direct broadcast satellite (DBS) when discussing domestic policy matters and BSS with regard to international frequency allocation matters, in particular with reference to the Table of Frequency Allocations. This report uses the term BSS because it is the international term for the service.

[2]"Spillover" refers to those transmissions that can be received by areas bordering the intended reception area. At this time, BSS technology has not been perfected to the point where it is possible to contour the broadcast beam finely enough to prevent the signal from "spilling over" into adjacent countries. In addition, Canada advocates a policy of "prior consent," which would allow receiving nations to exercise some control over the content of broadcasting services available to its citizens. The United States argues against "prior consent" and supports minimal regulation of the program content transmitted by BSS.

CONFERENCE BACKGROUND

The United States is a member of the International Telecom-
munications Union (ITU), a specialized agency of the United
Nations, charged with managing the electromagnetic spectrum.
The Administrative Radio Conferences--either World (WARC) or
Regional (RARC)--are held under the auspices of the ITU to con-
sider communication matters. For instance, WARC-79 was held to
reach global agreement concerning the international arrangements
necessary for efficient and interference-free use of the radio
spectrum. Its agenda included most of the major arrangements
relating to the use of the radio spectrum. RARC-83, on the
other hand will deal specifically with technical planning of
Region 2 BSS. The ITU divides the world into three regions:
Region 1 includes Europe, Africa, and all of the Soviet Union
(including Mongolia); Region 2 includes North and South America;
and Region 3 includes Asia and the Pacific.

Three major suborganizations of the ITU are: the Inter-
national Telegraph and Telephone Consultative Committee, which
studies and issues recommendations on technical, operating and
tariff questions relating to telegraphy and telephony; the
International Radio Consultative Committee, which does the same
for radio communication; and the International Frequency Regis-
tration Board, which has responsibility for recording frequency
assignments made by countries and coordinating them in a manner
consistent with the International Radio Regulations. The Board
also provides analysis and expert assistance to countries in re-
solving competing demands involving spectrum use. Countries are
not bound by their recommendations.

The General Secretariat of ITU is concerned with the
organization's administrative and financial aspects. It sup-
ports the activities of the three groups described above and
administers ITU's development assistance program.

ITU is responsible for allocating the spectrum to provide
for interference-free operation of the radio services throughout
the world. ITU does this by allocating frequency bands[3] at

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[3]All light and radio energy travels through space in waves of
various frequencies which are separated into an electromagnetic
spectrum by their wavelengths and frequencies. The spectrum is
arranged into groups of frequencies called "bands."

world and regional administrative radio conferences. For
instance, at WARC-79, a decision was reached to reserve the
11.7 - 12.7 gigahertz[4] (GHz) band for satellite services,
including both BSS and fixed communications satellites. BSS
will operate in the 12.3 - 12.7 GHz band. As we have noted
previously the Region 2 Conference will be principally concerned
with the planning of the BSS and will consider sharing of
designated BSS radio frequencies with existing fixed satellite
service.

United States preparations for the Conference on BSS
involve many actors, agencies and/or groups of varying
involvement and responsibility. While this report will attempt
to shed some light on the roles these groups have played in the
preparations, our limited study is not intended to be definitive
or final in stating the exact influence or contributions these
participants have had in the process. Rather, we have attempted
to identify them and highlight some of their activities, both
completed and ongoing.

U.S. Government agencies
involved in RARC-83

The principal Federal agencies involved in the RARC-83 Con-
ference are the Federal Communications Commission (FCC), the
National Telecommunications and Information Administration
(NTIA), the Department of State, and the National Aeronautics
and Space Administration (NASA).

The Communications Act of 1934 created FCC and gave it
responsibility and authority to regulate non-Government telecom-
munications. This includes spectrum management and the
licensing of radio facilities except those operated by the
Federal Government. The 1934 act gave the President responsibi-
lity and authority over spectrum management and operation of
radio facilities of the Federal Government--both civil and mili-
tary. The President has delegated management of the spectrum's
Government usage to NTIA, aided by its Interdepartmental Radio
Advisory Committee (IRAC), which assists in developing the

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[4]The electromagnetic spectrum can be considered in two parts:
 radio and light. The radio frequency spectrum is the range up
 through 275 gigahertz (1 GHz equals 1 billion cycles per
 second). It is more commonly referred to as radio waves and is
 used for services such as commercial radio and television.

Nation's Table of Frequency Allocations, assigning frequencies to stations operated by the Federal Government, and other spectrum management functions. The Advisory Committee consists of representatives of the major Government agencies making use of the spectrum and includes a liaison representative from FCC. NTIA's responsibility for coordinating "plans, policies, and programs which relate to international telecommunications issues, conferences and negotiations" stems from Executive Order No. 12046 of March 27, 1978.

The Department of State, in concert with its lead responsibility for the conduct of U.S. foreign policy, oversees U.S. delegations that negotiate with foreign governments at conferences called by the ITU. Other bilateral or multilateral dealings with foreign countries about spectrum management matters come under the general province of the State Department.

NASA has a statutory responsibility to assist FCC and other Government agencies in the field of space communications. Following the establishment of the international regulations governing the use of radio frequencies, NASA is also responsible for advising and assisting NTIA and FCC throughout the process of determining the domestic allocations that affect satellite communications.

Private sector interest

BSS will be used primarily by the private sector. Service providers are affected by RARC-83 since, in all cases, BSS construction grants authorized by FCC are conditioned upon Conference outcome. In addition, BSS users will be affected by Conference decisions on such matters as type of service, service areas, and number of channels available. The private sector has provided input to the policymaking process through comment on FCC proceedings, service on the FCC private-sector Advisory Committee, and now on the Conference delegation.

INTERAGENCY COORDINATION OF PREPARATIONS

U.S. Government officials have been questioned in the past at congressional hearings about the effectiveness of interagency coordination on international telecommunications policy matters. In the case of RARC-83, most top-level personnel involved told us that a combination of a policy steering committee organized by the State Department, a more technical preparatory group established by IRAC and chaired by NTIA, plus regulatory

4

and procedural preparations organized by FCC have been quite
effective. In addition, several of the nominated delegates,
including three of the delegation's vice-chairmen, have attended
the 1977 and/or 1979 WARC Conferences. These nominated
delegates provide a continuity of relationships and a
preexisting network for informal interagency coordination.

State Department conference
coordinating groups

Shortly after WARC-79, when the State Department saw that
there would be a heavy ITU conference schedule during the 1980s,
the International Communications Policy Office at the State
Department formed the Coordinating Committee for Future Radio
Conferences. This met for the first time in June 1980 and
throughout the early period of Conference preparations for
RARC-83 until September 1982. It included representatives from
the State Department, NTIA, and FCC. Meetings stopped when
participants became involved in preparations for a general ITU
session and for RARC-83. The meetings are to resume this month.

The State Department official on the coordinating committee
said the committee, consisting of agency officials most involved
in the day-to-day preparatory Conference work, had planned to
meet every six weeks. He said that at least part of the group
met almost weekly to monitor progress during the early
preparations for RARC-83. In essence, they acted as an initial
informal steering group. For instance, the coordinating
committee decided that the bulk of U.S. proposals and positions
for RARC-83 should be formulated by FCC, because BSS was
essentially a private sector service in the U.S. which FCC would
be regulating. According to the State Department officer, the
Committee also discussed responsibility for funding preparations
in a general way, but worked on the assumption that agencies had
individual interests which they would pursue. According to a
written statement of its purpose, the coordinating committee
works on U.S. preparations for upcoming ITU conferences by
providing overall coordination, defining U.S. objectives,
developing strategies, and assuring timely preparations of U.S.
positions.

Beyond the day-to-day work and coordination done in the
Coordinating Committee, a senior-level Interagency Group on
International Communications and Information Policy coordinates
and approves administration policy in this field. It is headed
by the Under Secretary of State for Security Assistance, Science

and Technology. However, in regard to RARC-83, the executive
secretary of the group said that no issues have been brought to
the group for decision. He noted that the senior-level
Interagency Group would make decisions and coordinate only if a
problem could not be resolved at a lower level. For the four
Interagency Group meetings in 1981 and 1982, RARC-83 was listed
on the agenda once for a status report. The Interagency Group
is expected, however, to consider the final U.S. proposals and
positions for RARC-83 as a major action item before the
delegation leaves for the Conference. Although the Under
Secretary makes the final decision, the executive secretary for
the Interagency Group said the senior-level group would review
final U.S. proposals and positions.

Coordination of policy in this area has been the subject of
repeated congressional attention in the recent past because the
Congress was concerned about alleged insufficient coordination
between the State Department and other agencies involved in
telecommunications policy. Over a year ago, the State
Department, to facilitate coordination, created a new
position--Coordinator for International Communications and
Information Policy--reporting to the Under Secretary. The
person that will fill the position is to be given ambassadorial
rank, but has not yet been finally approved. The executive
secretary to the Interagency Group, who is also a special
assistant to the Under Secretary, has served as the past
coordinator. He reports that the candidate for the post is
being processed by the White House.

The RARC-83 delegation's vice-chairman from the State
Department said that the new coordinator-designate, although not
confirmed as ambassador, is on board the Under Secretary's staff
at the State Department. According to the vice-chairman, the
designate is now acting as head of the "home team" for the
February-March 1983 Mobile Services WARC and is expected to act
in the same capacity for the RARC-83. The home team consists of
a recognized group of advisors, with a
broad-based body of expertise to support the U.S. delegation
during the actual meeting in Geneva. Its purpose is "to ensure
a high level of awareness of emerging conference decisions with-
in the telecommunications community which will facilitate post-
conference activities." Any modifications of the delegation's
instructions on U.S. positions while at the Conference must be
coordinated through the home team and finally approved by the
Under Secretary.

Establishment of IRAC working group

On March 11, 1980, Ad Hoc Group 177 on the Region 2 Broadcasting Satellite WARC was established by the IRAC. At the same time it also established Ad Hoc committees to develop recommended U.S. proposals for the 1983 Mobile Conference, the 1984 High Frequency Broadcast WARC, and the 1985 Space WARC. An NTIA official was named Convener of Ad Hoc 177, with participants from the Army, FCC, NASA, Navy, the National Security Agency, and the State Department.

Ad Hoc Group 177 met a total of 26 times between June 13, 1980, and July 15, 1982, when meetings ceased because the Convener was out of the country at the ITU Plenipotentiary Conference.[5] In addition, Ad Hoc 177 developed a computer user group which met to discuss computer preparations for the RARC Conference. Staff involved in the computer program used the group to resolve some of their problems. Ad Hoc Group 177, one of the chief coordinating mechanisms for RARC, kept representatives of U.S. Government agencies informed about individual agency preparatory activities. Agenda items included reports on bilateral discussions with Canada, discussions of International Radio Consultative Committee activities in preparation for the RARC, and Organization of American States/ Inter-American Telecommunications Conference (OAS/CITEL) preparatory efforts for the 1983 RARC. Ad Hoc 177's Convener told us that the title "Ad Hoc" was misleading--the committee met regularly and systematically prepared for the Conference until mid-summer 1982. A NASA representative to Ad Hoc 177 said the group had "carried the ball" during the preparatory stages.

FCC preparatory efforts

Almost simultaneously with the initiation of the IRAC Ad Hoc Group, FCC began two separate proceedings related to BSS matters. FCC stated that the results of these would serve as a basis for FCC's coordination with NTIA and the State Department in formulating U.S. proposals to the Conference.

On July 25, 1980, FCC released a Notice of Inquiry under General Docket No. 80-398, requesting public comment on the BSS in preparation for RARC-83. This Notice requested comments on

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[5]The Supreme body of the ITU that has the power to amend or revise the ITU convention.

such areas as Basic Service Requirements, Technical
Specification and Sharing Criteria, and Planning Principles and
Procedures which were to help establish U.S. positions at
RARC-83.   Two more Notices under Docket No. 80-398 were
released, one on June 15, 1981, and one on April 20, 1982.   The
second Notice attempted to develop preliminary positions on some
of the issues as appropriate by addressing the same issues
discussed in the first Notice.   The third Notice requested
additional comments on the first two Notices.

FCC is expected to release a Final Report and Order on
Docket No. 80-398 in March 1983.   After the release of the
Report and Order, the RARC-83 delegation will write U.S.
position papers for the Conference.   These will be submitted to
the State Department for final clearance.

On October 29, 1980, FCC began considering domestic
policies for BSS with a Notice under General Docket No. 80-603.
In distinction from Docket 80-398, this docket is a purely
domestic regulatory docket regarding regulation of BSS service
within the United States.   The Notice requested comment on
questions dealing with permanent regulatory policies and
questions dealing with regulatory policies for the interim
period prior to the 1983 RARC.   On June 1, 1981, FCC released a
Proposed Policy Statement and Rulemaking in which it set forth
proposed policies and conditions to govern the authorization of
interim BSS services, and accepted the Satellite Television
Corporation's (STC's) application requesting authority to begin
constructing satellites for a satellite-to-home video
broadcasting system.   FCC invited additional applications within
45 days.

FCC accepted seven additional applications on November 3,
1981, and on July 14, 1982, established interim rules and
procedures for BSS.   On October 13, 1982, FCC authorized STC to
construct two satellites.   In a Memorandum, Opinion and Order,
FCC said that although it would grant construction permits only
for the first phase of each approved system, it would consider
and act upon the entire system proposed by each applicant
because

> "* * *the approval of entire systems enables the
> Commission to formulate definitive DBS proposals that
> can be used by the U.S. delegation to the RARC-83
> conference to present cogent and realistic arguments
> for the full accommodation of U.S. needs."

On November 4, 1982, FCC granted construction permits to the
remaining seven applicants. FCC conditioned all construction
grants upon the outcome of RARC-83 so that U.S. BSS service
conforms to international standards.

Formation of the Advisory Committee

In addition to Docket No. 80-398, requesting public comment
on the BSS in preparation for RARC-83, FCC, in February 1981,
ordered the establishment of an Advisory Committee to assist in
major areas of Conference preparation. The Advisory Committee
was established in conformity with Public Law 92-463, also known
as the "Federal Advisory Committee Act." The Committee reported
to the FCC Chief Scientist.

FCC designated the Chairman of the Advisory Committee and
also designated three subgroups and subchairmen. Each subcom-
mittee divided itself into specialized working groups, from two
to five per subcommittee. Some 20 individuals led these working
groups as chairmen and vice-chairmen, and more than 100 persons
participated in the work. In forming the Advisory Committee,
FCC made membership "open" to all interested parties. In
addition, FCC invited all those who commented in the Notice to
participate in the work of the Committee, since FCC believed
that the comments "reflect a balance of views on the
controversial issues to be addressed." Based on listed
affiliations, almost all Committee members appear to be from
corporations interested in delivering or building DBS systems,
rather than user or public interest groups.

DELEGATION SELECTION AND
PREPARATION ACTIVITIES

Although responsibility for the nomination of the Chairman
of the U.S. RARC-83 delegation rests with the State Department,
there was general consensus among senior-level agency represen-
tatives of FCC and the State Department on a nominee. State
Department officials said that the nomination of former FCC
Commissioner Abbott Washburn resulted, at least in part, from
the recommendation of the current FCC Chairman.

The State Department announced the delegation Chairman's
appointment on September 17, 1982. The appointment has been
nominated for "personal rank" of ambassador by the White House.
The nomination went from the White House to the Senate on
January 28, 1983, and took effect March 2. Personal rank of

ambassador is granted by the President for a 6-month period.
An Interagency Agreement between the State Department and FCC
has provided for the delegation Chairman's continued employment
by the FCC from October 1, 1982 through August 31, 1983.
Compensation and benefits for him and his two staff members plus
travel, office space, and telephones for the period were
estimated at $156,973. The agreement between agencies provided
that State would transfer $100,000 to FCC towards these
expenses.

On October 27, 1982, the Chairman of the RARC-83 delegation
transmitted his recommendation of delegation members to the
Office of International Communications Policy in the State
Department's Bureau of Economic and Business Affairs, which is
the lead substantive office there for ITU conferences. The
Chairman's recommended list had been coordinated with FCC and
NTIA staffs and had their support for approval. The Bureau of
Economic and Business Affairs sent the nomination list to the
Office of International Conferences under the Bureau of
International Organization Affairs on December 13, 1982. The
list of nominees was sent to the White House in January 1983 for
approval. Final approval had not been given as of March 1,
1983.

Although the lack of White House approval of the delegate
nominee list has caused some uncertainty among nominees, there
is no indication that the approval process for this Conference
is any different than that for other conferences. In fact,
because of the early appointment of the delegation Chairman and
his subsequent recommendation for delegation nominees, FCC and
State officials said the situation was better than other
conferences.

The Department of State's Office of International
Conferences (OIC) recommends or approves the composition of
U.S. delegations and assures they are appropriately instructed
and accredited in consultation with other areas of the
Government or State Department. OIC will fund only a limited
part of the delegation--what is deemed essential U.S.
participation--from the appropriation allocated for this
purpose, subject to the availability of funds. Private-sector
delegates and the other Government delegates must be funded from
their own businesses and agencies, respectively.

Delegation support

OIC also funds delegation support, to an extent, providing specialized support personnel, communications lines, and computer and office equipment for the duration of the Conference session this June and July. OIC's Director said that, normally, his office will fund only 50 percent of the delegates. Exactly who and what will be funded is discussed and agreed on with the lead office in the State Department.

As of mid-February, the Government nominees to the RARC-83 delegation were still uncertain over whether they would be funded by the OIC or whether they would have to seek funding from their own agencies. A delegate from NASA, for example, said he was uncertain if he would be able to attend the Conference because of his own agency's lack of funds, while the State Department Vice-chairman of the delegation told us the particular delegate would have no problems receiving State Department funding.

According to the participants, State Department funding of delegation support items for the six-week Conference in Geneva was settled at a February 23 meeting of the State Department, FCC and the delegation Chairman. The January 11, 1983, request from the delegation Chairman listed the following needed facilities: (1) existing offices and equipment in the U.S. Mission in Geneva; (2) a meeting room for the U.S. delegation at the Conference site; (3) communications circuits in Geneva and between the U.S. mission there and the FCC; and (4) computer terminals at the mission and Conference site, plus printers and related equipment. In mid-February, the State Department Vice-chairman of the delegation said that the State Department had committed about $135,000, for both communications/equipment needs and for the Conference travel expenses of a portion of the delegation. He said after the February 23 meeting that the $135,000 figure was probably low but the exact amount depends on final arrangements and currency exchange rates. The FCC delegation member acting as liaison for delegation support requirements said in mid-February that the lack of final a decision at that time made delivery of needed equipment uncertain. Equipment was reportedly ordered by FCC just before the funding agreement was reached to allow time for testing and shipping to Geneva for the Conference. The delegation Chairman said the February 23 agreement resulted in the State Department funding expenses of all FCC delegates and FCC's commitment to pay for Conference-related computer hardware expenses--both in Washington and Geneva.

Delegation composition

OIC guidelines prepared for the information of offices with lead reponsibilities in the formation of delegations point out that each accredited delegate represents the U.S. Government and not a particular agency or bureau. They require justifications for each nominated delegate's attendance at the conference, giving their precise role and contribution. The guidelines also call for delegations that "fairly reflect the composition and diversity of American society, and include women and minority groups whenever possible."

The accredited delegate nominees for RARC-83 come mainly from the technical field in Government and the private sector. Of the 32 accredited U.S. delegate nominees for the RARC-83, 16 are Government employees including 10 with FCC, two with NTIA, two with the State Department, and two with NASA. One woman, the legal assistant to the delegation's Chairman, is included among the 32 nominees. Although not submitted by the State Department with the rest of the delegation nominations, at least two more State Department personnel are expected to be nominated to the delegation as political/policy advisers. Based on a review of affilations listed in the nomination transmittal letter, 10 of the 16 private-sector delegates, including one of the private-sector Vice-chairmen, are affiliated with one of the eight U.S. companies that have been conditionally licensed by FCC to provide the direct broadcast satellite service. One other private-sector delegate is employed by a satellite manufacturer.

One of the private nominated Vice-chairmen, who is especially designated for technical responsibilities, is employed by RCA American Communication, Inc., a subsidiary of RCA Corp., one of the approved DBS applicants. His role as a leader of the delegation and likely spokesperson for the U.S. delegation at Geneva means that the recently amended section of the U.S. code must apply. Section 120 of Public Law 97-241, dated August 24, 1982, states that conflict-of-interest statutes do not apply to a private-sector delegate to an international telecommunications conference who is designated to speak for or represent the United States in such meetings. However, the new section requires that the Secretary of State or his designee certify that no Government employee on the delegation is as well qualified to represent the United States. The designated delegate must file a financial disclosure report required for special Government employees.

The Office of the Delegation Chairman filed the request for the designation of the RARC-83 private-sector Vice-chairman as a spokesperson and no action was taken by the State Department on the request as of late February. The nominated delegation Vice-chairman from the State Department said that since the provision was new, its implementation was still being worked out. He said that the ability of the private-sector Vice-chairman to act as spokesman was not extremely important because in the past, Government delegates have been available to fill that role when needed.

Another instance where the designation and certification provision will possibly have to be used is in regard to another Vice-chairman of the delegation. The nominated Vice-chairman from NTIA left Government employment in February to become a consultant. NTIA contracted him as a part-time expert to continue in his role as Vice-chairman of the RARC-83 delegation. As of late February, both he and the legal assistant to the delegation Chairman were unsure of the Vice-chairman's status on the delegation in his new role as a private contractor with NTIA. The delegation Chairman acknowledged that the NTIA Vice-chairman may need to be processed under section 120 depending on written clarification from NTIA and a decision by the State Department. The NTIA Vice-chairman commented that, although the legal exemption was to have facilitated private sector participation in conferences, it seems now to have complicated it even more.

BUDGET PLANNING

In regard to budget planning to fund the current work, we were unable to identify any formal coordination among agencies involved in the preparations for RARC-83. A NASA official involved in the RARC preparations told us that he had suggested that a high-level meeting be held between interested agencies to divide responsibilities and expenses for the Conference, but this had never taken place. Each agency remained responsible for funding areas which it considered important to its own responsibilities. The same NASA official said that this made overall planning difficult because no one was ever sure of what agency, if any, was responsible for a given activity.

At the State Department, the Office of the Under Secretary and the Office of International Conferences both maintain that their role in funding is for the actual conferences and delegations only and not for the preparatory work. The special

assistant to the Under Secretary noted that the head of the
RARC-83 delegation was chosen early and funded by the State
Department. The Department even funded its own representatives
on preparatory bilateral meetings, but he noted that agencies
typically pay for their own preparatory work and travel. He
acknowledged that coordination and advance planning for funding
computer support is a problem in the preparatory stage and at
the Conference itself. He said that the State Department, FCC,
and NTIA should identify needs early, and one of them should
assume the costs. If a debate arises, then it could come to the
senior-level Interagency Group.

The OIC Director said that in the fiscal year 1983
appropriation for International Conferences and Contingencies, a
total of $489,000 is for conferences under the auspices of ITU.
The Director could not provide us with any further breakdown for
individual conferences. He noted that the budget planning for
conferences is inexact because many of them are scheduled on
much shorter notice than RARC-83.

A number of officials involved in preparations for RARC-83
pointed out the difficulty of foreseeing exact conference needs
for incorporation into agency budgets 2 years ahead of time.
They remarked on the tendency for expenses with soft justifica-
tions to get cut in the budget process and a general austerity
approach in Government spending recently.

For instance, the Associate Managing Director, FCC, told us
FCC was on a continuing resolution through September 1983, which
funded FCC at approximately the same level as that of 1982
($79,817,000 for 1983, $79,900,000 for 1982). He said that when
preparations for the 1983 budget had begun in 1981, the Office
of Management and Budget had asked for a reduction-in-force of
300 people at FCC. This proposal did not encourage managers to
ask for additional funds. Indeed, he said that the "uncertainty
that is built into the budget climate does not assist long-range
planning."

FCC's International Telecommunications Adviser, a Vice-
chairman of the delegation to the RARC-83 Conference told us
that it was almost impossible to plan for conference prepar-
ations outside of travel and living expenditure costs for the
conference itself. He said that it is impossible to predict the
number of bilateral and multilateral meetings or the amount of
funding that would be needed in time for the budget-planning

cycle in such areas as computer support. For instance, he said that for the 1981 AM Broadcasting RARC, the International Frequency Registration Board (IFRB) had committed itself to computer help during the Conference. But by the second phase of the Conference IFRB withdrew its offer, and FCC had to generate funds for the computer support. He also said that within the present budget-cutting mood, budget requests have concentrated on firm, concrete activities, rather than allowing for nonspecific contingency activities.

NASA is also experiencing funding difficulties. For instance, one of its two delegates to RARC-83 presently has no travel funds for attending a meeting of the Organization of American States/Inter-American Telecommunications Conference, which will discuss BSS matters.

PREPARATORY BILATERAL
AND MULTILATERAL MEETINGS

Several participants in RARC-83 preparation have said that U.S. delegations to ITU conferences have traditionally been well-prepared technically, but politically unprepared to operate in a one-country, one-vote forum. Two officials from the communications companies which have received construction authority from FCC to build BSS satellites said that negotiations must take place before the Conference, not while the Conference is in session. The Director, Spectrum Planning Staff, NTIA, said he had noticed that there had been insufficient rapport between the U.S. delegations and foreign delegations at the WARC-77 Conference. He thought that this had worked negatively for U.S. interests. He said that for RARC-83, it would be helpful for the United States to emphasize bilaterals and to make good presentations at the both the upcoming CITEL meeting and a scheduled computer seminar.

A series of bilateral and multilateral meetings have taken place in preparation for RARC-83, although no overall master plan exists for these. Both FCC and NTIA officials emphasize that one of the keys to Conference success is that the United States and Canada agree beforehand on orbital allotments and planning because their BSS services are directly adjacent to each other. Both the United States and Canada are formulating separate BSS plans and, if not coordinated, one plan may preclude the other. In addition, officials from involved agencies agree that it is important to demonstrate to the other

Region 2 countries before the Conference that the overall plan proposed by the United States provides for their BSS requirements.

Five bilateral meetings have been held with Canada specifically concerning preparation for RARC-83. Several other meetings were held in Canada sponsored by the ITU, and/or CITEL. A meeting of the CITEL group in May 1981 adopted a resolution asking that a Panel of Experts be formed to prepare for the RARC Conference. The Panel of Experts met three times during 1981-82. Its final meeting is scheduled for March 1983. Meetings of the Panel of Experts take place at ITU headquarters in Geneva, Switzerland. Panel of Experts meetings include delegates from many Region 2 countries. For instance, the third Panel of Experts meeting included delegates from Argentina, Brazil, Canada, Cuba, the United States, Mexico, Panama, and Venezuela. At Panel of Experts meetings, papers on technical BSS matters are discussed and then reports prepared for the home countries.

Still planned is a bilateral meeting between the United States and Mexico and the fourth meeting of the Panel of Experts in March 1983. An April meeting of CITEL and an IFRB-sponsored Information Seminar to demonstrate computer software are planned. At the time this meeting was scheduled, it was thought that the computer demonstration meeting would be held in April, immediately before the CITEL meeting, so that delegates could attend both meetings for the price of one trip.

There is some question as to when the CITEL meeting will take place and whether the seminar will take place at all. The Vice-chairman of the delegation from the State Department told us that the Panel of Experts scheduled the software seminar before ascertaining whether the ITU could fund it. It appears that the ITU would have to assess its members separately for the costs of such a seminar. The State Department is presently checking the status of the ITU budget, and the timing of the CITEL meeting to see if such a seminar is possible. A NASA official active in establishing the seminar explained that the seminar was important to describe to administrations of Region 2 the computer programs and facilities available for use at RARC-83 so that they will know their capabilities and limitations and how to interpret the results.

COMPUTER SOFTWARE DEVELOPMENT

The Director, Spectrum Planning Staff, NTIA, told us that
at the first meeting of the Panel of Experts, a great reliance
on computers at RARC-83 was recognized. The United States
offered the Spectrum Orbit Utilization Program (SOUP) for use of
the Conference to analyze interference between satellites and
interference between satellites and earth stations. SOUP is an
information system which has been maintained and modified by
NASA since the early 1970s.

The Director, Spectrum Planning Staff, NTIA, said that the
U.S. Government is concerned about a priori planning--it wants
to avoid the rigidities that were built into the Regions' 1 and
3 plans at WARC-77 and is looking for alternative ways to plan
Region 2. He said that computer analysis is the driving impetus
to flexible planning approaches because it is possible to run
accurate and reasonably fast alternative scenarios on the
computer.

The chief contractor for developing and modifying the
original SOUP program to be responsive to BSS needs has been
NASA, which allocated approximately $730,000 to an outside con-
tractor, Operations Research, Inc., for communications
satellite systems modeling and planning. In addition, NTIA
transferred $200,000 to NASA to (1) further develop SOUP for BSS
applications and (2) help develop computer routines that are
being primarily developed by other countries.

Although most of the SOUP development work is completed,
work remains to be done on adapting the program so it will be
more "user friendly", i.e., so that delegates sitting at termi-
nals can access needed information in a timely and understand-
able fashion. SOUP was not originally designed to work on
interactive terminals.

On October 12, 1982, the Chief, Technical Analysis Divi-
sion, FCC, identified the need to obtain contractual support to
provide training material and classroom training in the broad-
cast satellite planning process. On February 15, 1983, the
Assistant to the Chief, Technical Analysis Division, told us
that the quick response tools and training materials had not
been developed because of lack of funding, although some
training for U.S. delegates would begin in about a month.
Delegates from other countries would not receive computer
training and therefore he thought a computer manual would be
helpful at the Conference.

Disagreement has arisen over the importance of the United States having easily accessible scenario information for delegates from other Region 2 countries to use. The legal assistant to the delegation Chairman said that, to meet our requirements, we have to demonstrate that we can meet everyone's needs. She said that the United States wants to be able to share knowledge by allowing our own delegates and others to access information from U.S. computers. She said it would be a great "selling point" for the U.S. position if it could offer foreign delegations "hands-on" experience.

The Associate Managing Director for Operations at FCC said that although the SOUP program was not as "fine-tuned" as it might be, there was a limit to the funds that could be expended on any one project. The Deputy Associate Administrator, NTIA, suggested that work should begin now to adapt programs for easier use at the 1985 Space WARC. He thought that some dele- gates to RARC-83 would have difficulties utilizing the SOUP program.

CHRONOLOGY
PREPARATIONS FOR RARC-83 ON BSS CONFERENCE

March 1980	Establishment of IRAC Committee Ad Hoc Group 177 on BSS.
June 1980	First meeting of State Department Coordinating Committee for Future Radio Conferences.
June 1980	First of 26 Ad Hoc 177 meetings through July 1982.
July 1980	First Notice of Inquiry under General Docket 80-398 requesting comment on BSS in preparation for RARC-83.
September 1980	U.S./Canadian Bilaterals-formal and informal meetings concerning preparations for RARC-83.
October 1980	First Notice of Inquiry-Docket 80-603 Inquiry into domestic regulatory policy in regard to direct broadcast satellites for the interim period before RARC-83.
December 1980	FCC receives application from Satellite Television Corporation for permission to construct a broadcasting satellite system.
February 1981	FCC orders the establishment of an Advisory Committee to assist in RARC preparations.
April 1981	First meeting of Advisory Committee on RARC-83.
May 1981	ITU/Canada/Inter-American Telecommunications Conference (CITEL) sponsored BSS seminar.
May 1981	CITEL meeting: adopted resolution asking that Panel of Experts be formed--later adopted by ITU Administrative Council.
June 1981	Docket 80-603 Release of Proposed Policy Statement and Rulemaking set forth proposed policies and conditions to govern the authorization of interim DBS service, accepted STC application for filing, invited additional applications within 45 days.

June 1981	Second Notice of Inquiry on RARC-83 (Docket 80-398).
August 1981	First meeting of Ad Hoc 177 computer user group.
September-October 1981	International Radio Consultative Committee (CCIR) Study Group 10 and 11 meeting followed by meeting of CCIR interim working party No. 10-11/2 which is the CCIR group that is preparing for RARC-83.
November 1981	FCC Docket 80-603-FCC accepts additional 7 applications for BSS.
November 1981	First ITU Panel of Experts meeting on RARC-83 technical issues.
April 1982	U.S./Canada bilateral session on future conferences, specifically RARC-83.
May 1982	CITEL meeting II/III.
May 1982	Sixth FCC Advisory Committee meeting approves final report.
June 1982	Joint 2-week Conference Preparatory Meeting of CCIR Study Groups 4, 5, 9, 10, and 11. Preparation of CPM Technical Report, which will serve as working document for RARC-83 meetings.
June 1982	U.S. Broadcasting-Satellite Service Requirements submitted to International Frequency Registration Board.
June 1982	Second Panel of Experts meeting.
September 1982	RARC-83 Delegation Chairman approved by White House.
October 1982	FCC grants construction permits to begin first phase of direct broadcast satellite systems to 8 U.S. corporations.
October 1982	Delegation Chairman's letter to State Department-Office of International Communications Policy recommending RARC-83 delegation members.

November 1982   U.S./Canada bilateral meeting on RARC-83.

November 1982   Last FCC Advisory Committee Meeting adopts
                     addendum to final report.

November 1982   First RARC-83 delegation nominees meeting.

December 1982   Delegation nomination list sent from the
                     Office of International Communications
                     Policy, State Department, to the Office of
                     International Conferences, State
                     Department.

December 1982   Third Panel of Experts meeting.

January 1983   Delegation nomination list transmitted from
                     State Department to White House Personnel
                     Office.

January 1983   First FCC Technical Seminar relating to BSS
                     service.

February 1983   U.S./Canada bilateral meeting on RARC-83.

PLANNED

March 1983   U.S./Mexico bilateral meeting.

March 1983   Fourth Panel of Experts meeting.

April 1983   CITEL meeting.

April 1983   ITU computer seminar in Latin America on
                     BSS (date uncertain).

The 33 ITU Member Countries in Region 2

Argentina	Grenada
Bahamas	Guatemala
Barbados	Guyana
Belize	Haiti
Bolivia	Honduras
Brazil	Jamaica
Canada	Mexico
Chile	Nicaragua
Colombia	Panama
Costa Rica	Paraguay
Cuba	Peru
Denmark*	Surinam
Dominican Republic	Trinidad and Tobago
Ecuador	United Kingdom*
El Salvador	United States
France*	Uruguay
	Venezuela

*European nations included to represent Western Hemisphere possessions.

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