

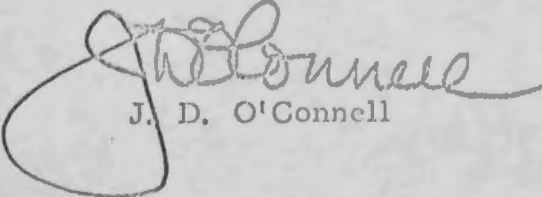
Copy for Mr. Whitehead
EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT
WASHINGTON, D.C. 20504
OTM

OFFICE OF THE DIRECTOR

April 30, 1969

MEMORANDUM FOR THE DIRECTOR:

In accordance with our current procedures, I am pleased to transmit this report of the significant activities of this office for the period ending April 29.


J. D. O'Connell

Enclosure

April 29, 1969

WEEKLY ACTIVITY REPORT NO. 63

FREQUENCY MANAGEMENT

1. Discussions with BOB on Improved Telecommunications Procedures

On April 23 OTM representatives met with BOB personnel to discuss measures which might be taken to "tighten up" on the radio frequency support aspects of Government communications-electronics systems. This is particularly important in view of the current investment of the Government in communications-electronics being approximately \$50 billion, with \$12.75 billion to be added during the current year. The objective is to determine whether or not in the BOB budgetary process a procedure could be included whereby the obligation of funds to Government agencies for the development and procurement of communications-electronics equipments, requiring the assignment and protection of radio frequencies for their use, can be withheld pending assurance of the availability of appropriate radio frequency support.

2. Maritime Communications

The Radio Technical Commission for Marine Services (RTCM) held its 1969 Assembly in Cleveland, Ohio, April 21 - 23 inclusive, with 300 representatives from Government and industry present. The three day gathering went through an agenda that (a) reviewed RTCM activities over the past year, (b) placed special emphasis on the use of satellite techniques for maritime navigation and communications and (c) provided extensive discussion of Great Lakes and Inland Waterways Communications. A representative of OTM attended the Assembly.

* 3. Supplemental Appropriation

On April 23 the DTM together with Director, OEP, and members of their staffs, participated in Senate Appropriations Hearings with respect to the inclusion of \$.777 million in supplemental appropriations for the conduct of urgently needed experiments to fill information voids in our technical knowledge so far as communications-satellite operations are concerned.

4. National Academy of Engineering Efforts

On April 25 OTM representatives met in New York with members of the National Academy of Engineering (NAE) Panel working on the definition of "Economic and Social Values of the Radio Frequency Spectrum." This effort is the result of OEP contractual support with the NAE in providing consultative advice to the DTM in the fulfillment of his responsibilities. The need for placing greater emphasis upon economic and social values in making national decisions with respect to the use of the radio frequency spectrum has been cited by several interests. The National Academy's Panel is trying to define how this objective, involving a pioneering effort, should be pursued.

*5. Reliance on the Spectrum

At the weekly staff meeting on April 28 OTM representatives briefed the Director, OEP and his staff, on the extent and magnitude of the "Government's Reliance on the Radio Frequency Spectrum." This same briefing has been given to other interests -- Congressional, NAE, President's Task Force on Communications Policy, OTM Frequency Management Advisory Council, and the seven Federal Communications Commissioners.

*6. NRAC Support in Frequency Management Area

On April 29 representatives of OEP and OTM met for the purpose of defining in depth the National Electromagnetic Compatibility Analysis Facility (NECAF). This concept, designed to permit the analysis of communications-electronics devices prior to their entering the production state, will require the combined efforts of OEP and OTM to bring the capability into fruition. The next step is to present the results to Department of Defense interests in order to benefit from their experience with the military analysis center located at Annapolis, Maryland.

7. Industry Effort re Frequency Management

On April 29 the Joint Technical Advisory Committee (JTAC) met to determine what action should be taken to pursue further the objectives set forth in its recent publication "Spectrum Engineering - The Key to Progress". The Committee is concerned to insure that the results of this four year effort, involving an estimated 200 man years and \$2 million expenditure, does not "gather dust". OTM personnel outlined the extent of efforts by the office to bring certain of the findings of the JTAC effort into being.

TELECOMMUNICATION EMERGENCY PREPAREDNESS

*1. Coordination with the Director, OEP

On April 23 the Director of Telecommunications Management and his Special Assistant for Emergency Preparedness discussed the status of the national telecommunications preparedness program with the Director and Deputy Director, OEP. The discussion covered many facets of telecommunications preparedness and resulted in a general consensus of opinion that increased effort should be exerted in this area in order to reach an adequacy of preparedness in relation to certain concepts of operation expressed by the Director, OEP. The Director, OEP, stated that he would like to be present at a forthcoming briefing by the DTM to Lt. Gen. Grant (DOD). The DTM informed the Director, OEP, that a plan has been prepared to satisfy needs for additional effort in this area; and that the plan can be discussed at another meeting in the near future.

*2. Coordination with the Federal Communications Commission

On April 25 the DTM discussed national telecommunications preparedness activities with the Chairman of the Federal Communications Commission. This was a general discussion of the OEP, DTM, FCC, NCS, GSA, BDSA responsibilities and the organizational interrelationships among these agencies during emergency preparedness and during war emergency conditions. At the conclusion of the meeting it was decided to discuss the subject again in the near future.

*3. Communications Damage Assessment Data

An OTM representative attended a briefing at the Special Facilities Division (SFD) on the procedures prepared for the development of an unclassified exercise (UNCLEX) attack weapons list. From a communications standpoint, data at the SFD is very limited and out of date. The most recent data was provided by the Defense Communications Agency under date of 1967. The commercial communications data is also very limited, some of it is dating back to 1959. After the meeting, the DCA representative agreed to update the military data, but no commitment was made at the time concerning updating of the commercial data. The latter is a matter of continuing consideration.

SATELLITE COMMUNICATIONS

1. United States Government Document on the Future of the International Telecommunications Satellite Consortium (INTELSAT) (Ref. Item 2, report 4/15/69)

A preliminary draft of an important U. S. Government paper on the Future of INTELSAT has been prepared by members of OTM. A copy of the working paper was provided Ambassador Scranton on April 29 for the purpose of obtaining his general reaction to the paper.

NATIONAL TELECOMMUNICATIONS

1. White House Liaison Activities

Members of OTM and representatives of the office of the Manager, NCS, visited the White House Situation Room on April 28. Purpose of the visit was to introduce the new Situation Room Chief to the NCS representatives and to discuss the current and future plans for expansion of the Washington Area High-Speed Facsimile (WASHFAX) System.

OFFICE OF THE DIRECTOR

1. Participation in Conference and Briefings

During the period April 15-19, the Director participated in a technical panel on the spectrum resource, one of the events comprising the Region 6 Conference of the IEEE in Phoenix, Arizona; and was the recipient of a series of briefings presented by the Commanding General of Fort Huachuca and of the Army Strategic Communications Command and by senior members of his staff.

The Spectral Resources panel of the IEEE was moderated by Dr. W. L. Everitt, Chairman of the National Academy of Engineering Committee on Telecommunications. In addition to the DTM, the panel included Dr. James Hillyer, Vice President, RCA; Mr. Richard P. Gifford, Chairman, Joint Technical Advisory Committee (JTAC); and Dr. John Richardson, Executive Secretary of the National Academy of Engineering.

Mr. O'Connell's remarks focused on the continuing problem of obtaining adequate engineering resources for long-range spectrum planning, and highlighted the difficulty of giving the problem of spectrum pollution equal visibility in the eyes of the American public to those of pollution of the environment and other national problems whose significance to the public interest and welfare are more easily recognized and more widely publicized than the adverse effects of a diminishing spectrum resource.

* Items considered of special interest to the Director, OEP

MEMORANDUM

THE WHITE HOUSE

WASHINGTON

April 29, 1969

MEMORANDUM FOR THE FILE

From: Tom Whitehead

On Friday, April 25, Bill Morrill stopped by to discuss telecommunications matters and reported that the BOB reorganization study had been fairly widely leaked within the Government. He suggested, and I concurred, that BOB send out the study to concerned Government agencies with a request for their comments and a general indication that the Administration was planning to move in this area in a timely way if a sensible course of action can be identified.

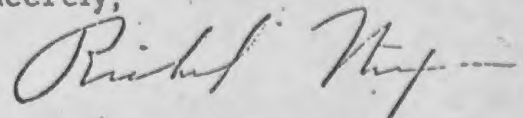
THE WHITE HOUSE
WASHINGTON

April 29, 1969

Dear Mr. Secretary:

As you are undoubtedly aware, the Defense Communications Agency, is responsible for Presidential communications. In establishing this responsibility, it was determined that DCA/WHCA should be directly responsive to Presidential requirements. Direct contact and continuous liaison between DCA/WHCA and my designated White House representative are authorized and directed. Colonel James D. Hughes, the Armed Forces Aide to the President, has been designated my representative for a point of contact for requirements and for giving policy direction to DCA/WHCA concerning Presidential communications.

Sincerely,



Honorable Melvin R. Laird
Secretary of Defense
Washington, D. C.

WH 7761

April 29, 1969

Dear Boris:

Thank you for your letter of April 17th. I am glad to hear you will be in Washington again soon and hope that we may have a chance to chat some time. I am sure you will find your meetings with General O'Connell and Chairman Hyde very useful.

Hope you are enjoying your new job.

Sincerely,

Clay T. Whitehead
Staff Assistant

Mr. Boris Plazas
Communications Division Chief
Departamento Administrativo
De Planeacion
Republica De Colombia
Bogota, Colombia

CTWhitehead:ed

Tuesday 4/29/69

7:45 Checked with Mr. Hopkins' office; they have searched through the whole month of April and find no telegram to the President from Congressman Macdonald re the communications policies. Also checked for letters, etc. from the Hill and find none.

Thursday 5/1/69

4:45 Checked with Elaine in Mr. Hopkins' office -- she has checked again -- found none.

• UNITED STATES GOVERNMENT

Memorandum

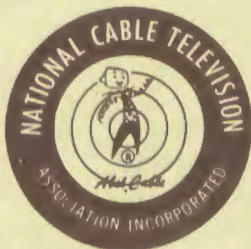
TO : Dr. C. T. Whitehead

DATE: 25 April 1969

FROM : William N. Lyons *L*

SUBJECT: Attached

FYI



NCTA MEMBERSHIP BULLETIN

ROUTE TO:

NATIONAL CABLE TELEVISION ASSOCIATION, INC. • ONE FARRAGUT SQUARE SOUTH, 1634 EYE STREET, N.W. • WASHINGTON, D.C. • (202) 347-3440

Vol. 11, No. 16

April 22, 1969

HIGHLIGHTS OF THE WEEK

Adler selected to head slate of new NCTA officers - p. 1

Macdonald urges Nixon to release Task Force report - p. 3

Bill to rescind interim procedures introduced in House - p. 2

Complete convention registration plans announced - p. 4

214 applications filed - p. 5

Wine tasting party scheduled for convention - p. 6

NCTA'S NOMINATING COMMITTEE PICKS ADLER TO HEAD SLATE OF OFFICERS, DIRECTORS

NCTA's Nominating Committee has named M. William Adler to head its slate of nominees of new association officers for 1969-70.

Adler, the committee's nominee for national chairman, is a CATV consultant and has interests in five CATV systems in West Virginia. He is currently a director of NCTA and is chairman of the association's Legislative Committee.

Nominated as national vice chairman was Ralph L. Weir, of Junction City Television, Inc., Junction City, Kan. Weir formerly served as secretary of NCTA and is currently on the association's board of directors and is a member of the Executive Committee.

Monroe M. Rifkin, of American Television & Communications Corp., is the nominee for secretary. Rifkin is currently an officer of NCTA, serving as treasurer.

Cypress Communications Corp.'s W. Randolph Tucker is the Nominating Committee's choice for treasurer. Tucker has previously served in that capacity and is currently a director.

Nominated to serve on the board of directors were:

Richard Gamble, National Trans-Video, Inc., Dallas, Tex.

G. H. Dodson, Sayre TV Cable, Sayre, Okla.

Glen Scallorn, Communications, Inc., Austin, Tex.

L. W. Kliever, Peninsula Broadcasting Corp., Hampton, Va.

A. E. Patlove, Athena Communications Corp., a Gulf & Western company, New York, N.Y.

Joel Smith, Nation Wide Cablevision, Inc., Los Angeles, Calif.

William Brazeal, Community Television, Inc., Denver, Colo.

George Barco, Meadville Master Antenna, Inc., Meadville, Pa.

Richard Surprenant, National Teline Corp., Waltham, Mass.

George Sisson, Westerly Cable TV, Inc., Westerly, R. I.

Serving on the nominating committee were Jack R. Crosby, chairman, Claude Stevanus, Marcus Bartlett, Richard A. Moore, and F. Gordon Fuqua.

Retiring board members include: Jack R. Crosby, immediate past chairman; Miss Yolanda Barco, Meadville Master Antenna, Inc.; Marcus Bartlett, Cox Cablevision Corp.; Bob Magness, Community Television Systems, Inc.; Richard A. Moore; Monroe M. Rifkin, American Television and Communications, Inc.

Returning to the board this year are: William Bresnan, F. Gordon Fuqua, John Gwin, Amos B. Hostetter, Fred Lieberman, Robert H. Symons, John Walson, Ralph Demgen, Douglas Dittrick, Sam C. Haddock, William F. Hemminger, Ward D. Ingram, Claude Stevanus, W. Randolph Tucker and Robert Beisswenger, as immediate past chairman.

This listing of candidates is conducted in accordance with Section 5.11 of the NCTA Bylaws:

Section 5.11 The Board of Directors shall appoint, at least three months before every Annual Meeting a Nominating Committee of at least three in number, who shall select and present to the membership at each Annual Meeting of the Association a nominee or nominees for each vacancy arising in the positions of Officer or Director under these bylaws. The Nominating Committee shall announce its list of nominees to the membership at least sixty days before the Annual Meeting. At any time up to twenty-four hours before the business meeting for the election of officers and directors, nominees may be added to the list of nominees at the written request of ten System Members presented to the Nominating Committee and such nominees must be included as part of the Nominating Committee's report to the members orally or otherwise, although mention shall be made of the procedure whereby their names were added to the list of nominees.

STRATTON INTRODUCES BILL CALLING FOR
NULIFICATION OF INTERIM PROCEDURES

Congressman Samuel S. Stratton (D-N.Y.) last week introduced a bill in the U.S. House of Repre-

sentatives which calls for the nullification of the FCC's interim rules.

At the same time, Stratton submitted two resolutions, one urging Congress to "rescind the application" of the FCC's rulemaking proceeding; the other calling for a "full and complete investigation and study of federal regulation" of CATV and the FCC's rulemaking proceeding.

Stratton's legislation, which was referred to the House Interstate and Foreign Commerce Committee, proposes: "That the Congress finds the interim procedures adopted by the...(FCC) are substantive rules that were not issued in accordance with applicable rulemaking procedures, that such procedures have had a substantial adverse effect on the...(CATV industry), and that it is therefore in the public interest that such procedures should not bar such television market proceedings pending the adoption by the Commission in accordance with applicable rulemaking procedures of new rules governing such proceedings."

Stratton's bill proposes that the FCC's interim procedures be of "no force or effect" upon approval of his proposed legislation.

Stratton's first resolution urged that the FCC's rulemaking should be rescinded until both Congress and the Commission have held hearings. The second resolution specifically called for the House Interstate and Foreign Commerce Committee to conduct a hearing and contained language authorizing the House Commerce Committee to hold hearings.

MACDONALD URGES RELEASE OF
PRESIDENT'S TASK FORCE REPORT

Congressman Torbert H. Macdonald
(D.-Mass.) told the Mid America and
Texas CATV associations last week

he had telegraphed President Nixon to urge that the Presidential Telecommunications Task Force report "be made available to appropriate Congressional committees and their staff experts."

The Massachusetts Congressman said the 450-page report, which was sent to the White House late last year with wide publicity, could be of "tremendous help" to Congress in formulating sound national communications policies.

Macdonald declared that a complete updating of the Communications Act of 1934, under which the FCC functions, is urgent. "Indeed," he added, "we in the Congress may even want to consider whether the FCC should be superseded by a new organization -- perhaps a cabinet-level Department of Telecommunications."

Macdonald charged that, in the absence of proper guidance from Congress, the FCC has tended "to react, rather than to act in a clear, confident manner." He explained that "Congress has been slow to acknowledge its duty not only to oversee but to formulate communications policy." He added, "I hope we are about to correct that situation."

Macdonald reminded that the FCC is "an agency created by the Congress to administer policy" and should not attempt to create it. When it does, he observed, "the result tends to be a hodge-podge that fails to come to grips with the real issues and favors the status quo over emerging new technologies."

"As this era of tremendous technological progress has arrived," Macdonald asserted, "we simply cannot rely on trial-and-error, hit-or-miss methods for establishing regulatory procedures."

NCTA ENCOURAGES EARLY
CONVENTION REGISTRATION

It's time to register now for NCTA's 18th annual convention at the San Francisco Hilton, June 22-25. Attend-

ance is expected to surpass last year's crowd of 3,000 and only those registering in advance will be able to obtain rooms in one of NCTA's six convention hotels.

A complete registration kit is enclosed with this week's Bulletin and includes forms and information for members, non-members, women and children. NCTA will mail a hotel reservation form, as acknowledgement of registration, to each person who sends in the completed form accompanied by payment of the registration fee. The hotel reservation form should then be mailed to the San Francisco housing bureau, which is handling accommodations for all advance registrants. Convention registration forms -- and payment of appropriate registration fees -- should be returned promptly to NCTA.

On-site registration at the Hilton will begin at 10:00 a.m., Sunday, June 22. Those who have preregistered will simply pick up their tickets for the management and technical sessions at the advance registration desk in the East Lounge, directly across from the Continental Ballroom where seminars, business sessions and NCTA's banquet will be held. Partial registrants may purchase single tickets at the registration desk; they will not register in advance. Registration hours will be Sunday, 10:00 a.m. - 8:00 p.m.; Monday and Tuesday, 8:00 a.m. - 5:00 p.m. and Wednesday, 8:00 a.m. - 1:00 p.m.

Ladies and children will register in their headquarters, the Kaleidoscope Room on the lobby floor. Their registration hours will be Sunday, 1:00 p.m. - 6:00 p.m.; Monday, 8:00 a.m. - 3:00 p.m., and Tuesday from 9:00 a.m.-noon.

Advance registration is urged as the simplest way to sign up for what promises to be the most successful NCTA convention ever.

MANHATTAN CABLE EXPANDS
PROGRAM ORIGINATIONS

Manhattan Cable Television has expanded their CATV originations to include a "TV High School" equivalency course and

coverage of the New York basketball and hockey playoffs.

The TV High School consists of 60 half-hour lessons produced by the Manpower Education Institute, and is being taken by a class of 50 employees of the Plaza Hotel in New York. Courses consist of English usage, social studies, natural sciences, mathematics and literature.

Manhattan Cable's expanded sports format resulted from an agreement between the CATV and Madison Square Garden Center, the owner of both the New York Knickerbockers basketball team and the Ranger hockey team. The first Knickerbocker cablecast was Saturday, March 29 against the Baltimore Bullets. Several other games were cablecast before the Boston Celtics eliminated the Knicks in the playoffs last Friday. The April 14 game in New York was fed live to WSPK - TV in Boston by the CATV system.

The New York/Montreal hockey playoffs were cablecast on April 5 and 6.

Manhattan Cable Television made a historical sports first on January 31 when it televised live the Columbia vs. Brown basketball game on its own Channel 6. Thirty years earlier, a Columbia-Princeton baseball game had been the first televised event in the history of American athletics.

On February 7, Manhattan Cable Television originated its first out of town sports program, the Columbia vs. Princeton basketball game at Princeton.

On March 10, Manhattan Cable Television began both color telecasting and cultural programming with a live transmission of the American Symphony Orchestra concert under the direction of Leopold Stokowski at Carnegie Hall.

214 APPLICATIONS FILED

<u>File No.</u> (P-C-)	<u>Applicant</u>	<u>Communities</u>	<u>Date Comments Due</u>
7145	Ohio Bell Tel. Co.	Gen. vicinity of North Canton, Perry Township, Plain Town- ship, Jackson Township and Canton Township.	May 15
7367	Gen. Tel. Co. of Indiana, Inc.	Gen. vicinity of Angola, Ind.	May 15

<u>File No.</u> (P-C-)	<u>Applicant</u>	<u>Communities</u>	<u>Date Comments Due</u>
7371	Mountain States Tel. & Tel. Co.	Gen. vicinity of Manitou Springs, Colo.	May 15
7378	Gen. Tel. Co. of Indiana, Inc.	Gen. vicinity of Winchester, Ind.	May 15
7389	Fort Mill Tel. Co.	Gen. vicinity of Fort Mill, S. C.	May 15
7392	New England Tel. & Tel. Co.	Gen. vicinity of Madison, Maine	May 15

NEW MEMBERS

The following six new members are owned by Community Television, Inc., Denver, Colorado:

TELE-CABLE, INC., Huntsville, Tex., Crawford Scott, mgr.

COMUNICO, Alamosa, Colo., Frank Erickson, mgr.

COMUNICO, Boulder, Colo., Alan Halle, mgr.

COMUNICO, Delta, Colo., Fred Dennison, mgr.

COMUNICO, Leadville, Colo., Larry Dennis, mgr.

COMUNICO, Salida, Colo.

SPECIAL!!!! WINE TASTING PARTY SCHEDULED FOR CONVENTION

The California CATV Association and the Wine Institute have announced plans for a wine tasting party for Monday evening, June 23, at NCTA's San Francisco convention.

Admittance to the party will be by invitation only. Invitations will be issued to all NCTA members who register in advance for the convention.

The wines, naturally, will be Californian. Tables full of wine, cheese and crackers will be set up around the Hilton's Continental Ballroom. Each table will be staffed by winery people who will serve and discuss the characteristics of a wide variety of wines.

See an earlier story in this week's Bulletin for full convention registration details and the enclosed Convention packet. Plan now to attend the convention. Register early and be invited to the wine tasting party!

Recommendation

4/28/69

Mr. Flanigan:

I have had discussions with
NAB people at which
Everett Ehrlich was present
(see attached article from
Broadcasting Magazine). I
thought you might like to read
it before your 3:30 meeting
with him.

Do you want me to attend
that meeting?

Tom Whitehead

From Broadcasting, March 31, 1969 p. 36

X The White House looks into FCC's future

The Nixon administration has begun examining the composition and policies of the FCC.

Last week two White House staff executives met with an invited group of broadcasters to get their views on current broadcast regulation. The discussion reportedly ranged over many matters, but the most emphasis was placed on the present vulnerability of licensees at renewal time, FCC rule-makings that would break up multimedia ownerships, and the make-up of the commission itself.

The man who called the meeting was Dr. Clay T. Whitehead, deputy to Robert Ellsworth, special assistant to the President. Also present was Abbott Washburn, now a consultant to the White House staff. Mr. Washburn was deputy director of the U.S. Information Agency during the Eisenhower admin-

istration and later headed a Washington public-relations firm.

Broadcasters in attendance were Grover Cobb, of KVGB Great Bend, Kan., chairman of the National Association of Broadcasters board; Vincent T. Wasilewski, NAB president; Clair R. McCollough, Steinman Stations; John F. Dille, Communicana Group; Robert W. Ferguson, of WTRF-TV Wheeling, W. Va., chairman of the NAB's television code board; Everett H. Erlick, executive vice president, ABC; Richard W. Jencks, president, CBS/Broadcast Group, and Thomas Ervin, executive vice president, NBC.

During the discussion of FCC personnel problems, it was said later, FCC Commissioner Nicholas Johnson was mentioned by name, although the White House officials gave no indication of any change of assignment for him. It was mentioned that Chairman Rosel Hyde's term expires next June 30, but there was no word as to whether he would be asked to remain beyond then.

It was also mentioned that the term of FCC Commissioner Kenneth Cox, a Democrat, expires June 30, 1970.

Another meeting with the broadcasters may be called in a few weeks, the White House officials reportedly said.

Dr. Whitehead, who holds degrees in business administration and engineering from Massachusetts Institute of Technology, has been assigned to study policy making and organization of the FCC and several other regulatory agencies. His immediate superior, Mr. Ellsworth, a former congressman from Kansas, was reported last week to be under consideration for an ambassadorial post.

In addition to acting as a consultant to the White House, Mr. Washburn is the U.S. government's acting representative to the International Telecommunications Satellite Consortium, assuming the duties of Leonard H. Marks, who has resigned to resume his communications-law practice.

Telecomm
APR 28 1969

MEMORANDUM FOR

Mr. Robert P. Mayo
Dr. Henry A. Klesinger

The Director of Telecommunications Management has proposed that the attached letter be sent to the Secretary of Defense in his role as Executive Agent, National Communications System.

May I have your comments by May 1st on this letter.

Signed

Peter M. Flanigan
Assistant to the President

Attachment

cc: Mr. Flanigan
Mr. Hofgren ✓
Mr. Whitehead
Central Files

CTWhitehead:ed

THE WHITE HOUSE
WASHINGTON

DRAFT

The Honorable Melvin Laird
Executive Agent, National
Communications System
Office of the Secretary of Defense
Washington, D.C. 20301


Dear Mr. Secretary:

The President has authorized me to approve, as a general planning guide, the National Communications System (NCS) Long Range Plan (FY 1970-1974), forwarded by Mr. Solis Horwitz on 20 December 1968.

While there has been progress in development of the System since the Presidential Memorandum of August 21, 1963, directing its establishment, much yet remains to be done, and there is Congressional concern as to the rate of accomplishment. The evolutionary development of the NCS as a single, unified system, as was the intent of the Presidential Memorandum, is contingent upon an approved system concept. Thus, studies proposed by you to structure and present a concept for the NCS for the 1970's are needed as a matter of urgency. In order that I may stay abreast of progress, I would appreciate receiving quarterly reports either written or oral.

Although unanimous agreement in a system concept and its managerial arrangements would be desirable, I realize this may not be possible. In either case, your recommendation, together with any differing views, are solicited after reasonable attempts have been made to resolve any differences.

Sincerely,


J. D. O'Connell
Special Assistant to the President
for Telecommunications

Telecommunications

April 25, 1969

MEMORANDUM FOR GENERAL O'CONNELL

Thank you for your memorandum of April 22nd discussing the problems with the Panama earth station.

I am puzzled by the fact that the FCC has ultimate jurisdiction over a matter of international communications and that the State Department is not involved.

Without launching any major study, could you give me your informal comments on why this is the case and what opportunity the President has for involving himself or the executive branch in this matter.

Clay T. Whitehead
Staff Assistant

cc: Mr. Flanigan
Mr. Hofgren
Mr. Whitehead
Mr. Rose ✓
Central Files

CTWhitehead:ed

*Memo from
O'Connell
dated 5/5/69
(Confidential)
in safe.*

UNITED STATES GOVERNMENT

Memorandum

TO : Dr. C. T. Whitehead

DATE: April 25, 1969

FROM : IOP/PA - William N. Lyons *L*

SUBJECT: Role of the Federal Government in Telecommunications

I am aware that the Bureau of the Budget has the Presidentially-delegated responsibility to report on recommended and alternative organizational structures for the Federal Government's role in telecommunications, and I understand this report has been submitted.

However, since you indicated your priority interest was in the Federal role, second only to the Domestic Satellite issue, I am sending you my effort to put the background material on this horrendous headache into capsule form, without presuming to argue the pros and cons.

BASIC ASSUMPTION:

The President's constitutional responsibilities for foreign affairs and national defense make it mandatory that governmental telecommunications management be established in the Executive Branch.

JOB TO BE DONE:

Policy:

- chief telecommunications advisor to the President
- establish national telecommunications objectives
- set policies and standards to achieve objectives
- conduct long-range planning
- promote research and development
- stimulate application of new technologies
- develop national positions for international projection of telecommunications
- assist and advise Department of State in telecommunications negotiations



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

Operational:

- coordinate and insure maximum efficiency in National Communications System
- plan and administer telecommunications mobilization in emergency
- coordinate Executive Branch interests and requirements for FCC consideration
- frequency allocation*

*At least within Federal Government. The Task Force recommends that all allocation be vested in a new "capability."

ALTERNATIVES that have surfaced:

1. Cabinet level Department of Telecommunications
2. Department of Transportation and Telecommunications
3. Semi-independent agency within Executive (like NASA)
4. Telecommunication "Tsar"
5. Presidential Advisor (one man or board)
6. Presidential Assistant
7. Strengthened and autonomous OTM
8. Transfer OTM to OST
9. Leave it all as it is

POSITIONS:

OTM opts for 3 or 7 with, I am afraid, certain overtones of 4
Failing this OTM prefers 8 or 9

FCC has only one concern - opposition to any attempt to remove the responsibility for allocation of non-Government frequencies, now legally vested in the FCC

Task Force takes no official position, leaving that determination to

the Bureau of the Budget. My studied guess would be it leans to 5, 6 or, possibly 7, but short of 1.

Budget Bureau: I have not seen the most recent recommendations

UNITED STATES GOVERNMENT

Memorandum

TO : Dr. C. T. Whitehead

DATE: April 24, 1969

FROM : IOP/PA - William N. Lyons *L*

SUBJECT: Role of the Federal Government in Telecommunications

Wasn't it Abraham Lincoln who observed, "If we can but know where we are and whither we are tending, we can better tell what to do and how to do it?" The following comes under the category "Where we are," or, more correctly, "Where we have been."

1912	Radio Act assigns President's role in frequency allocation
1922	Interdepartment Radio Advisory Committee (IRAC) organized
1927	Radio Act creates 5-member Federal Radio Commission (FRC) regulate certain aspects of radio services assignment of specific power issuance of station licenses (N.B. - Regulatory authority over wire communications remained with Interstate Commerce Commission)
1934	Communications Act establishes 7-member Federal Communications Commission (FCC) regulate interstate and foreign commerce in communications by wire and radio, including radio broadcasting and radio operations of State and local governments frequency allocation for non-Government use vested in FCC
Sept. 1940	Executive Order 8546 creates Defense Communications Board (DCB)



5010-108

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

15 June 1942	Executive Order 9183 renames DCB as Board of War Communications (BWC) responsible for coordinating relationship of all branches of communications in national defense FCC chairman served as Board chairman
Feb. 1947	Executive Order 9831 abolishes BWC
Feb. 1950	Executive Order 10111 establishes President's Communications Policy Board (PCPB)
Mar. 1951	PCPB submits report - "Telecommunications - A Program for Progress" establish in Executive Office a 3-man Telecommunications Advisory Board (or single Advisor)
Oct. 1951	Executive Order 10297 provides for Telecommunications Advisor to the President advise President and direct activities of IRAC
June 1953	Executive Order 10460 abolishes Telecommunications Advisor to the President and transfer functions to Director of Office of Defense Mobilization (ODM)
Nov. 1954	President appoints Cabinet Committee on Telecommunications Policy and Organization review existing policies and programs affecting all forms of electrical communications except domestic broadcasting
July 1957	No formal report forthcoming from Cabinet Committee, President officially terminates it and assigns responsibility to ODM Director
July 1958	ODM merged with Federal Civil Defense Administration and designated Office of Civil and Defense Mobilization (OCDM) Executive Order 10773 transfers telecommunications functions to OCDM

Sept. 1958	OCDM Telecommunications group directed to report to Associate Director for Resources, who reports to the Assistant Director for Resources and Production, who in turn reports to OCDM Director
Nov. 1958	OCDM Director sets up Special Advisory Committee on Telecommunications review and make recommendations on Federal Government's role in telecommunications management
Mar. 1959	President recommends to Congress that it establish a 5-member Special Commission on Telecommunications never reported out of committee
Dec. 1960	James M. Landis in report to President-elect Kennedy points up disarray in telecommunications management
Feb. 1962	Executive Order 10995 creates position of Director of Telecommunications Management in the Office of Emergency Planning (OEP) DTM= Assistant Director OEP Duties:1) coordinate telecommunications activities of Executive 2) formulate general policies after consultation with appropriate agencies 3) promote and encourage adoption of uniform policies and standards by agencies authorized to operate telecommunications systems 4) develop data with regard to Government frequency requirements 5) encourage research and development 6) contract for studies and reports
5 June 1962	President establishes ad hoc Communications Satellite Group provide informal coordination
August 1962	Communications Satellite Act

Following Cuban
missile crisis Nov. 62

Interdepartmental Committee on Communications
established

21 Aug. 1963

President establishes National Communications
System

- to provide a unified governmental
communications system for operation under
all conditions from a normal situation to
national emergencies and international
crises, including nuclear attack
- policy direction and guidance the respon-
sibility of Director of Telecommunications
Management

Aug. 1967

President appoints Task Force on Communications
Policy

Copy for Mr. Whitehead

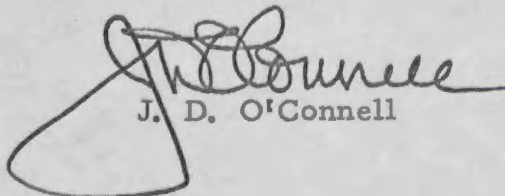
EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT
WASHINGTON, D.C. 20504

OFFICE OF THE DIRECTOR

April 23, 1969

MEMORANDUM FOR THE DIRECTOR:

In accordance with our current procedures, I am pleased to transmit this report of the significant activities of this office for the period ending April 22.


J. D. O'Connell

Enclosure

April 22, 1969

WEEKLY ACTIVITY REPORT NO. 62

FREQUENCY MANAGEMENT

1. COMSAT Earth Station Location

On April 16 a meeting was held between OTM and COMSAT Corporation representatives to determine the suitability of a proposed COMSAT Earth Station in Alaska, 60 miles north of Fairbanks. The results of the meeting indicate that it will be necessary for COMSAT to conduct on-site measurement surveys due to the possibility of harmful interference from certain high-powered Government radars within interference range. A presentation of Government operations within the area involved was given to COMSAT.

2. OCEANOGRAPHY Communications

Procedures for coordinating the use of radio frequencies for telecommunication support of oceanography and for collecting ocean data transmissions were developed at a meeting chaired by an OTM representative and with representatives from the Marine Sciences Council, ESSA, and other agencies concerned with oceanography. State Department representatives participated because ocean data and meteorological data from ocean areas are handled on an international basis through the World Meteorological Organization (WMO) and the International Oceanographic Commission (IOC) -- both U. N. sponsored agencies. The aforementioned procedures pertain not only to intra-U. S. coordination but also to international coordination required to fulfill U. S. commitments to the WMO and IOC.

3. Aeronautical/Maritime Satellite Communications

On April 17 OTM representatives met with the Director of Telecommunications, DOT, and members of his staff to discuss the possibility of a communication satellite to meet the needs of both civil aviation and civil marine interests. The FAA, in coordination with the Coast Guard, has proposed a concept whereby a common service from satellites might be rendered, capable of meeting functions such as communications, air traffic control, position reporting, etc. This is a new approach, aviation and marine interests having been completely

separate and independent entities thus far. It will be necessary, in connection with the forthcoming international radio conference on space telecommunications, for the U. S. to develop a very strong and convincing position on this item. A course of action looking toward the attainment of this objective was developed.

* 4. Supplemental Appropriation

On April 18 OTM representatives participated, together with the Director, OEP and staff members, in the House Appropriations Committee Hearings with respect to the inclusion of .777 million dollars in supplemental appropriations for the conduct of urgently needed experiments to fill information voids in our technical knowledge so far as communication-satellite operations are concerned. This information is a prerequisite to policy decisions on such matters as the establishment of a domestic communication-satellite system and the development of the U. S. position for the aforementioned World Administrative Radio Conference.

5. National Academy of Sciences Committee on Radio Frequency Requirements

On April 21 OTM personnel participated in a meeting of the Committee on Radio Frequency Requirements for Space Research of the National Academy of Sciences. The purpose of the meeting was to consider recommendations for the establishment of additional subcommittees to treat several areas of science. It was proposed and agreed that subcommittees be established in the areas of general research, space technology and radio astronomy. The meeting was under the chairmanship of Dr. Keith Glennan.

6. Interdepartment Radio Advisory Committee Meeting

On April 22 the Interdepartment Radio Advisory Committee met at which time the following items of significance were treated:

- (a) The U. S. representative to the ITU Administrative Council met with the Committee for the purpose of seeking advice on agenda items which will be treated at the 24th Session of the Council, to be convened in Geneva, Switzerland, in early May.
- (b) Development of further recommendations to the Chairman of the U. S. CCIR Study Group IV (the technical group in preparing for the forthcoming international radio conference on space telecommunications) as to additional technical documentation required to support the U. S. position at the aforementioned conference.

- (c) The accommodation of a Collision Avoidance System in such a manner as to be electromagnetically compatible with other electronic systems currently operating in the same portion of the radio spectrum (1535-1660 MHz).
- (d) Development of a recommended position by the United States with respect to the installation of Coast Guard radio beacons on the Great Lakes between 406-420 MHz in light of a recently received Canadian request for assistance in clearing the band between 406-410 MHz for the radio astronomy service.

NATIONAL TELECOMMUNICATIONS

* 1. Satellite Communications for Alaska

In response to a memorandum of March 10 from Mr. Whitehead of the White House staff, a review was conducted of a proposal to the President for a communications satellite to serve the State of Alaska. This proposal was forwarded by Representative Pollock of Alaska by letter of March 5. Our review disclosed that the points raised by Mr. Pollock were of primary interest to the Field Committee for Development Planning in Alaska. Accordingly, a proposed reply from the White House to the Congressman, together with a proposed letter from the SAPT forwarding Mr. Pollock's letter to the Field Committee were sent to Mr. Whitehead by memorandum dated April 21.

TELECOMMUNICATIONS EMERGENCY PREPAREDNESS

* 1. Contingency Personnel Assignment

In response to a letter from the Deputy Assistant Secretary of Defense (Supply and Services), the Director, Office of Emergency Preparedness, on April 17 and at the suggestion of the DTM, appointed Lieutenant General Harold W. Grant, USAF (Ret), as a contingency designee to the National Office of Telecommunications. General Grant now serves as Director for Telecommunications Policy, Office of the Assistant Secretary of Defense (Installations and Logistics), Department of Defense. A briefing on General Grant's contingency responsibilities will be provided to General Lincoln on April 23.

*2. Industry Support to State Planning

On April 16 representatives of the OTM discussed the Bell System Program of telecommunication support which is being provided to the individual states. This meeting was for the purpose of assuring continuity in Bell's program of assistance, since the individual in charge of the program has recently been assigned to this important coordination function at Bell Headquarters in New York. A secondary purpose of the meeting was to review the policies and objectives of the DTM in this subject area.

*3. Nebraska Telecommunication Coordination

On April 16 the Special Assistant (Emergency Preparedness) to the DTM met with Nebraska State Senators George Gerdes (former), William F. Swanson, and Elvin Adamson at their request. The purpose of the meeting was to apprise the DTM of the telecommunication activities being carried out in the state in their effort to develop a statewide system of telecommunications to meet the state government's needs. One of the interesting projects being researched is the development of a data base of information concerning the role of telecommunication in the provision of public emergency services. This project includes experimentation with air ambulances (helicopters) under an 18 month research grant provided by the National Highway Safety Institute.

* Items considered of special interest to the Director, OEP

UNITED STATES GOVERNMENT

Memorandum

TO : Dr. C. T. Whitehead

DATE: April 22, 1969

FROM : IOP/PA - William N. Lyons *L*

SUBJECT: The Role of the Federal Government in Telecommunications

The Task Force recommends a "new Federal telecommunications capability," studiously avoiding the definitive terms "Agency" or "Department."

From the Report:

- "The overall need, then, is for a long-range planning, policy formulating and coordinating, and mission-support capability which can serve to integrate the various roles in which the Executive Branch is presently engaged."
- "Where the mission-supporting role of communications is predominant because of the existence of an overriding need for a system geared to a mission-related set of priorities, the case is clear for leaving ultimate responsibility in the hands of the agency responsible for the mission involved."
- "...an entity with sufficient operational responsibility to enable it effectively to integrate the various Executive roles, while avoiding that degree of preoccupation with responsibilities which would threaten performances of the dominant function of long-range planning and policy formulation."

One Alternative:

It could be the "Study of Federal Telecommunications Management," prepared for the Office of the Director of Telecommunications Management, under Contract OEP-SE-67-102, by the Planning Research Corporation.

This two-year-old document (15 July 1967) is not so much a study as a draft legislative bill entitled, "Federal Telecommunications Management Act of 1968," with supporting documents:

- "this report is intended as a legislative package which can be submitted to the Congress for review and action."



Instructions given the Planning Research Corporation, as reported by it, were to:

"(1) write immediately a draft bill to serve as a 'straw man' during the course of the study, (2) develop management, as opposed to technical, approaches to solving critical problems in national telecommunications, and (3) refine continually the draft bill on the basis of the development of these approaches and discussions with DTM."

The 183-page document contains:

Part I - Executive Summary

Paper 1 - A Bill to Assign Responsibility for Telecommunications Management

Paper 2 - A Framework for National Telecommunications Management

Part II - The Bill

Paper 3 - Federal Telecommunications Management Act of 1968

Paper 4 - Federal Telecommunications Management Act of 1968: Annotated Copy

Paper 5 - Proposed Statement for the Honorable James D. O'Connell to Introduce the Bill

Part III - Supporting Materials

Paper 6 - National Telecommunications Management: Providing a Creative Framework

Paper 7 - Future Technology and Federal Policy

Paper 8 - International Telecommunications and the New Agency

Paper 9 - Identifying the National Interest in Communications Satellite Development

Paper 10 -National Policy for Frequency Management

Paper 11 - Federal Telecommunications Activities: Changes
in Organization and Administration

Unique Features of Proposed Bill:

Title I - General Provisions

- create a Federal Telecommunications Agency with an Administrator

Title II - Organization and Powers

- "In the exercise of his duties the Administrator shall not submit his decisions for the approval of, nor be bound by the decisions or recommendations of any committee, board or other organization created by executive order."

- A Deputy Administrator and two Assistant Administrators

Title III - National Telecommunication Planning and Policy Direction

The Administrator shall:

- formulate and recommend to President and Congress national telecommunications policy.
- consult with and guide all Federal agencies on implementation of telecommunications policy.
- coordinate telecommunications research and development undertaken by all Federal agencies.
- develop, establish and, when necessary, recommend to the President policies and actions in communications satellite planning.
- act for all Federal agencies in all commerce and representation with Comsat

Title IV - Federal Government Telecommunications Operations

-Hheads of all Federal agencies shall operate their telecommunications services and facilities within the policies, guidance and standards set forth by the Administrator.
-Hheads of all Federal agencies shall submit telecommunications requirements to the Administrator for approval.

INDUSTRY VIEWS
RE
THE ROLE OF THE FEDERAL GOVERNMENT IN TELECOMMUNICATIONS

SUBMITTED TO
the
PRESIDENT'S TASK FORCE ON COMMUNICATIONS POLICY

THROUGH
the
EIA AD HOC COMMITTEE ON OTM LIAISON

Dr. Daniel E. Noble
Mr. Thomas A. Campobasso
Mr. Richard P. Gifford
Mr. David R. Hull
Mr. James P. Veatch

CHAIRMAN

Industry Views
re
The Role of the Federal Government
in
TELECOMMUNICATIONS

PREFACE

In this paper, the Electronics Industries Association plans to make these points:

- a) telecommunications is a growing factor in world community living; it will influence the direction of human society as much in the century ahead as the last 2000 years of growth in transportation.
- b) we have a vast array of technological resources on hand to provide giant strides in the movement of ideas and information.
- c) there is a broad spectrum of national and international problems searching for solutions - these are the opportunities for growth in telecommunications.
- d) finding ways to couple technology to need in telecommunications is vastly complicated by constraints of allocation, status quo, regulatory practices, protection of investments, etc.
- e) there is a need for high level Federal Government leadership to open the door for private initiative to explore new adventures in telecommunications that would serve national purpose and goals.

-----it must be a big effort

-----it must be a continuous effort

-----it must be a highly professional effort

These views represent those of the industry that has been and will continue to be at the core of the development of telecommunications hardware and systems. It is hoped that the breadth and depth of the experience of the Electronics Industries will serve as a convincing underscoring of the seriousness of the issue being addressed by the President's Task Force and the nature, philosophy and magnitude of the opportunity for telecommunications not only in the future of the United States - but also the world.

I The Role of Telecommunications in Modern Living

In the mid 20th century, with the onset of the Information Revolution, the role of telecommunications in human existence exploded in many directions at once. Today our telecommunications system is the central nervous system of our civilization. It maintains the integrity of the family and restrains nuclear annihilation. The system provides:

-----the means for the transfer, conveyance or even the detection of information over great distances.

-----the means for interconnecting complex machinery and systems for maximum efficiency and return on installed capacity.

-----the antennae or feelers by which we probe the unknown.

-----the nerve system by which we can live closer in mind and spirit while pursuing individual desires in climate and geography.

----the nerve system of command - control of our world wide security forces.

It is as much a tool for meeting the challenges of hunger, marginal living, poverty, international misunderstanding, exploding population, air and water pollution, and urban decay as the tractor, test tube or bulldozer. It is more than such a tool; it is the essential unifying system necessary to the mobilization of all other tools. Telecommunications, under creative leadership in policy, must lead the way to new system approaches to the crowded living problems of an industrialized world.

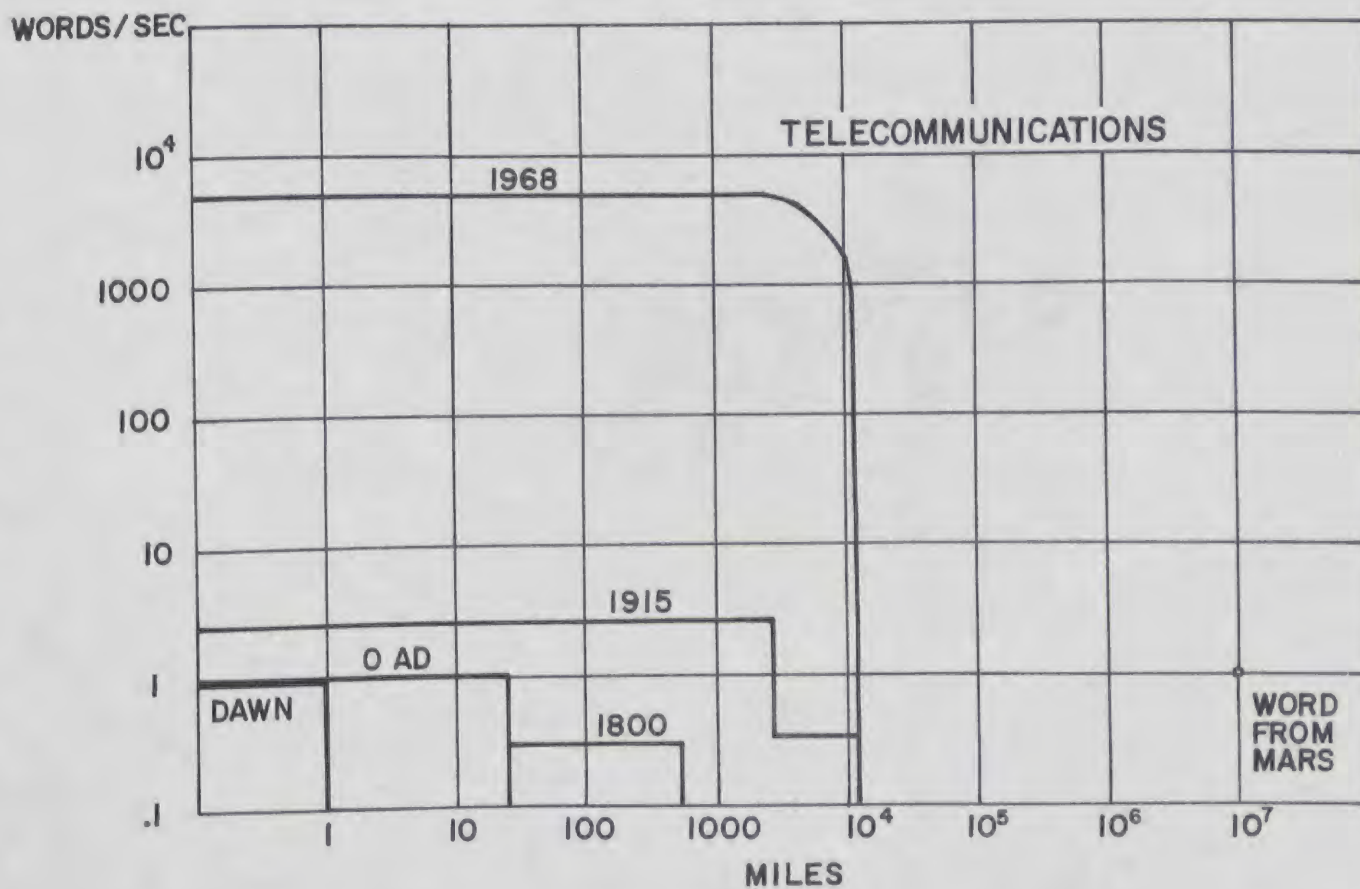
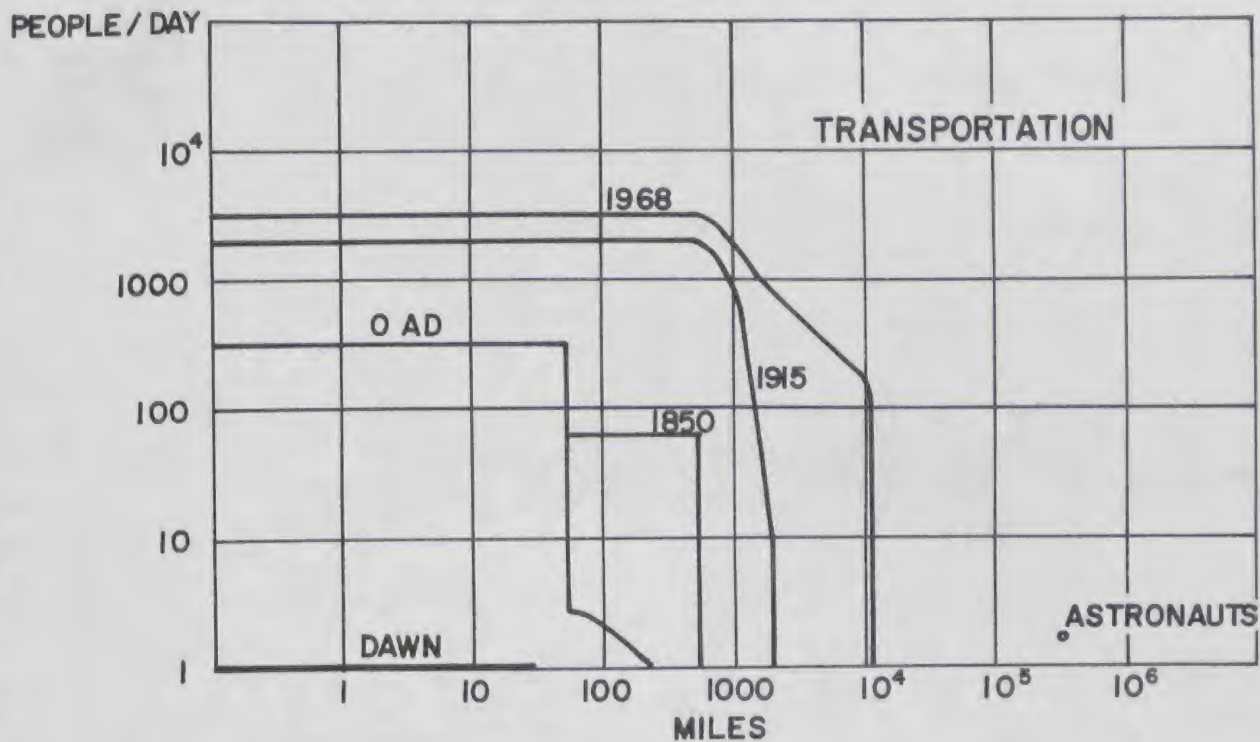
To obtain some grasp of the revolutionary aspect of telecommunications consider for a moment its history in relation to that of transportation.

The first of the following simplified diagrams shows how the movement of people has progressed throughout the ages-via walking, the horse, sailing ships, wagons, trains, steamships, cars, planes, buses, jets, etc. An accelerated pace in this trend developed with the industrial revolution.

The second of the diagrams shows how communications at a distance has progressed-via shouting, signal systems, telephone and today video via satellite. Note how virtually all the progress in this field has occurred since 1900-or more precisely since about 1940.

There has been an explosion in telecommunications capability and we are just now waking up to the potentials of the new technology in shaping our society.

GROWTH OF CAPABILITY TRANSPORTATION AND TELECOMMUNICATION



II Technology Available - Today and Tomorrow

General Overview

There is an abundant and growing technology available to serve National present and future needs.

Our present technologies provide for radiated wave communications over frequencies ranging from VLF (less than 30 kHz) to SHF (3 to 30 GHz) providing communications over distances of a few miles up to around the world, transporting information at rates of 1 to 1000 words per second with the latter providing visual information in color.

Conducted wave communications can also be transmitted to any point in the world by wire or by land or underseas cables. These systems can also carry a wide range of information bandwidths.

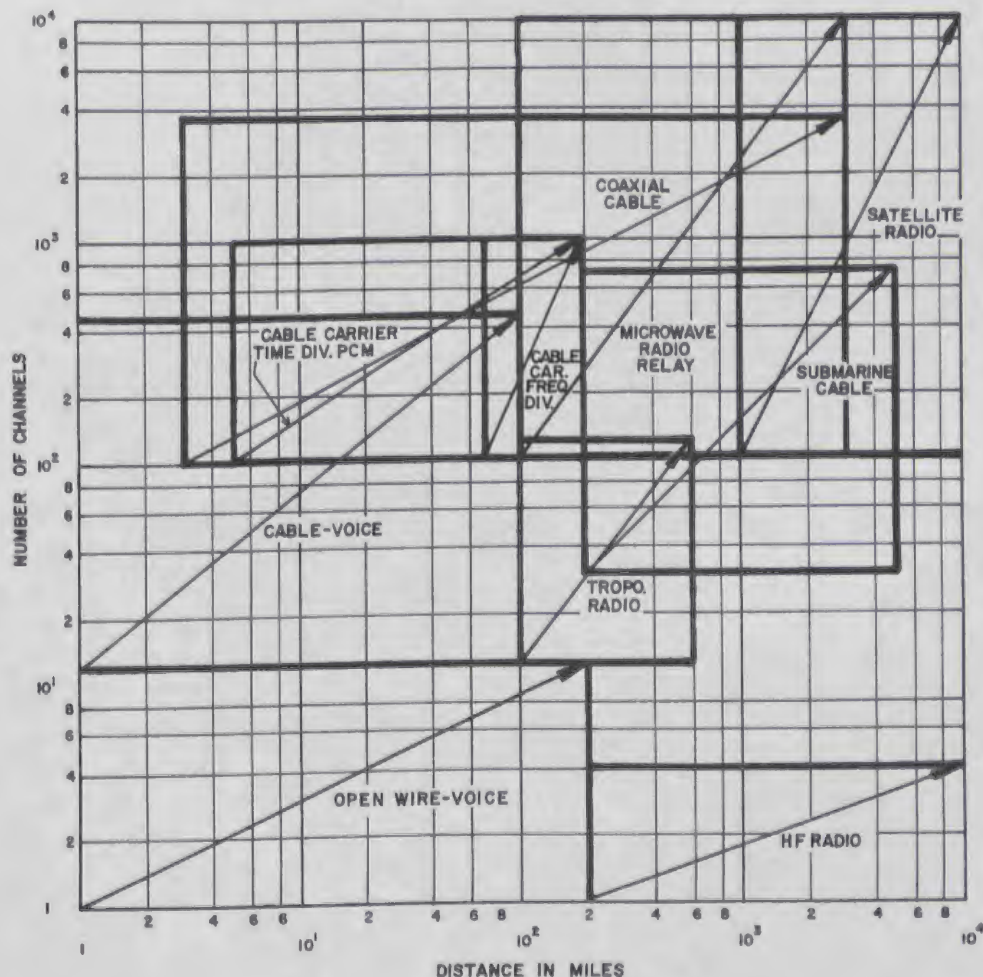
Technology is advancing and making it practical to use still higher frequencies up to those of lasers. The latter are showing promise both as a radiated wave system in space communications and as a conducted wave system in terrestrial communications.

There are overlaps in the application of the various forms of radiated and conducted wave technologies; and these will increase with the application of new technologies. Making the optimum choice from the various communication methods is a complex problem involving far-reaching social, economic, and political factors as well as technical considerations.

The following charts illustrate the overlap possible in application of the various radiated and conducted wave

technologies into a variety of communication methods. The first chart relates to transporting telephone or voice signals or equivalent bandwidth data.

TECHNOLOGIES NORMALLY USED FOR VARIOUS RANGES OF DISTANCE & NUMBERS OF CHANNELS BETWEEN MAIN DROPS
NARROW BAND (4 kHz) COMMUNICATIONS

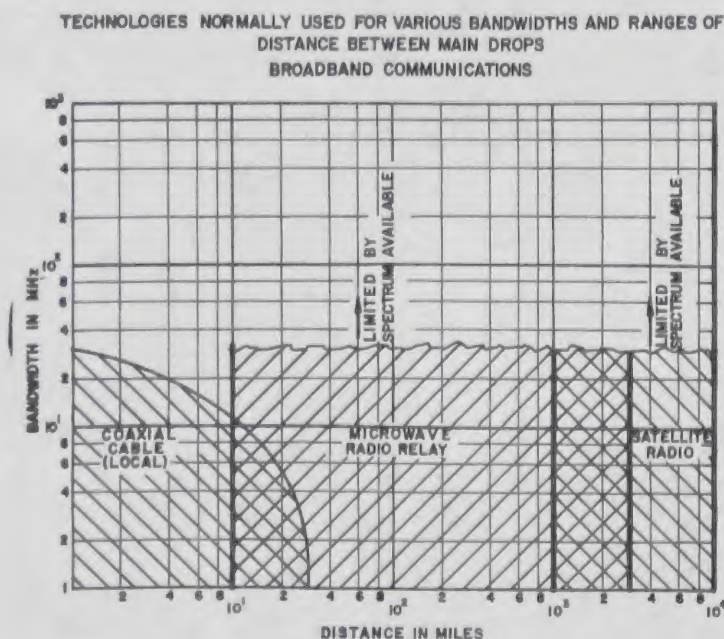


The vectors represent the range in number of channels and miles between main drops for the various methods, running from the shortest range and the lowest number of channels for which it is normally used to the longest range and the maximum number of channels. This does not mean that these limits normally occur together; they are independent of each other, and the use of the maximum number of channels is equally as

likely to occur with the minimum as with the maximum range. The box enclosing each vector very approximately indicates range of combinations of distance and number of channels that are likely to occur. In practice, economic factors may cause parts of indicated area to be used rarely; and in other cases, the use of method outside its preferred area may be justified.

The chart does not attempt to depict all methods in use nor does it indicate all those used for every possible combination of number of channels and distance covered by the chart. The overlapping of the boxes does indicate that in a number of situations there is a choice of several methods that appear to be suitable; the final choice is made on the basis of many other factors, such as terrain, ownership, future needs, economics, etc. For example, for 120 channels and 800 miles over an ocean path microwave could not be used and the choice would normally be submarine cable.

The second chart illustrates the range of methods available for the transmission of broad band communications, e.g. TV.



The boundaries of the domain of each method are only suggestive and many vary considerably depending upon the application. However, the chart does indicate that in this case also there are areas of overlap between methods.

Division for Closer Study

Technologies or methodologies such as those discussed in the broad overview can be divided for further study into two broad classifications: --radiated wave systems
--guided wave systems

Discussion on these appear in sections A and B of *Appendix I.

To complete the overview of technologies available for support of communication needs, two more sections have been added in Appendix I on the subjects of switching and signalling. Both of these functions are basic requirements for any communication system; the discussion appears as sections C and D, respectively.

III National Purpose, Needs and Visions

In this latter third of the 20th century, the world - and that includes the United States - is beset with many challenges. These problems that our world faces are not, however, new-most have been there for centuries. But they do stand out with greater clarity, for the knowledge and tools needed to meet these challenges are suddenly more available than ever before.

Our frustration and ignorance in trying to apply new tools to these challenges serves merely to make the challenges loom larger.

*Appendix I starts on Page 17

What are these world challenges? How do they relate to our national purpose, needs and visions?

To see ourselves as a macrocosm, let us journey to the moon and look back at our world. What's going on there?

First of all, we would note the breadth of the range of living conditions between various societies in various sections of our planet. While some people are still scraping their existence from raw nature as their ancestors did thousands of years ago, others live in centrally heated living units, eating prepared and packaged food, travelling virtually wherever and whenever they wish, creating beautiful masterpieces of art, architecture, song, writing, etc. Yet even within the more advanced societies there are pockets of bare subsistence being scraped from concrete.

Whole societies argue, get angry, fight and kill each other - mostly because of fear of the unknown and unfamiliar, pride and an inability to communicate their more constructive emotions.

Some societies are heavily "tooled" and continue to reinvest the returns from tooling into further social programs - thereby widening the gap between peoples. Others lack the basic education to take the first step in economic and social progress.

Some societies strengthen themselves with continually expanding access to the inventions, ideas, experiences and dreams of others. Yet in some parts of the world the people have never seen a picture, read a line or travelled more than five miles from where they were born.

Those societies with the least to offer future inhabitants are reproducing many times faster than those with the most to offer. Work is least plentiful where there are the most available to perform it and most plentiful where there are the fewest qualified.

And finally where man has progressed farthest in combatting the biological challenge of life, he is now most advanced in creating his own destruction.

As stated earlier, most of these issues of man in society are as old as man himself. But with the passage of time, the range of differences among various elements of the world society has continued to stretch out. History has taught us that greatest violence and horror erupt when the social differences and tensions within that society reach an undefinable, but no less very real, limit of endurance. While individual societies, including the United States, wrestle with this constant danger, the stresses between societies in the world continue to build without planned resolution.

In summary then, from the moon, we see societies in tension needing to participate and cooperate in plans to help themselves - not only to the age of national self-realization but also to the age of human self-realization in world-wide brotherhood. As the gulf between the bushmen and the intellectually elite widens ever more rapidly, we must raise our priorities for action.

Translating these observations into specific needs at home today we could note the following as basic national needs comprising much of our national purpose and vision:

- reinvesting the benefit of our productive system to develop efficiency and effectiveness in meeting the normal and emergency needs of the less fortunate.
- further improving the efficiency of the productive system, without destroying our natural habitat, to provide growing benefits to be plowed back into social progress.
- developing better means for effecting social progress without quenching the full self-realization of every man.
- extending our knowledge and experience to others without smothering their individuality or dulling their motivation.
- providing paths for substituting the light of knowledge for the darkness of ignorance, bias and superstition.

Tabulating such statements of national purpose and needs into terms more familiar as issues of the day, we could list:

- efficiency in services
 - health
 - education
 - welfare
- efficiency in production
- decongestion in travel
- clean air and water
- self-realization in an industrial society
- extending the hand of brotherhood in international relationships for:
 - food, shelter, clothing
 - education towards self-help
 - mutual understanding

Here then are our challenges; how shall we meet them with the tools of telecommunications that are technically so plentiful? Appendix II offers some glimpses of how telecommunications might serve - but even with such examples, the problems of implementation remain.

IV Implementation Challenges and Frustrations

In chapters II and III we examined first the status of our technological communication "cupboard" and then the "nutritional" needs of the world and ourselves. In this chapter we will discuss "recipes" for converting the "larder" into satiating "diets".

As background for this discussion, the reader should be aware that there are existing international, national and local regulatory practices and communications policies that tend to discourage new adventures in developing more enriching "meals". It is not the purpose of this paper to condone or condemn the regulatory environment for telecommunications, but rather to create a more appreciative awareness of many constraining forces, such as:

- the common availability of the spectrum requiring international and national allocation,
- the inefficiencies produced, compared to the benefits obtained from reserving spectrum for various classes of users,
- the unchangeability of the status quo - not only where investments have been made but also where there are only reservations.

----the long cycle time in both national and international spectrum allocation changes - made even longer from lack of long range planning.

----the investment of an entire industry such as broadcast in what now may not be the optimum arrangement for certain forms of communication.

----the service task of the common carriers that requires protection of their anticipatory investments.

----the technical interface requirements of the national network.

----the common carrier policies discouraging or limiting interconnection, attachment of foreign devices and subdivision of leased circuits.

In other words, while there may be an obvious coupling of telecommunication technology to meet a national need, its implementation may be frustrated by both reasonable and unreasonable constraints. With so many visible and hidden reefs in the harbor, a normally venturesome industry is reluctant to set course for new worlds of telecommunications.

There is need for someone to chart the course and clear the path for implementation of new telecommunication systems that will serve national purpose and goals.

V The Need for the Federal Government to Lead Telecommunications Policy

While it may seem an unusual declaration for private industry, leadership in telecommunications policy and planning

is a most proper role for the Federal Government. The key word is "leadership"; the wide variety of private interests in communication cannot perform collectively in the optimum national interest without some leadership toward national goals.

Policy leadership is particularly necessary at the national level to provide for:

- 1) interpreting the national interest to guide the industry.
- 2) sharing of a common resource - the radio spectrum.
- 3) system organization of facilities and exchange of information.
- 4) creative exploitation of the economics of size while not constraining innovation.

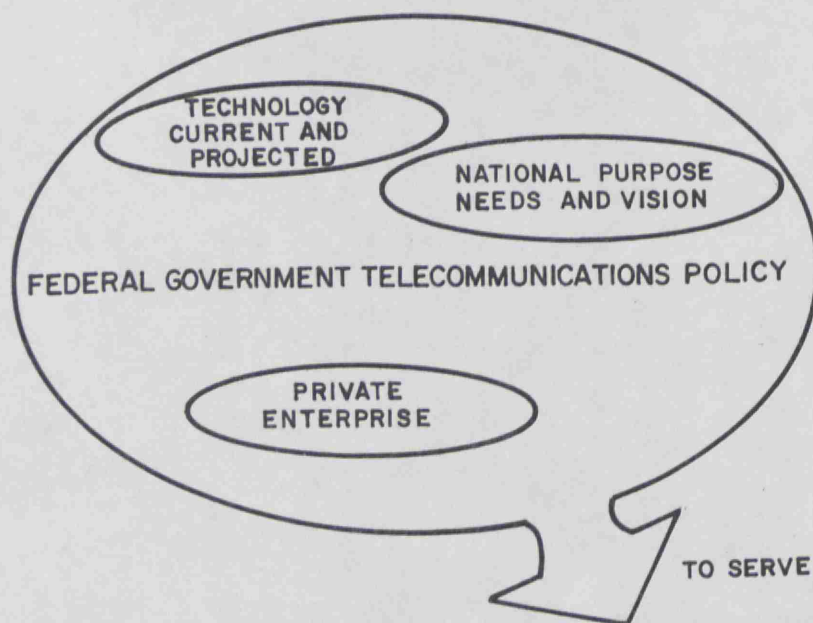
Of these, the fourth, represents the most enigmatic challenge, for policies that engender size often stultify innovation or at least limit the sources and channels for innovative thinking. Somehow the creative forces of competition among many private sources have to be unleashed by national policy that will simultaneously maintain the integrity of those systems that are benefitted by size.

Who else, in the national interest, can weigh the gains to be anticipated through variety and innovation against the benefits of the economics of size and conformity?

Again, we would emphasize that the key word in the role of the Federal Government is "leadership" - not "ownership". We can see no basic benefit in suggestions of Federal Government ownership of public communications facilities. As a matter of

fact, in Government ownership the public would lose the benefit of objective leadership of the character needed. In the total absence of competition, creativity might be kept alive by forced feeding - but such creativity generally loses in the translation to economic reality.

The Federal Government can best serve as a catalytic agent to enable the forces of private initiative to combine technology and public need to promote the most meaningful implementation of communication services to serve our national purpose.



In fulfilling this role, the Government must exercise leadership - leadership based on responsive sensitivity to inputs from many sources rather than arrogant self-determination. While it must have authority adequate to clear paths for new solutions, it must learn to use that authority to guide

what must finally be achieved through others. And yet, government leadership must provide more than coordination, or compromise among conflicting interests; it must provide fearless far seeing guidance and a willingness to decide what is best in the national interest and act on those decisions.

The catalytic leadership envisioned will require far more extensive analytical, planning and engineering resources than are now supported in the FCC and the DTM.

It will require a continuing high level of effort - rather than stop and go studies. To be effective, the leadership must be continually capable of updating and correcting long range plans as imaginative minds and new experiences show additional or modified paths to provide greater long term yield.

And finally, in all facets of its work, the leadership must be founded on highly professional skills in engineering and analysis. Short range emotions must be tempered by the accepted inputs and plans of highly qualified professionals.

CONCLUSION

As our goal was set forth in the preface, we made here a strong plea for leadership in telecommunications plans and policy to be funded and staffed at the Federal Level. Since we are dealing here with a new and growing factor in community living that will certainly equal, if not surpass, the influence of transportation in the century ahead, we recommend that the President's Task Force "think big" about the opportunity and the response.

APPENDIX I

DETAILED DISCUSSION OF TECHNOLOGY AVAILABLE - TODAY & TOMORROW

A. RADIATED WAVE SYSTEMS

Frequencies Required and Useful

Each major area of the radio spectrum can be characterized by the types and limitations of service available. Very low frequencies (VLF - less than 30 kHz) provide very long distance and very stable wave propagation which can penetrate sea water to a greater depth than other waves. They are used for navigation as well as submarine and strategic military communication, particularly of a wide-area broadcast type. Limitations on bandwidth availability prevent the transmission of voice and high-speed data. For this reason, and because large installations are required to generate long waves, VLF installations such as "Big Jim" in Washington State require very heavy capital investment, and flexibility is extremely limited. No technology is available or foreseen promising relief from these limitations.

Broadcasting including the older (AM) and the newer (FM and TV) types account for some of the most advanced technology. "Static" and fading affecting the skywaves limit AM use of medium (MF) frequencies (550-1500 kHz). Requirement continues for this service at these frequencies mainly because of the heavy existing investment in facilities. International broadcasting at high frequencies (2-30 MHz) is particularly susceptible to fading but covers extremely wide areas at low cost. Television and the highest quality FM broadcasting can be conducted on very-high (VHF) and ultra-high (UHF)

frequencies (30 -300 -3000 MHz). Although radiation from individual transmitters at these frequencies is limited to line-of-sight, wide area networking through cables, microwave relay, and satellites overcomes this difficulty. Wider service areas for equivalent power from each transmitter favor VHF. Heavy investment also impedes this move but federal requirements that all new TV receivers be "all band" could eventually make the move possible. Some 70 channels are available at UHF as compared with 13 at VHF. The extension of cable facilities will not only provide for many low-powered UHF stations, but may even make many of them unnecessary as cable TV becomes widespread.

Radar and other similar pulse-modulated systems must operate at VHF and higher frequencies because of the wide bandwidths required. As requirements increase for higher definition and accuracy, wider bandwidths are required, and these can be found readily only at higher frequencies. Newer services naturally experience difficulty in displacing existing services in order to share frequencies. Space communications is currently experiencing this difficulty. Temporary limitations on power available in the satellites postpone potential interference with microwave relay land-based systems whose bands they currently share. Technology can facilitate this sharing through increased antenna directionality and stability or other means of making the respective signals orthogonal with respect to each other. Antenna beamwidths feasible from current synchronous satellites are of the order of 1° . At synchronous altitude a beamwidth of about 16° is required to cover the projected area of the earth. For lesser beamwidths the size of the surface area covered will

depend on its latitude, being smallest directly under the satellite. From earth to satellite feasible beamwidths permit the spacing of satellites in synchronous orbit with only 2° separation. In addition to the geographical sharing, separation by frequencies used permits further duplication of service; other means of orthogonality have not been developed technologically. In the future those may include varieties of modulation and radiation polarity, although rotation of polarity in transit between earth and satellite may make the latter unfeasible. Between satellites in space, communication by laser appears practical but requires highly stable equipment and modulation techniques yet to be developed. Also yet to be developed are possible laser diversity techniques permitting communication between earth and satellite unobscured by clouds.

A most critical area of frequency congestion is used by the land mobile services. They currently operate in several bands between 25 and 1000 MHz. Sharing efforts have been largely directed toward increased channel splitting.

Effort and expense directed toward improvement of transmitter frequency stability reaches a point of diminishing returns when the deviation from the assigned frequency is small relative to the occupied bandwidth. This point seems to have been reached for assignments near the lower end of the 25-1000 MHz band although future developments in filter design (to improve selectivity of channels), and in reduction of bandwidth needed to pass the required modulation, may reopen the issue. Bandwidth reduction makes more difficult the attainment of a satisfactory signal in relation to background noise and interference in frequency modulation systems.

Some benefits may be expected from improved modulation techniques but, as in the move of TV from VHF to UHF, compatibility problems are caused between existing and future systems. Dual capability would be required in the interim, and potential benefits from feasible changes have not, to date, promised advantages sufficient to warrant the increased costs. Single sideband (SSB) while advantageous in improving frequency use in other services appears unattractive here because mobile operations demand a fast acting automatic gain control with a dynamic range of 80 to 100 dB. This in turn is not yet feasible without a carrier to indicate field strength changes as the vehicle moves. The use of SSB would also require greater suppression of the unwanted sideband than is now available in mobile equipment and the maintenance of stringent requirements on frequency stability. Some progress is being made in aeronautical mobile SSB development, and this may be transferable to land mobile development in the future.

Newly developed technology permitting understanding and measurement of high-frequency propagation characteristics through the use of oblique incidence sounding is giving "a new lease on life" to high-frequency communication of all types. Reliability demands of data transmission had in the recent past required that most data be transmitted on cables and satellites. Now it is possible through the Common User Radio Transmission Sounding (CURTS) system to choose high frequencies having propagation reliability approaching that of cables and satellites. The inherent resistance of the ionosphere to disruption, in contrast to satellites and cables, is a priceless advantage, particularly in unsettled times.

By nature, bandwidth limitations on information-handling capacities decrease as one moves to higher and higher frequencies. Experimentation is proceeding with radiated-wave systems operating on super high (SHF) and extremely high (EHF) frequencies (3-30-3000 GHz), but most effort in these frequency regions is being concentrated in guided-wave systems because problems of atmospheric absorption of these waves promise indefinitely to limit their usefulness in radiated-wave systems. They may, however, like lasers, find usefulness in radiated-wave systems in outer space between satellites and other space vehicles. Lasers are also not considered feasible for radiated-wave earth bound systems except for very short distances where there is no physical obstruction or undue absorption.

In general, "hardware" development has been "paced" by radiation technological developments, progressively moving toward higher and higher frequencies. The use of sounders at high frequencies is a notable exception to this trend.

Bandwidth Capability

Modern radiated-wave communication facilities requiring the narrowest bandwidth are continuous-wave (CW) telegraph communications. Their reception is limited not so much by the spectrum occupied as by problems of instabilities, particularly fading. The information-carrying capacity of such circuits is low, however, so most commercial record communications are now handled by teletype-writers operating at about 100 words per minute. Twelve such circuits can be combined in one 4-kHz voice channel, and four such voice channels are frequently found on each radio trunk.

On microwave radio relay, bandwidth capability is measured in terms of 4-kHz voice channels. These are combined in groups of 12 channels and supergroups of 5 groups, each group having 12 channels, in the same manner as is done for transmissions over telephone cables.

Microwave radio relay systems and communication satellites employ the widest bandwidth services provided by radiated-wave systems. The current Intelsat satellites are capable of handling 240 telephone channels in each direction. The improved version of the present satellite can provide 1000 channels according to its manufacturer. Intelsat III scheduled to be launched next year, is planned to have 1200 channels.

The bandwidths discussed above refer to information bandwidths. They are used to modulate the radiated waves. The RF bandwidths of those waves vary according to the type of modulation used in the transmission system. When frequency modulation is used, the FM excursion may be between frequencies spaced as much as ten times that of the information bandwidth. Bandwidths required to transmit very short pulses may be of the order of 6 MHz, although the information bandwidth may vary from that required for relatively slow-speed teletype to that required for very high-speed data, TV, etc. Pulse modulation permits the transmission of many channels containing different information within the same RF bandwidth. Bandwidth capabilities of the various media of transmission were discussed above, the widest bands being those available in laser transmissions. The visible light spectrum is about 4×10^{11} kHz wide, which theoretically would support 100 billion 4-kHz telephone voice

channels in each beam if means were available to generate and control them as is done at lower frequencies.

Signal-to-Noise Considerations

Only within the last four or five years has a satisfactory means been developed to identify and measure all the radiation characteristics that affect signal-transmission level. Transit through the ionosphere and reflection back to earth may introduce time dispersion of the order of 2-5 ms as different frequency components penetrate to varying depths in the ionosphere and frequency dispersion of the order of 2-6 Hz occasioned by the "billowing" changes in ion position during the transit time. The resulting signal distortion is particularly serious at the high data-transmission rates now beginning to be employed. Atmospheric noise, primarily due to natural electrical activity like thunder storms, to man-made electrical discharges and to interference from other communication services, cause "noise" deterioration of the desired signal. Measurements of these factors can now be made and used in the predictions of the most suitable high frequencies on a particular path. Natural noise is strongest at the lower frequencies where it, like the desired signals, is transmitted long distances through reflection by the ionosphere.

The required radio carrier signal-to-noise ratios depend on the information channel performance desired and on the type and degree of modulation utilized. It is possible to trade spectrum width for signal-to-noise ratio and wide deviation frequency modulation or pulse code modulation systems can often live with carrier signal-

to-noise ratios thirty or even forty dB worse than their narrow spectrum counterparts.

Specific examples are wide deviation FM (now used for communication satellites) and PCM, which is primarily used in wire systems.

Launching Platforms

Transmitting sites from which signals are "launched" have undergone substantial recent change in design. Earlier use of lower frequencies required large physical antenna structures and large tuning coils housed in their own buildings near the antennas, etc. Improved knowledge of propagation conditions, usability of higher and higher frequencies, and improvement in the quality and design of components have all contributed to reduction in the size of the "launching platforms". Perhaps the most advanced platforms are now the 3-to5-foot satellites, on which are mounted antennas of the order of 2 feet in diameter.

Rendezvous techniques between satellites promise early capability to assemble large installations in space free from important structural limitations on earth.

Earth-based transmitting antennas can now have their actual directional characteristics measured after installation to determine the exact position and level of radiation patterns.

Antenna Systems

Better understanding of the techniques for control of the phasing of antenna elements, suppression of side lobes, and development of mechanical drives that can operate in space have resulted in

(1) improved antennas such as the log-periodic antennas; (2) Cornucopia antennas such as that at the earth station in Andover, Maine; and (3) "de-spun" directional antennas for spin-stabilized satellites. Improved directional characteristics permit increasingly effective frequency sharing. Recent advances in full-scale measurement of HF and VHF antenna characteristics, with the aid of isolated transmitters towed by aircraft and computer reduction of data, now permit reliable proof of performance of antennas in their actual environment, including the effects of nearby structures.

Yet to be developed are satisfactory circularly polarized antennas for use on aircraft and satellites. Aircraft and spinning satellites require antennas that operate satisfactorily from a variety of attitudes and with low gain toward the horizon in order to avoid pickup of excessive noise.

Log-periodic antennas are a recent development providing a bandwidth capability of the order of 15 to 1 in a smaller physical space than has heretofore been possible. Rotatable log-periodics and steerability permit use of these antennas in a wide variety of circumstances.

B. GUIDED WAVE SYSTEMS - WIRE, COAX, WAVE GUIDE, PLASTIC PIPE, ETC.

Present conducted or guided wave systems utilize paired conductors, and future systems are expected to utilize hollow pipes known as wave guides. Modern paired-conductor systems employ carrier-current transmission to provide more circuits than that available from the wire alone. The equipment provides frequency division multiplex (FDM) to separate the channels. Paired conductors are now used for bandwidths of about 100 kHz for analog transmission and

signaling rates of 1.5 megabauds for digital transmission with a signaling rate of 6 megabauds expected in the near future. Paired-conductor systems are generally limited to distances of a few hundred miles and require repeater spacing of less than 1 mile for a 6-megabaud digital system and about 5 miles for a 100-kHz analog system.

Coaxial cables are generally used for bandwidths and signaling rates higher than those normally obtained on paired conductors and for transmission over transcontinental and intercontinental distances. The bandwidths obtained on coaxials range from about 5 MHz in the latest submarine cable system, where a single coaxial tube is used for both directions of transmission with repeater spacings of about 10 miles, to about 18 MHz for land-based systems where a separate tube is used for each direction of transmission with repeater spacing of two miles. While the submarine cable consists of a single tube, modern land-based coaxial cables contain as many as 20 tubes in a single sheath. It is expected that the bandwidth of coaxial cables used for land-based coaxial cables will be doubled in a few years for analog use by developing repeaters suitable for 1-mile spacing.

Recent developments have made digital systems attractive and a gradual evolution toward pulse-code-modulation (PCM) telephone transmission has started. The first such installation was in 1962. It is also expected that digital systems with signaling rates of about 300 megabauds will be available in a few years with repeater spacing of the order of 1 mile. These close repeater spacings put very stringent requirements on the repeaters for systems of transcontinental length since thousands of repeaters are required in tandem. Systematic transmission deviations would add up to

intolerable levels if not restricted to extremely small values in each repeater.

PCM, in addition, promises great flexibility in traffic handling with eventual integration of the switching and transmission systems, avoiding the need for demultiplexing down to voice frequencies except at the receiving terminal.

Existing analog types of modulation require some 65 dB signal-to-noise ratio for satisfactory operation. With PCM, however, a ratio of about 20 dB is satisfactory. Because noise increases with bandwidth, this difference permits the use of wider bands of frequencies on the same facilities. It is expected that PCM equipment will be used on many existing circuits. When it is generally in use, the distinction of types of traffic (voice, data, record, non-record, etc.) will substantially vanish from a technical standpoint as the pulses can be relayed over a much wider variety of facilities than is now possible.

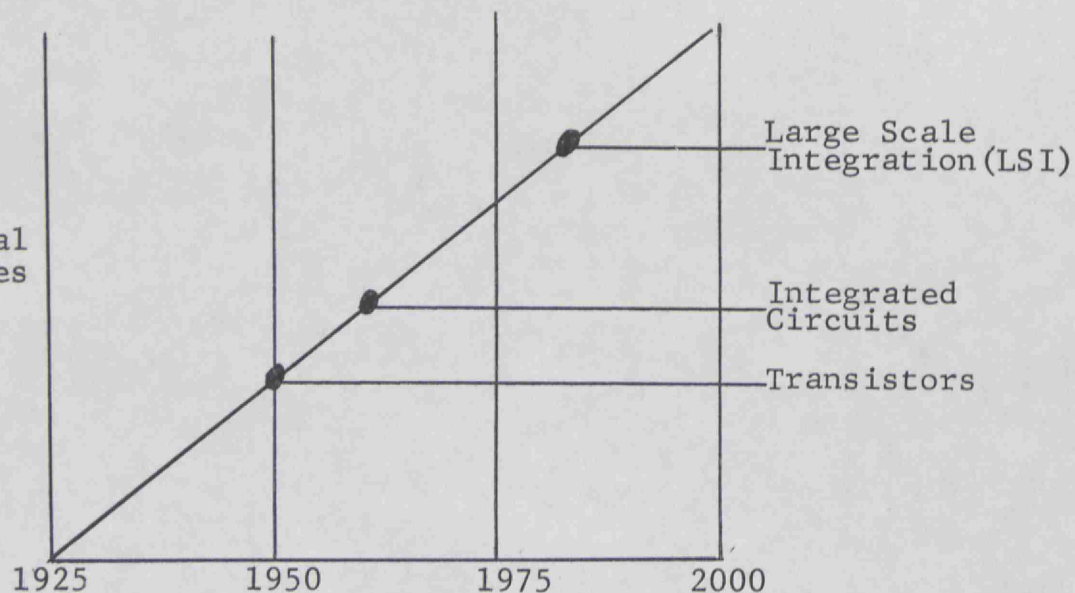
As more and more capacity is required and the coaxial repeaters become impractically close, one looks next to the promise of wave guide as a transmission medium. By exploiting a particular transmission mode, very broad bandwidths should be realized by propagating millimeter waves (30 to 300 GHz) in copper pipes a few centimeters in diameter. For instance, a total bandwidth of 30 GHz in each direction in a single pipe with repeater spacing on the order of 20 miles may be feasible within a decade. This represents a very large spectrum since less than 30 GHz of radiated spectrum is currently being exploited. In fact, most radio propagation now is below 10 GHz. Some experimental work has been done with wave guides but development

for commercial application is just getting under way in the U. S. and several other countries. Actual feasibility is yet to be proved. So far, the facility needs have not justified the expense of developing and implementing such systems.

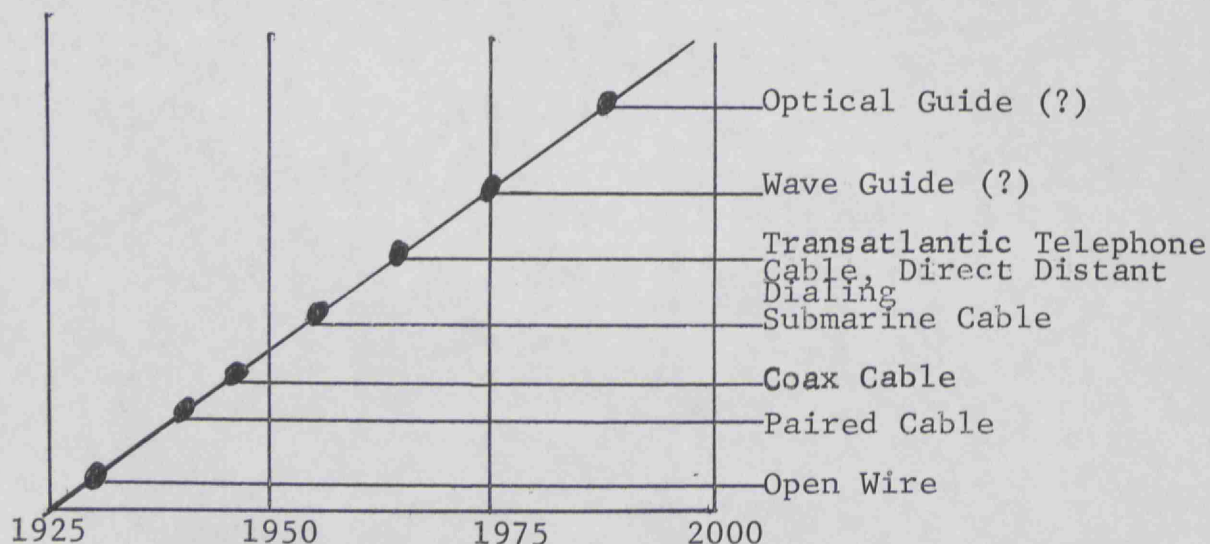
When the facility demand outgrows the practical or economical capacity of millimeter waves in copper pipes, the next logical step appears to be to move up to light frequencies. The advent of the laser has made the use of this part of the electromagnetic spectrum promising as a useful communication medium. The vagaries of the atmosphere will probably require the use of pipes for terrestrial transmission of communication via light beams. The bandwidths available could be truly fantastic even when measured against the wave-guide capability. Laser communication systems are still in the research laboratories where the characteristics of the medium are being explored along with methods of generation, modulation, and detection. It is not easy to predict when laser systems will be commercially practical and economical. Based on past communication history, however, it can be predicted that they will be available when the facility requirements reach the level where such systems are needed.

Although not to scale, the following figures illustrate the growth and application of technology as well as the utilization of communication resources from 1925 and projected into the future.

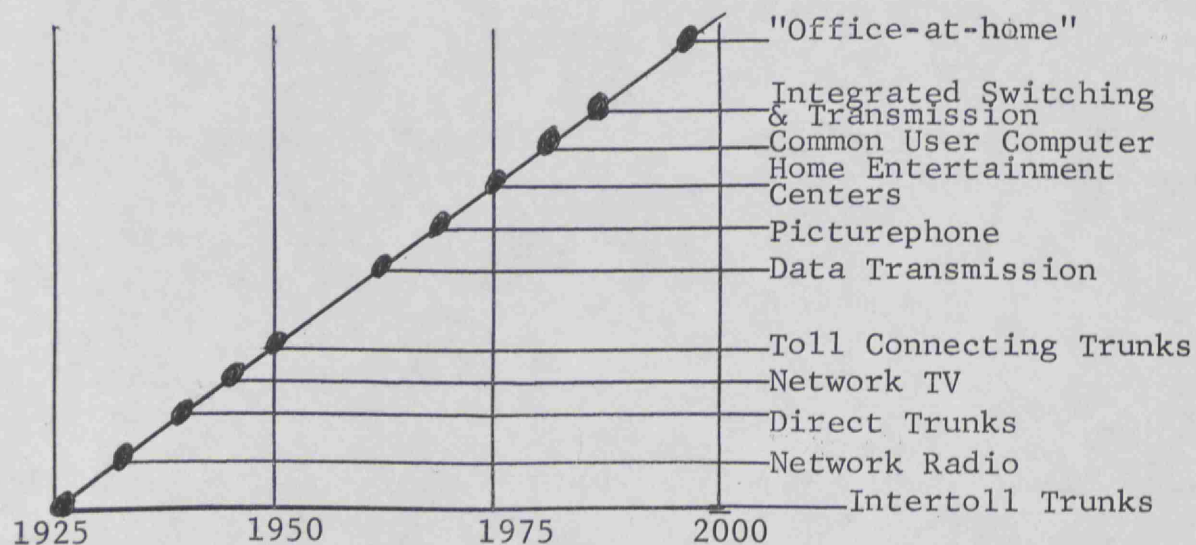
Technological Milestones



Application Milestones



Utilization Milestones



C. SWITCHING SYSTEMS

Real-Time Switching Systems

Real-time switching systems may be categorized by the hardware with which they are constructed, the bandwidth of the communication paths that are switched, and the speed of establishing a circuit through the system. Therefore, present day commercial real-time switching systems generally may be categorized as electromechanical systems that switch nominal 4-kHz circuits within a matter of milliseconds following the completion of the required signaling. A very few semi-electronic switching systems (i.e., electronic control of electromechanical switches) are now appearing in this country, such as the Bell System ESS #1 and other similar systems, with basic unit sizes up to 30,000 lines per switch (central-office). The future of real-time switching is tending toward fully electronic switching of digital transmission paths with bandwidths up to 48 kHz and where switching within one switch is accomplished within microseconds following completion of the required signaling information. Now in final development stages are the small time-division-multiplex switching systems, such as the Bell System ESS #101 switching system having a 200-line modular construction allowing it to be combined into larger systems.

Store and Forward-Switching Systems

The technology of store and forward-switching systems is progressing from today's electromechanical systems into completely computerized systems. Many such systems are already installed in private and Government teletype and data networks. Many of the major

computer manufacturers now produce store and forward-message switches that store digital messages on magnetic disks, drums, magnetic tapes, etc. instead of the paper tape used in many electromechanical systems. Computers such as the Univac 418, the IBM 360, and the CDC 3300 or 8090 are presently being used as store and forward-message switches. Future systems will integrate the control of the transmission link with the other computer functions of the message switch. Adaptive systems, which adjust the rate of digital transmission on inter-switch trunk circuits to the maximum capacity of the trunk, are now in development. Rates up to 9600 bits per second are now being transmitted over 4-kHz circuits with these techniques, (i.e., adaptive control of phase-modulated carriers).

D. SIGNALING SYSTEMS

International Compatibility

Development of global communication necessitates compatibility among national systems. In addition to facilitating manufacture and sale of equipment abroad, standardization is required in signaling among systems in different countries.

The systems designated by the CCITT as Number 4 and Number 5 are in most common use. The Number 4 system uses part of the signal to set up the circuit from end to end, spilling the remainder to provide the signaling necessary after the circuit is established. The Number 5 system operates "link by link", passing all of the signaling information from one transit center to the next as the circuit is built up. Both systems use multifrequency tones (rather than dc) transmitted in the voice band to be used for talking.

They are not satisfactory, however, for submarine cable equipped with Time Assignment Speech Interpolation (TASI) or on "stationary" satellite circuits that might require more than one satellite link.

Development Trends

Improvement in signaling technology can be broadly divided into improvement in inter-register signaling and improvements in line signaling. The former relates to signals needed to establish the circuit before communication starts, and it should be of as short duration as possible. Line signaling must be available throughout the conversation (signals timing the call, terminating it, etc.)

The direction of development has been along two paths: first, in upgrading of existing multifrequency pulse signaling in the voice band used for communication - stretching the present state of the art as much as possible; second, in development of data-stream techniques employing a separate channel to handle both line and inter-register signals only. The Number 6 signaling system is designed to provide this facility. It is much faster in operation than the others but requires a stored program control facility at the switching terminals for interface with other systems. The upgraded Number 5 system is designated 5-bis. Systems Number 6 and Number 5-bis are to be presented at the CCITT Plenary Assembly with hope of international adoption. Nippon Telegraph and Telephone Corporation exhibited a laboratory model of the Number 6 system to delegates of the CCITT meeting in Tokyo, July 1967. The Number 6 system has not only the facilities for current requirements but also the capability to meet anticipated requirements for at least 20 years.

E. TRADE OFF FACTORS

Stationary vs. Moving Stations

As population density increases and service to highly populated areas is extended, radio services that can be performed by non radio means must give way to those that can be performed only by radio. Modern switching technology will permit (at a price) signals from a mobile vehicle to be passed from one land station to the next as the vehicle moves. Current studies involve a complex problem of finding where the desired mobile vehicle is and how to select the best land station for communication with it. The Federal Aviation Agency and Military Services must keep track of aircraft for traffic control purposes. Adaption of the techniques employed for this service will be able to serve common carrier communications when costs are reduced and increased spectrum crowding necessitates the development of the system.

Trunk Circuits vs. Multidrop vs. Broadcasts

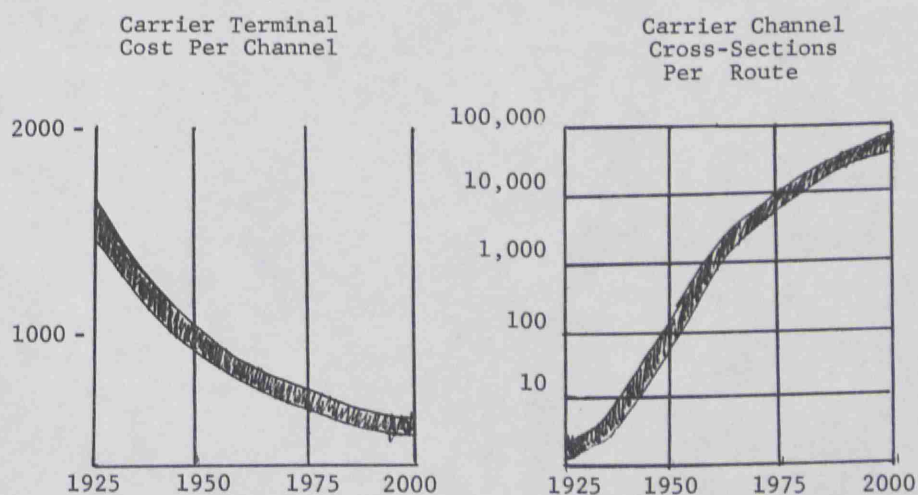
As traffic increases between terminals it eventually becomes more economical to provide direct trunk circuits between these terminals rather than circuits switched either by operators or automatically at intermediate points. Other similar arrangements include private leased lines connecting major offices having substantial business relations.

In a somewhat similar manner broadcast networks can trade off direct broadcast for the use of cables with multipledrops to stations having low power to serve the same area. Community Antenna Television (CATV) employs similar techniques and pay TV eliminates

the radiated portion of the broadcast entirely, relying wholly on cables. Such services, in the areas where they are appropriate, release for other purposes portions of radio spectrum they would otherwise use. Again the trend will be to drive more and more service from the radiated spectrum to cables as congestion develops.

Economic Factors

The cost of cables, repeaters, and associated equipment is roughly proportional to the distance between terminals modified on a per circuit basis by the cross section of the trunks involved.



The total cost of radiated systems depends on the cost of the terminal equipment, the relay equipment, the propagation characteristics of frequencies used, and the geographical relationship of the terminals. Signals from geostationary satellites cover almost half of the earth so that, once a signal reaches the satellite, the cost of its return to earth would differ little at any location within sight of the satellite. Similar considerations apply to land-based HF radio systems. Recent developments improving reliability of high frequency propagation predictions have improved the economic competitive status of HF as compared with status of other means of communication.

Carrier, classically, has competed with copper wire both economically and in circuit quality. Since its introduction soon after the first World War, carrier has proved superior to wire over shorter and shorter distances. Cost benefits also increase as the number of circuits (cross section) provided on one route increase. Limitations on this increase occur as larger gross sections require more equipment common to many channels, thus increasing the reliability requirements because a single failure would affect so many circuits. Increase in density of communications in a given geographic area tends to saturate also. This constitutes a limitation on development. Counter to these trends are technological improvements in reliability and the provision of new services that overcome the effects of saturation.

The very large bandwidths available in conducted systems should not be overemphasized as the answer to all spectrum problems. Very large investments in common items are required in all these systems and such investment must be spread over a very large number of communication channels for a system to be economically attractive. The costs of acquiring right-of-way, clearing, trenching, cable placing, gas pressure systems, lightning protection, engineering and other common items are much the same for a coaxial cable with a small capacity or one with a large capacity. Only where there is a need for very high capacity can the common costs be justified. It is often much more attractive economically to provide modest capacities by radiated systems where the incremental capacity of a radio channel matches the growth rate of the route and where fixed common costs are a much smaller part of the total cost. In such cases the cost

per circuit mile can be much less than would be the case with conducted systems.

Signal-to-Noise Considerations

Propagation of noise at low radio frequencies and the difficulties of physical construction of related broadband facilities militate against their use for voice communications. Radiated noise decreased as one proceeds to higher frequencies and, of course, is eliminated when one uses cables. In cables thermal noise in the first stages of the various repeaters is the limiting noise generated. Technological advances in cooled parametric amplifiers permit operation of satellite earth stations with extremely small signals since radiated noise at the microwave frequencies they use is small. Signal-to-noise reduction and improved bandwidth capabilities have not, to date, impelled use of such techniques in other communication facilities, however.

APPENDIX II

HOW TELECOMMUNICATIONS MIGHT SERVE NATIONAL PROBLEMS

Chapter III condensed some of the major national problems to the following list:

- efficiency in services
 - health
 - education
 - welfare
- efficiency in production
- etc.

Let's examine how the tools of instant communications in volume might serve such challenges.

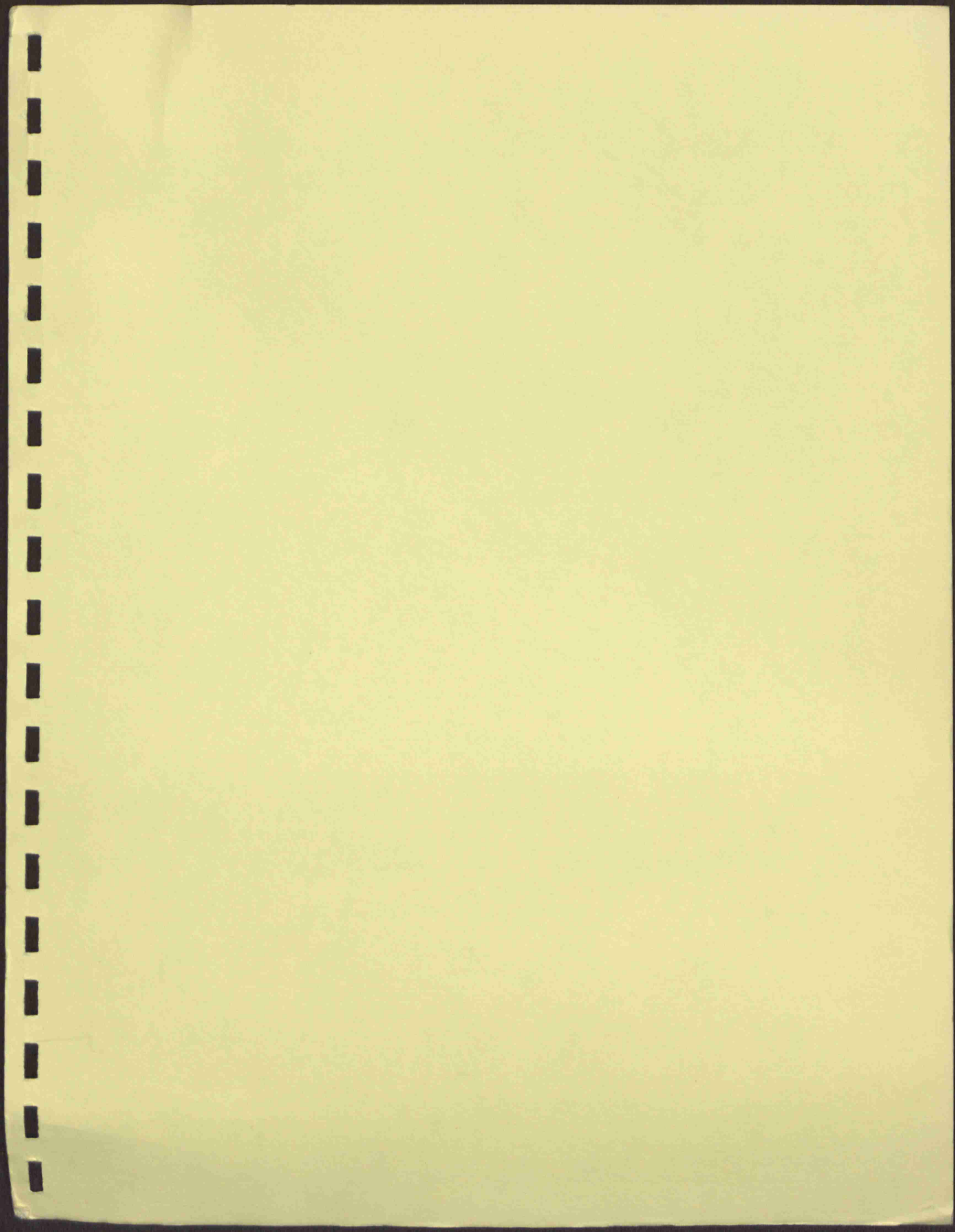
Already today, mobile and personal communication systems provide for greater efficiency in services and production. If it could continue to expand, everyone could be in instant touch for emergency help, doctor's advice, information, etc. Few people realize, however, that such instant mobile communications can even serve such challenges as air or water pollution. Mobile units can not only provide more extensive policing but also provide the means for obtaining immediate remedial action.

Consider the possibility of expanded video communications into the home. How much faster might a developing child gather in the spectrum of knowledge through video libraries. Would book libraries be reduced only to those needed for ready reference? Homes now without libraries could have a whole public library of video information in their home. Will learning develop more rapidly from a broader spectrum of randomly selected video materials?

Video information could of course go far in reducing travel congestion - and fatigue. No more 12 hour trips for 2 hour meetings as video conference rooms become standard accessories in businesses, hotels and even professional service offices.

Consider the challenge of communicating farming techniques - or planned parenthood - to those who know only what their ancestors have done for centuries. Might they not, with time, come to see value in visual communications if some of the earliest lessons are readily accepted and yield quick success?

Consider what real time pictures of war in our living rooms have done to make all Americans more conscious of the stupidity of solving differences this way. What would be the impact on the world if all sides saw all the horrors?



UNITED STATES GOVERNMENT

Memorandum

TO : Dr. C. T. Whitehead

DATE: April 18, 1969

FROM : IOP/PA - William N. Lyons *L*

SUBJECT: Task Force Report

A small problem of tactics:

If the Task Force Report is printed and released, the two dissent statements of Under Secretary of Commerce Bartlett and Vice Chairman O'Connell will need to be included in that Eugene Rostow refers to them in his letter of transmittal to the President, and both of them, I am sure, intended that their dissents become an integral part of the Report.

However, General O'Connell has classified his dissent **CONFIDENTIAL** "Until Released by the President." You might wish to anticipate this possibility of a minor misunderstanding.



UNITED STATES GOVERNMENT

Memorandum

Telecommunications

TO : Dr. C. T. Whitehead

DATE: April 18, 1969

FROM : IOP/PA - William N. Lyons *L*

SUBJECT: Task Force Report

As reported by phone to Miss Doutrey a few days ago, a normal, routine print job for 400 pages at GPO requires 8 to 10 weeks. However, White House requests are given priority treatment and almost any deadline established will be met by GPO.

The official request voucher with specifications (kind of type, paper stock, binding, number of copies, etc.) should emanate from Carson Howell's office.

The text has now been proof-read and is ready to be delivered to GPO if you decide to release it.



Copy for Mr. Whitehead
EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT *INTELSAT*
WASHINGTON, D.C. 20504

OFFICE OF THE DIRECTOR

April 16, 1969

MEMORANDUM FOR THE DIRECTOR:

In accordance with our current procedures, I am pleased to transmit this report of the significant activities of this office for the period ending April 15.

J. D. O'Connell
J. D. O'Connell

Enclosure

April 15, 1969

WEEKLY ACTIVITY REPORT NO. 61

SATELLITE TELECOMMUNICATIONS

1. INTELSAT Conference Activities

Members of the OTM staff have met with the Working Group of the United States Delegation for the purpose of preparing position papers on important issues concerning the Definitive Arrangements. These papers, in part, will be used by Ambassador Scranton and the Executive Group in establishing the United States position.

The OTM staff is working with NASA and others in the preparation of a staff paper on the long-range projection of satellite communications technology and its potential impact on the future Global Commercial Communications Satellite System. This staff paper and associated presentation will enable the United States Delegation to gain a better view of the future and have an appreciation of the implication future technology could have on institutional arrangements for INTELSAT.

2. White Paper on the Future of the International Telecommunications Satellite Consortium (INTELSAT)

The OTM staff is also preparing a United States Government White Paper on the future of INTELSAT. This paper will: (1) define the U. S. policy as embodied in the Communications Satellite Act of 1962 and other documents and pronouncements, (2) state the U. S. Government position with regard to the Definitive Arrangements, (3) highlight the significant U. S. contribution to the establishment of INTELSAT, and (4) highlight the benefits which would accrue to all INTELSAT members by adopting the U. S. approach for the Consortium.

The DTM has proposed to coordinate the White Paper with interested departments and agencies and selected segments of the U. S. industry. In addition, the DTM has proposed that the document be formally transmitted to all INTELSAT members and observer nations who attended the initial conference on definitive arrangements in February - March of this year.

FREQUENCY MANAGEMENT

1. Address to National Association of Manufacturers

A representative of the OTM addressed the Spring Meeting of the National Association of Manufacturers Telecommunications Committee at a luncheon held at the Sheraton-Carlton Hotel in Washington on April 9. The subject of the address was "Where Do We Go From Here in Spectrum Management?" The audience of about 100 included the seven Commissioners of the Federal Communications Commission.

* 2. NRAC Support in Frequency Management Area

On April 9 OTM and OEP personnel met for the purpose of investigating the feasibility of expanding the NRAC capabilities so as to provide support to the OTM in the establishment of a National Electromagnetic Compatibility Analysis Facility (NECAF). The objective of this facility would be to analyze proposed communications-electronics systems of the Federal Government (currently being procured at the rate of 12.75 billion per year) to determine whether or not these systems will be capable of operating in their intended operational environment without interference being caused to or received from other electronic systems already in being. As a result of the April 9 meeting, a joint OTM/OEP working group was established for the purpose of defining the concept and support necessary for ultimate approval by DTM and Director, OEP. As a related matter in connection with the NECAF objective, OTM and OEP representatives visited the Department of Defense Electromagnetic Compatibility Analysis Center (ECAC) at Annapolis, Maryland, on April 10 to obtain first hand information as to the capabilities of the DOD facility established in 1960 for the purpose of coping with electromagnetic compatibility among electronic systems employed by the military services.

3. Local Engineering/Coordination

On April 9 OTM representatives met with personnel from Consolidated Douglas, The Rand Corporation, and the FCC, for the purpose of exploring further the feasibility of taking early measures to improve frequency management through the medium of improved local engineering/coordination. A Pilot Project under OTM auspices had already been initiated, using the capabilities of the Department of the Navy's Area Frequency Coordinator at Point Mugu, California.

The purpose of the meeting under report was to investigate with industry representatives whether or not additional measures could be undertaken to improve the frequency coordination situation in the land mobile radio service so far as non-Government interests are concerned. This is a particularly critical area and has been the subject of intense Congressional interest in such areas as safety communications (police and fire) as well as the burgeoning requirements incident to business radio needs, i. e., the multiplicity of mobile applications wherein radio is involved -- construction, education, general business, etc. The results of the meeting were fruitful and the FCC is to explore further the precise steps which must be taken in order to bring about improvement within existing limited manpower and dollar resources.

4. GOES Satellites

On April 9 representatives of OTM and Department of Commerce met to finalize frequency provisions for Geostation Operational Environmental Satellites -- the sophisticated meteorological and oceanographic collection satellites which will come into being during the 1970's. This has been a particularly sticky item in connection with planning for the forthcoming Space WARC and it now appears that a satisfactory solution has been developed which should be acceptable to all interests.

5. Radio Frequency Usage Information

On April 11 OTM representatives met with personnel from Illinois Institute of Technology Research Institute to review the status of the OTM sponsored OEP contract dealing with Radio Frequency Usage.

6. Military/OTM Coordination

On April 14 a meeting was held between senior radio frequency managers of the DOD and OTM to discuss national and international problems of mutual interest pertaining to the use of the radio frequency spectrum. Military participation consisted of representatives of the Joint Frequency Panel (Army, Navy, Air Force, JCS, NSA and DCA). The meeting treated such items as developing courses of action with respect to U. S. participation in the World Administrative Radio Conference of the International Telecommunication Union on Space Telecommunications, scheduled to be convened in Geneva, Switzerland in 1971. Also discussed at

the meeting were improvements with respect to mobilization planning in the radio frequency area and the feasibility of changing the status of certain frequency bands wherein radar devices are accommodated so as to permit sharing with non-Government interests. If this latter point can be made acceptable to the military services, the amount of spectrum space accredited exclusively to Government users will be reduced considerably.

7. Coordination with National Academy of Engineering

On April 14 a meeting was held between representatives of OTM and the National Academy of Engineering Committee on Telecommunications. The substance of the meeting had to do with a foreseen overrun in the OTM sponsored OEP contract whereby the NAE is providing consultative service in the Telecommunications area. The current status of the Committee's efforts to define the Economic and Social Values of the Spectrum was also treated.

* 8. Next Phase of OTM ADP Development

On April 14 an extension of the contract between the OEP and HRB-Singer, Inc., for the continued development of the OTM data processing capability was executed. This capability (represented by over 200 computer programs written for frequency management and recording, for information retrieval and display, and for engineering analysis) has been in operation for over two years, and for the past year has used the NRAC UNIVAC 1108 computer system.

9. FAA Request for additional Radar Information

On April 15 FAA presented to OTM representatives the details with respect to their recent requirement for improved procedures with respect to the provision of pulse repetition rates (PRF) in the case of certain air traffic control radars. In view of the safety of life aspects involved, a special survey of Government radars will be necessary for the purpose of providing an inventory of PRF characteristics of Government radars.

NATIONAL TELECOMMUNICATIONS

1. Coordination of Teleprocessing Program

At the request of the General Services Administration, the material being developed for consideration as a basis for an OTM action program in the field of teleprocessing (communications and computers) was presented in an informal briefing to Mr. Abersfeller, Commissioner of the Federal Supply Service which administers GSA's data processing management program. While the Commissioner was not optimistic about the early success of items in the program calling for organizational changes, he indicated that the overall approach had merit and should be presented to appropriate policy level officials for decision at an opportune time.

*2. Presidential Approval Sought for Release of Response to Annual Long Range Plan, NCS, (1970-1975)

The response to the Executive Agent, NCS, to his letter forwarding the subject plan was forwarded on April 11 to the White House for Presidential approval prior to release.

*3. Executive Agent, NCS, Tasked to Study Use of Interagency Communications System (ICS) FOR OFFICIAL USE ONLY

The Executive Agency, NCS, was requested, by letter dated April 9, to task the Manager, NCS, to conduct a study of the potentials of using the ICS for the handling of some of the day-to-day, non-emergency traffic currently handled over NCS facilities. This study is being conducted in response to a request dated April 3 from the Director, OEP.

*4. Provision of a Telephone Conference Capability Between the President and State Governors FOR OFFICIAL USE ONLY

We have requested the Bell System to reexamine the design and costing of a teleconference capability to serve the President in his relations with State Governors. A report is scheduled for completion by April 22.

FEDERAL-STATE TELECOMMUNICATIONS

On April 15 Mr. Lathey participated in a meeting of the Panel on Urban Communications, a part of the Committee on Telecommunications of the National Academy of Engineering. The meeting was held at CBS Headquarters in New York and was the latest in a continuing program by the DTM to provide consultative advice to the NAE in its study of the impact of telecommunications upon urban affairs.

TELECOMMUNICATIONS EMERGENCY PREPAREDNESS

*1. Emergency Communications Preparedness

On April 18 representatives of OTM and Maritime Administration (MARAD) met to discuss emergency communications capability at their relocation site to support both MARAD and NATO Civil war-time agencies. Additional circuits are being provided to MARAD by the Navy in support of MARAD operations. Communications in support of NATO are considered adequate for the present time.

*2. Priority System for Handling Voice and Record Communications

On April 8 the FCC forwarded to OTM a proposed public correspondence precedence system. This paper, plus a proposed government and public correspondence precedence system paper prepared by OTM, was forwarded to the National Communications System for coordination by all government agencies. If approved, this will provide a priority system for handling voice and message traffic by both commercial and government communications systems.

* Items considered of special interest to the Director, OEP



UNITED STATES INFORMATION AGENCY

WASHINGTON 20547

April 14, 1969

MEMORANDUM FOR: Dr. C. T. Whitehead

SUBJECT : Role of the Federal Government in Telecommunications

There are still one or two items in the Domestic Satellite arena that may be of interest to you. However, at this stage, I thought you might like to know what is available as to the recommendations concerning the role of the Federal Government in telecommunications:

Rec'd 4/17
Get from Lyons
Bureau of the Budget - "Organization for Telecommunications Management," Staff Report of July 20, 1961 (surely there is something more up-to-date)

EIA - "Industry Views re the Role of the Federal Government in Telecommunications," Submitted to the President's Task Force on Communications Policy through the Electronics Industries Association's Ad Hoc Committee on OTM Liaison, n.d.

Executive Order No. 11051, Prescribing Responsibilities of OEP of September 27, 1962

National Aeronautics and Space Council Memorandum, (Welsh to Novak of Task Force), of July 30, 1968

National Plan for Emergency Preparedness, of December 1964: Chapter 7 - "Telecommunications," pp. 55-60

OTM Memorandum, (O'Connell to McPherson at White House) - Proposed Material for the State of the Union Message, of December 5, 1966

OTM Memorandum, (O'Connell to Pierson at White House) - Plea for OTM autonomy, of May 26, 1967

OTM Memorandum, (O'Connell to Schultze at Budget) - Keep OTM out of Transportation, of July 26, 1967

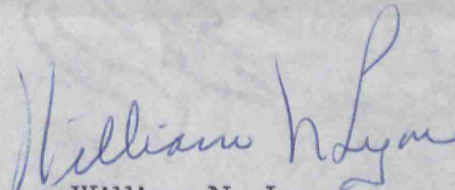
OTM Memorandum, (O'Connell to Schultze at Budget) - Keep OTM out of Transportation, of August 3, 1967

- 2 -

OTM - "National Telecommunication Management Responsibilities
of the Presidency" Volume 1 of April 1, 1968
Volume 2 - Appendices

OTM - "Report on Frequency Management within the Executive
Branch of the Government" of October 1966

Planning Research Corporation - "A Study of Federal Telecommunica-
tions Management," of July 15, 1967, Prepared for OTM, under
Contract OEP-SE-67-102



William N. Lyons

Communications file
GSA

Gen. Williams
Represents Ex Br before
FCC on policy issues
Congress

Congress calls on DTM.

THE WHITE HOUSE

WASHINGTON

Joint Council of the
Educational Telecommunications

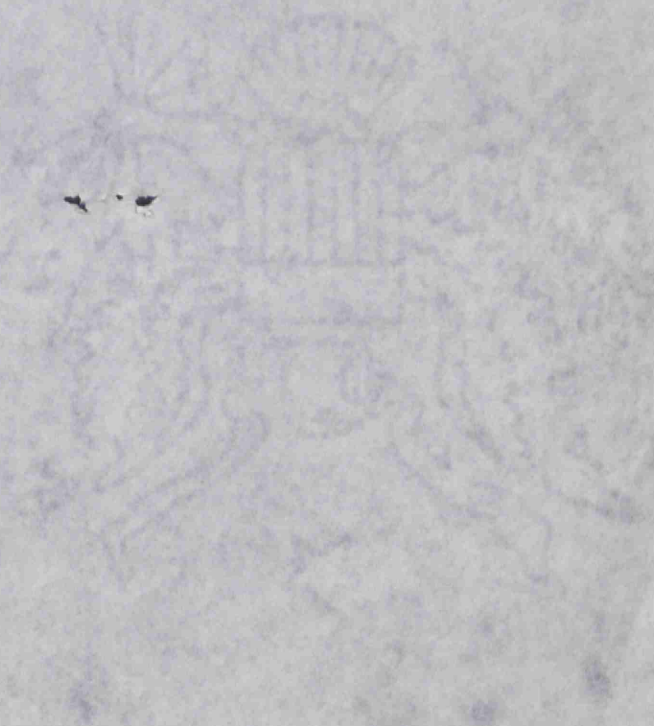
Harold Wigren
Pres

Frank Norwood
Exec Secy

659-9740

(Wash)

Recommencement



Telecommunications

4/18/69

To: James DeLong

From: Tom Whitehead



SPINDLETOP RESEARCH

SPINDLETOP RESEARCH CENTER • LEXINGTON, KENTUCKY 40505 • (606) 252-5535

NEW MAILING ADDRESS: P. O. BOX 481, LEXINGTON, KENTUCKY 40501

27 March 1969

Dr. Clay T. Whitehead
Room 103, Executive Office Building
Washington, D.C.

Dear Tom:

Enclosed is a copy of the study done several years ago by Spindletop for ODTM. As I mentioned, one purpose of the study was to evaluate various schemes for financing public television (although the report was written before the term "public" was coined). We did look at the possibility of advertising sponsorship of "non-commercial" programs, and concluded that such an arrangement could be viable. Although little attention was paid to this idea at the time, I think it was one of the better ideas to come out of the study. To my knowledge, you're the only other person who has suggested that such a scheme be considered.

I enjoyed talking with you on Monday, and I hope I'll have similar opportunities in the future. I'd be happy to respond to any questions or comments you might have, either about Spindletop's work, or of a more general nature.

Sincerely,

John A. Dimling, Jr., Manager
Communications and Systems

JAD:mch

Enclosure



Report 219

THE EVALUATION OF ALTERNATIVES FOR THE
PRODUCTION, DISTRIBUTION, AND FINANCING
OF TELEVISION PROGRAMS

By

John A. Dimling, Jr.
and
Gerald E. Coffey

Prepared for

Office of the Director
of Telecommunications Management
1800 G Street
Washington, D.C. 20504

Approved:

James L. Freeh, Manager
Telecommunications Research

April 1967

Appendix A

REPORT 226

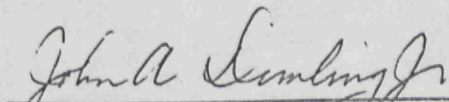
IDENTIFICATION AND ANALYSIS OF THE
ALTERNATIVES FOR ACHIEVING GREATER TELEVISION
PROGRAM DIVERSITY IN THE UNITED STATES

by

John A. Dimling, Jr.
Ronald W. McCabe
Wayne E. Schmiedeknecht

Prepared for:

President's Task Force on Communications Policy
Washington, D.C.



John A. Dimling, Jr., Manager
Communications and Systems

26 July 1968

The Research Program reported herein was performed pursuant to a contract with the United States Department of Health, Education and Welfare, Office of Education.

SPINDLETOP RESEARCH
IRON WORKS ROAD • LEXINGTON, KENTUCKY 40505

Telecommunications

April 17, 1969

MEMORANDUM FOR RON ZEIGLER

In discussions with representatives from broadcast employees unions about problems in the communications industry, they have used the opportunity to raise an issue that I believe falls in your shop.

They are concerned about the use of Signal Corps (WHCA) employees and equipment rather than network employees in the setting up and operation of equipment for Presidential and Vice Presidential television coverage. They feel that this is a bad practice because of the unprofessional quality of the resulting programs and claim the networks agree but are reluctant to raise the issue with you. For example, the wind noise in coverage of the Inaugural Address was attributed to WHCA use of Signal Corps microphones rather than the specially designed mikes provided by the network pool. The situation apparently grows out of personal preferences of President Johnson and the general availability of Signal Corps personnel.

It may well be that we should prefer to use the network pool if the quality would, in fact, be significantly improved and the President would thereby come across better. It certainly would seem to help relations with the TV and radio press. I suggested that there may be important security reasons for use of Signal Corps personnel, but I doubt that is so and think a more considered letter to the unions is in order since they appear to feel strongly about this.

Could you either take care of this matter or suggest an appropriate reply?

Signed

cc: Mr. Ellsworth
Mr. Hafgren
Mr. Whitehead
Central Files

Clay T. Whitehead
Staff Assistant

CTWhitehead:ed

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT
FREQUENCY MANAGEMENT DIRECTORATE

To: Mr. Clay T. Whitehead

Date: 15 Apr 1969

From: W. E. Plummer

Attached per your request is a Xerox copy of Sections 301 - 305 of the Communications Act.

Also attached, in connection with your inquiry, is a copy of Mr. O'Connell's action with respect to the IRAC's mission and functions. It gives the full membership.

WEP

TITLE III—PROVISIONS RELATING TO RADIO

PART I—GENERAL PROVISIONS ⁴⁰

LICENSE FOR RADIO COMMUNICATION OR TRANSMISSION OF ENERGY

SEC. 301. It is the purpose of this Act, among other things, to maintain the control of the United States over all the channels of interstate and foreign radio transmission; and to provide for the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license. No person shall use or operate any apparatus for the transmission of energy or communications or signals by radio (a) from one place in any Territory or possession of the United States or in the District of Columbia to another place in the same Territory, possession, or district; or (b) from any State, Territory, or possession of the United States, or from the District of Columbia to any other State, Territory, or possession of the United States; or (c) from any place in any State, Territory, or possession of the United States, or in the District of Columbia, to any place in any foreign country or to any vessel; or (d) within any State when the effects of such use extend beyond the borders of said State, or when interference is caused by such use or operation with the transmission of such energy, communications, or signals from within said State to any place beyond its borders, or from any place beyond its borders to any place within said State, or with the transmission or reception of such energy, communications, or signals from and/or to places beyond the borders of said State; or (e) upon any vessel or aircraft of the United States; or (f) upon any other mobile stations within the jurisdiction of the United States, except under and in accordance with this Act and with a license in that behalf granted under the provisions of this Act.

SEC. 302.⁴¹

⁴⁰ This heading was amended to read as above by "An Act to amend the Communications Act of 1934, etc." Public No. 97, 75th Congress, approved and effective May 20, 1937; 50 Stat. 192.

⁴¹ Sec. 302 was repealed by "An Act relating to the allocation of radio facilities." Public No. 652, 74th Congress, approved and effective June 5, 1936; 49 Stat. 1475. The text of Sec. 302 was as follows:

Sec. 302. (a) For the purposes of this title the United States is divided into five zones, as follows: The first zone shall embrace the States of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Delaware, Maryland, and the District of Columbia; the second zone shall embrace the States of Pennsylvania, Virginia, West Virginia, Ohio, Michigan, and Kentucky; the third zone shall embrace the States of North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Arkansas, Louisiana, Texas, and Oklahoma; the fourth zone shall embrace the States of Indiana, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Iowa, Nebraska, Kansas, and Missouri; and the fifth zone shall embrace the States of Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

(b) The Virgin Islands, Puerto Rico, Alaska, Guam, American Samoa, and the Territory of Hawaii are expressly excluded from the zones herein established.

GENERAL POWERS OF THE COMMISSION

SEC. 303. Except as otherwise provided in this Act, the Commission from time to time, as public convenience, interest, or necessity requires shall—

- (a) Classify radio stations;
- (b) Prescribe the nature of the service to be rendered by each class of licensed stations and each station within any class;
- (c) Assign bands of frequencies to the various classes of stations, and assign frequencies for each individual station and determine the power which each station shall use and the time during which it may operate;
- (d) Determine the location of classes of stations or individual stations;
- (e) Regulate the kind of apparatus to be used with respect to its external effects and the purity and sharpness of the emissions from each station and from the apparatus therein;
- (f) Make such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry out the provisions of this Act: *Provided, however*, that changes in the frequencies, authorized power, or in the times of operation of any station, shall not be made without the consent of the station licensee unless, after a public hearing, the Commission shall determine that such changes will promote public convenience or interest or will serve public necessity, or the provisions of this Act will be more fully complied with;
- (g) Study new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest;
- (h) Have authority to establish areas or zones to be served by any station;
- (i) Have authority to make special regulations applicable to radio stations engaged in chain broadcasting;
- (j) Have authority to make general rules and regulations requiring stations to keep such records of programs, transmissions of energy, communications, or signals as it may deem desirable;
- (k) Have authority to exclude from the requirements of any regulations in whole or in part any radio station upon railroad rolling stock, or to modify such regulations in its discretion;
- (l) (1) Have the authority to prescribe the qualifications of station operators, to classify them according to the duties to be performed, to fix the forms of such licenses, and to issue them to such citizens or nationals⁴² of the United States or citizens of the Trust Territory of the Pacific Islands presenting valid identity certificates issued by the high Commissioner of such Territory,^{42a} as the Commission finds qualified, except that in issuing licenses for the operation of radio stations on aircraft the Commission may, if it finds that the public interest will be served thereby, waive the requirement of citizenship in the case of persons holding United States pilot certificates or in the case of per-

⁴² Public Law 87-445, approved April 27, 1962, 76 Stat. 64, amended subsection (1) by adding the words *or nationals* after the word *citizens*.

^{42a} The clause dealing with citizens of the Trust Territory of the Pacific Islands was added by Public Law 88-487, approved August 22, 1964, 76 Stat. 64.

sons holding foreign aircraft pilot certificates which are valid in the United States on the basis of reciprocal agreements entered into with foreign governments;^{42b}

(2) Notwithstanding section 301 of this Act and paragraph (1) of this subsection, the Commission may issue authorizations, under such conditions and terms as it may prescribe, to permit an alien licensed by his government as an amateur radio operator to operate his amateur radio station licensed by his government in the United States, its possessions, and the Commonwealth of Puerto Rico provided there is in effect a bilateral agreement between the United States and the alien's government for such operation on a reciprocal basis by United States amateur radio operators: *Provided*, That when an application for an authorization is received by the Commission, it shall notify the appropriate agencies of the Government of such fact, and such agencies shall forthwith furnish to the Commission such information in their possession as bears upon the compatibility of the request with the national security: *And provided further*, That the requested authorization may then be granted unless the Commission shall determine that information received from such agencies necessitates denial of the request. Other provisions of this Act and of the Administrative Procedure Act shall not be applicable to any request or application for or modification, suspension, or cancellation of any such authorization.^{42c}

(m)⁴³ (1) Have authority to suspend the license of any operator upon proof sufficient to satisfy the Commission that the licensee—

(A) Has violated any provision of any Act, treaty, or convention binding on the United States, which the Commission is authorized to administer, or any regulation made by the Commission under any such Act, treaty, or convention; or

(B) Has failed to carry out a lawful order of the master or person lawfully in charge of the ship or aircraft on which he is employed; or

(C) Has willfully damaged or permitted radio apparatus or installations to be damaged; or

(D) Has transmitted superfluous radio communications or signals or communications containing profane or obscene words, language, or meaning, or has knowingly transmitted—

(1) False or deceptive signals or communications, or

(2) A call signal or letter which has not been assigned by proper authority to the station he is operating; or

^{42b} Section 303(1)(1) was amended to read as above by Public Law 85-817, approved August 28, 1958, 72 Stat. 981. It formerly read as follows:

(1) Have authority to prescribe the qualifications of station operators, to classify them according to the duties to be performed, to fix the forms of such licenses, and to issue them to such citizens of the United States as the Commission finds qualified.

^{42c} Paragraph 2 was added by Public Law 88-313, approved May 28, 1964, 78 Stat. 202.

⁴³ This subsection was amended to read as above by "An Act to amend the Communications Act of 1934, etc." Public No. 97, 75th Congress approved and effective May 20, 1937; 50 Stat. 190. Section 303(m) formerly read as follows:

(m) Have authority to suspend the license of any operator for a period not exceeding two years upon proof sufficient to satisfy the Commission that the licensee (1) has violated any provision of any Act or treaty binding on the United States which the Commission is authorized by this Act to administer or any regulation made by the Commission under any such Act or treaty; or (2) has failed to carry out the lawful orders of the master of the vessel on which he is employed; or (3) has willfully damaged or permitted radio apparatus to be damaged; or (4) has transmitted superfluous radio communications or signals or radio communications containing profane or obscene words or language; or (5) has willfully or maliciously interfered with any other radio communications or signals.

(E) Has willfully or maliciously interfered with any other radio communications or signals; or

(F) Has obtained or attempted to obtain, or has assisted another to obtain or attempt to obtain, an operator's license by fraudulent means.

(2) No order of suspension of any operator's license shall take effect until fifteen days' notice in writing thereof, stating the cause for the proposed suspension, has been given to the operator licensee who may make written application to the Commission at any time within said fifteen days for a hearing upon such order. The notice to the operator licensee shall not be effective until actually received by him, and from that time he shall have fifteen days in which to mail the said application. In the event that physical conditions prevent mailing of the application at the expiration of the fifteen-day period, the application shall then be mailed as soon as possible thereafter, accompanied by a satisfactory explanation of the delay. Upon receipt by the Commission of such application for hearing, said order of suspension shall be held in abeyance until the conclusion of the hearing which shall be conducted under such rules as the Commission may prescribe. Upon the conclusion of said hearing the Commission may affirm, modify, or revoke said order of suspension.

(n) Have authority to inspect all radio installations associated with stations required to be licensed by any Act or which are subject to the provisions of any Act, treaty, or convention binding on the United States, to ascertain whether in construction, installation, and operation they conform to the requirements of the rules and regulations of the Commission, the provisions of any Act, the terms of any treaty or convention binding on the United States, and the conditions of the license or other instrument of authorization under which they are constructed, installed, or operated.⁴⁴

(o) Have authority to designate call letters of all stations;

(p) Have authority to cause to be published such call letters and such other announcements and data as in the judgment of the Commission may be required for the efficient operation of radio stations subject to the jurisdiction of the United States and for the proper enforcement of this Act:

(q) Have authority to require the painting and/or illumination of radio towers if and when in its judgment such towers constitute, or there is a reasonable possibility that they may constitute, a menace to air navigation. The permittee or licensee shall maintain the painting and/or illumination of the tower as prescribed by the Commission pursuant to this section. In the event that the tower ceases to be licensed by the Commission for the transmission of radio energy, the owner of the tower shall maintain the prescribed painting and/or illumination of such tower until it is dismantled, and the Commission may require the owner to dismantle and remove the tower when the Administrator of the Federal Aviation Agency determines that there is

⁴⁴ This subsection was amended to read as above by "An Act to amend the Communications Act of 1934, etc." Public No. 97, 75th Congress, approved and effective May 20, 1937; 50 Stat. 191. Section 303(n) formerly read as follows:

(n) Have authority to inspect all transmitting apparatus to ascertain whether in construction and operation it conforms to the requirements of this Act, the rules and regulations of the Commission, and the license under which it is constructed or operated.

a reasonable possibility that it may constitute a menace to air navigation.^{44a}

(r) Make such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this Act, or any international radio or wire communications treaty or convention, or regulations annexed thereto, including any treaty or convention insofar as it relates to the use of radio, to which the United States is or may hereafter become a party.⁴⁵

(s) Have authority to require that apparatus designed to receive television pictures broadcast simultaneously with sound be capable of adequately receiving all frequencies allocated by the Commission to television broadcasting when such apparatus is shipped in interstate commerce, or is imported from any foreign country into the United States, for sale or resale to the public.^{45a}

WAIVER BY LICENSEE

SEC. 304. No station license shall be granted by the Commission until the applicant therefore shall have signed a waiver of any claim to the use of any particular frequency or of the ether as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise.

GOVERNMENT-OWNED STATIONS

SEC. 305. (a) Radio stations belonging to and operated by the United States shall not be subject to the provisions of sections 301 and 303 of this Act. All such Government stations shall use such frequencies as shall be assigned to each or to each class by the President. All such stations, except stations on board naval and other Government vessels while at sea or beyond the limits of the continental United States, when transmitting any radio communication or signal other than a communication or signal relating to Government business, shall conform to such rules and regulations designed to prevent interference with other radio stations and the rights of others as the Commission may prescribe.⁴⁶

^{44a} The last two sentences of section 303(q) were added by Public Law 89-263, approved October 19, 1965, 79 Stat. 990.

⁴⁵ This subsection was added by "An Act to amend the Communications Act of 1934, etc." Public No. 97, 75th Congress, approved and effective May 20, 1937; 50 Stat. 191.

^{45a} Subsection (s) was added by Public Law 87-529, approved July 10, 1962, 76 Stat. 150.

⁴⁶ See note 107.

(b) Radio stations on board vessels of the United States Maritime Commission⁴⁷ or the Inland and Coastwise Waterways Service shall be subject to the provisions of this title.

(c) All stations owned and operated by the United States, except mobile stations of the Army of the United States, and all other stations on land and sea, shall have special call letters designated by the Commission.

(d) The provisions of sections 301 and 303 of this Act notwithstanding, the President may, provided he determines it to be consistent with and in the interest of national security, authorize a foreign government, under such terms and conditions as he may prescribe, to construct and operate at the seat of government of the United States a low-power radio station in the fixed service at or near the site of the embassy or legation of such foreign government for transmission of its messages to points outside the United States, but only (1) where he determines that the authorization would be consistent with the national interest of the United States and (2) where such foreign government has provided reciprocal privileges to the United States to construct and operate radio stations within territories subject to its jurisdiction. Foreign government stations authorized pursuant to the provisions of this subsection shall conform to such rules and regulations as the President may prescribe. The authorization of such stations, and the renewal, modification, suspension, revocation, or other termination of such authority shall be in accordance with such procedures as may be established by the President and shall not be subject to the other provisions of this Act or of the Administrative Procedure Act.^{47a}

FOREIGN SHIPS

SEC. 306. Section 301 of this Act shall not apply to any person sending radio communications or signals on a foreign ship while the same is within the jurisdiction of the United States, but such communications or signals shall be transmitted only in accordance with such regulations designed to prevent interference as may be promulgated under the authority of this Act.

ALLOCATION OF FACILITIES; TERM OF LICENSES

SEC. 307. (a) The Commission, if public convenience, interest, or necessity will be served thereby, subject to the limitations of this Act, shall grant to any applicant therefor a station license provided for by this Act.

(b)⁴⁸ In considering applications for licenses, and modifications and renewals thereof, when and insofar as there is demand for the

⁴⁷ The words "United States Shipping Board Bureau or the United States Shipping Board Merchant Fleet Corporation," were omitted and "United States Maritime Commission" substituted therefor on authority of Ex. Ord. No. 6166, par. 12, eff. June 10, 1933, and Act June 29, 1936: 49 Stat. 1987, 2016.

^{47a} Subsection (d) was added by Public Law 87-795, approved October 11, 1962, 76 Stat. 903.

⁴⁸ Sec. 307(b) was amended to read as above, by "An Act relating to the allocation of radio facilities," Public No. 652, 74th Congress, approved and effective June 5, 1936; 49 Stat. 1475. The section formerly read as follows:

(b) It is hereby declared that the people of all the zones established by this title are entitled to equality of radio broadcasting service, both of transmission and of reception, and in order to provide said equality the Commission shall as nearly as possible make and maintain an equal allocation of broadcasting licenses, of bands of frequency, of periods of

Telecommunications

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF EMERGENCY PLANNING
OFFICE OF THE DIRECTOR OF TELECOMMUNICATIONS MANAGEMENT
Washington, D. C. 20504

NOTICE TO ALL FEDERAL USERS OF TELECOMMUNICATIONS

SUBJECT: Interdepartment Radio Advisory Committee

1. Purpose. To prescribe the status, mission and functions of the Interdepartment Radio Advisory Committee.
2. Authority. This notice is issued pursuant to Executive Order 10995 of February 16, 1962, as amended, with particular reference to Sections 2, 3, 5, 8 and 9 thereof.
3. Status. The Interdepartment Radio Advisory Committee (IRAC), which was organized by mutual agreement of the Government departments concerned on June 1, 1922, and reconstituted by the Telecommunications Advisor to the President on October 6, 1952, shall be continued. It shall report to the Director of Telecommunications Management.
4. Composition. It consists of a representative appointed by each of the following departments and agencies:

Agriculture	Interior
Air Force	Justice
Army	National Aeronautics & Space
Atomic Energy Commission	Administration
Coast Guard	Navy
Commerce	State
Federal Aviation Administration	Treasury
General Services Administration	United States Information Agency

together with representatives of such other agencies as the DTM may hereafter designate.

The basic role of persons appointed to serve on the IRAC is to function, when in Committee, in the interest of the United States as a whole, and not in the interest of any particular department or agency.

Liaison between the IRAC and the Federal Communications Commission (FCC) is effected by a representative appointed by the Commission to serve in that capacity.

5. Mission. The mission of the IRAC shall be to formulate and recommend to the DTM objectives, policies, plans and actions as appropriate in connection with the management and usage of the radio spectrum in the national interest by the departments and agencies of the U. S. Government.

6. Functions. The basic functions of the IRAC in the discharge of that mission are as follows:

- a) Recommend, in consultation with the FCC, national objectives in the allocation and use of the radio frequency spectrum, together with the policies designed to achieve those objectives.
- b) Recommend policies, criteria, technical standards, regulations, justifications and procedures for the acquisition and use of frequencies by U. S. Government agencies.
- c) Execute such policies, plans and actions pertaining to the management and usage of the radio spectrum as the DTM may from time to time direct.
- d) Develop U. S. Government radio frequency requirements.
- e) Subject to the approval of the DTM, effect the assignment of frequencies to the radio stations and classes of stations of the U. S. Government, and modify or revoke such assignments as appropriate.
- f) Make technical recommendations with respect to the frequencies proposed for use by foreign governments in the fixed service at the United States seat of Government.

- g) Maintain, in collaboration with the FCC, continuing review of the Table of Frequency Allocations to ensure that the division of the radio spectrum as between Government and non-Government users serves the national interest; carry on joint planning for use of the spectrum on a short-term and long-term basis; recommend, in the light of national security and foreign relations, allocations for Government use; and maintain the Government Table of Frequency Allocations.
- h) Maintain, in collaboration with the FCC, plans for use of the radio spectrum in a war emergency.
- i) Maintain under continuing review the actual use of assigned frequencies by Government agencies to determine whether they are still required and are being used effectively for the purpose for which they were obtained.
- j) Supervise the notification to the International Telecommunication Union/International Frequency Registration Board (ITU/IFRB) of Government frequency assignments, and supply the IFRB data pertaining thereto as appropriate.
- k) Coordinate with the Department of Transport, Canada, the use of frequencies in the prescribed US-Canada border zones, in those cases where the IRAC is designated as the Coordination Agency in the Agreement between the United States and Canada for the Coordination and Use of Radio Frequencies above 30 MHz.
- l) With respect to radio spectrum management, assist the DTM in the formulation of advice to the Department of State, in the discharge of its functions in the field of international telecommunication policies, positions and negotiations by developing, in consultation with the FCC, national positions thereon for international projection.
- m) Assist the DTM in carrying out the international treaty obligations of the United States within the field of activity of the IRAC.

7. Staff Support. The officers of the IRAC and its subcommittees, together with its secretariat, will be supplied by the OEP/DTM.

8. Internal Mechanisms. The IRAC may establish such bylaws and procedures as it considers necessary to discharge its functions.



Director of Telecommunications Management

Date: December 10, 1964

Rev. August 21, 1967, to reflect new members

Telecommunication

Tuesday 4/15/69

11:45 Dr. Lyons has checked about GPO publication of the Rostow Report. He talked with Mr. Henning (in charge of planning and service) who indicates if there's no rush or push, it would take 8 to 10 weeks. If the request comes from Carson Howell's office (here at the White House, it would be a priority item. He asked how soon it could be published if there were urgency. Asked if it could be done tomorrow -- if need be. Mr. Henning said they could probably do it. At this time, Dr. Lyons won't check with Howell's office. (I assume you would want such a request to come from here). In the meantime, Dr. Lyons will continue to proofread and get it to the point of being ready for the printer if and when. 541-3511

Telecommunications

April 14, 1969

Dear Mr. Gaukel:

Thank you for your telegram. One of the activities of this office has been to review the communications policies of the Federal Government and the machinery for policy-level decision making with respect to the communications industry. As you can appreciate, it is a very complex subject. We are not conducting any formal studies with reporting deadlines.

In looking into these matters, we have had discussions with officials from various Federal agencies, commercial broadcasters, representatives from educational and public television organizations, and interested citizens groups. We feel it is important to have the benefit of a wide variety of views in trying to understand and deal with the complex problems of the communications industry. Thank you for your interest.

Sincerely,

Clay T. Whitehead
Staff Assistant

Mr. Dennis Gaukel
Director of Broadcasting
Ohio Wesleyan University
Delaware, Ohio 43015

CTWhitehead:ed

cc: Tom Whitehead

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DELAWARE OHIO 12

DR CLAY WHITEHEAD

THE WHITE HOUSE

BROADCASTING MAGAZINE MARCH 31 1969 NOTES WHITE HOUSE STUDY
OF FCC. QUESTION NATURE OF STUDY AND FACT THAT ONLY COMMERCIAL
BROADCASTERS CONSULTED TO DATE. COULD DETAILS OF FCC EVALUATION
BY YOUR OFFICE BE RELEASED AT THIS TIME? THANK YOU FOR ANY
INFORMATION YOU CAN PROVIDE IN THIS MATTER

DENNIS GAUKEL DIR OF BROADCASTING OHIO WESLEYAN UNIVERSITY.

Friday 4/11/69

12:00 Mr. Gaukel of Ohio Wesleyan University would like to talk with you re a recent meeting with broadcasters on the FCC re-evaluation.

Op. 5
Delaware, Ohio
(614)363-1261

or

Home: (614) 369-4107

UNITED STATES GOVERNMENT

Memorandum

TO : Dr. C. T. Whitehead

DATE: April 14, 1969

FROM : IOP/PA - William N. Lyons *L*

SUBJECT: President's Task Force on Communications Policy - Information Requested

Attached are the following:

1. Presidential Message to the Congress on Communications Policy of August 14, 1967
2. White House Press Release of August 14, 1967
3. Updated roster of President's Task Force
4. Roster of Task Force Staff
5. Roster of Staff Representatives
6. List of Consultants
7. Cost Estimate

Of the Task Force members, Vice Chairman O'CONNEL and Mr. BARTLETT of the Department of Commerce submitted formal dissents. Dr. WELSH of the National Aeronautics and Space Council had certain disagreements that are recorded in footnotes throughout the Report. Mr. MARKS, having resigned as Director of the United States Information Agency on December 12, 1968, disassociated himself from the Task Force and did not sign the Report.



August 14, 1967

NOTICE: There should be no premature release of this Message to the Congress, nor should its contents be paraphrased, alluded to or hinted at in earlier stories. There is a total embargo on this message until it has been delivered to the United States Senate or the House of Representatives, which includes any and all references to any material in this message.

George Christian

THE WHITE HOUSE

MESSAGE ON COMMUNICATIONS POLICY

TO THE CONGRESS OF THE UNITED STATES:

Man's greatest hope for world peace lies in understanding his fellow man. Nations, like individuals, fear that which is strange and unfamiliar. The more we see and hear of those things which are common to all people, the less likely we are to fight over those issues which set us apart.

So the challenge is to communicate.

No technological advance offers a greater opportunity for meeting this challenge than the alliance of space exploration and communications. Since the advent of the communications satellite, the linking of one nation to another is no longer dependent on telephone lines, microwaves or cables under the sea. Just as man has orbited the earth to explore the universe beyond, we can orbit satellites to send our voices or televise our activities to all peoples of this globe.

Satellite communications has already meant much in terms of human understanding.

- When President Lincoln was assassinated, it took twelve days for the news to reach London. Britons watched and grieved with us at the funeral of John F. Kennedy.
- Europeans watched Pope Paul speak to the United Nations in New York -- and Americans saw his pilgrimage to Fatima.
- The peoples of three continents witnessed the meeting of an American President and a Soviet Premier in Glassboro.

The future of this new technology stirs our imagination.

In business and commerce --

- Commercial telephone calls will be carried routinely by satellite to every part of the globe.
- Rapid and universal exchange of data through satellite-linked computers will encourage international commerce.

more

(OVER)

- Productive machinery can be operated at great distances and business records can be transmitted instantaneously.

In education and health --

- Schools in all lands can be connected by television -- so that the children of each nation can see and hear their contemporaries throughout the world.
- The world community of scholars can be brought together across great distances for face-to-face discussions via satellite.
- Global consultations, with voice and pictures, can bring great specialists to the bedsides of patients in every continent.
- The art, culture, history, literature and medical science of all nations can be transmitted by satellite to every nation.

Who can measure the impact of this live, direct contact between nations and their people? Who can assess the value of our new-found ability to witness the history-making events of this age? This much we know: because communication satellites exist, we are already much closer to each other than we have ever been before.

But this new technology -- exciting as it is -- does not mean that all our surface communications facilities have become obsolete. Indeed, one of the challenges before us is to integrate satellites into a balanced communications system which will meet the needs of a dynamic and expanding world society. The United States must review its past activities in this field and formulate a national communications policy.

U. S. ACTIVITIES TO DATE

The Communications Act of 1934 has provided the blueprint for federal involvement in the communications field. That Act, and the Federal Communications Commission it created, have served our national interest well during one-third of a century of rapid communications progress.

The Communications Satellite Act of 1962 established a framework for our nation's participation in satellite communications systems. Congress weighed with care the relative merits of public and private ownership of commercial satellite facilities. The Act authorized creation of the Communications Satellite Corporation (ComSat) -- a private corporation with public responsibilities -- to establish a commercial satellite system.

In 1964 we joined with 10 other countries in the formation of the International Telecommunications Satellite Consortium (INTELSAT). 58 nations are now members. Each member contributes investment capital and shares in the use of the system. ComSat, the U. S. representative, is the consortium manager and now contributes 54% of the total investment. All satellites managed by ComSat are owned by INTELSAT -- so that commercial satellite communications has from its beginning been a product of international cooperation.

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Progress has been rapid. Early Bird was launched in 1965. Now the INTELSAT II series serves both the Atlantic and the Pacific. Teletype ground stations -- the vital links for sending and receiving messages -- have been constructed over the world. 46 are anticipated by the end of 1969.

Today, just five years after the passage of the Communications Satellite Act and three years after the INTELSAT agreement, developments have exceeded our expectations:

- The synchronous satellite, which rotates with our globe and thus maintains a stationary position in orbit, has been developed well ahead of schedule.
- Those responsible for U.S. international communications -- with ownership divided among a number of surface carriers and ComSat -- now look forward to an integrated system which will utilize satellite technology.
- Proposals are being discussed for the establishment of a domestic communications satellite -- either limited to TV transmission or servicing a variety of domestic communications uses.

Because we have been the leaders in the development and use of satellite communications, other countries are deeply interested in our country's position on the continuation of INTELSAT, and in the importance we assign to international cooperation in the field of satellite communications.

On February 28, 1967, I declared in a message to Congress:

"Formulation of long range policies concerning the future of satellite communications requires the most detailed and comprehensive study by the executive branch and the Congress. I anticipate that the appropriate committees of Congress will hold hearings to consider these complex issues of public policy. The executive branch will carefully study these hearings as we shape our recommendations."

A number of important communications issues are presently before the Federal Communications Commission for consideration. Some of them have been discussed in the Senate and House Commerce Committee hearings on the Public Television Act of 1967. ComSat and the State Department have opened discussion of the international questions with our foreign partners and their governments.

In order to place this important policy area in perspective, I want the views of the President to be clear. This message includes a report of the past, a recommendation for the present, and a challenge for the future.

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GLOBAL COMMUNICATIONS SYSTEM

Our country is firmly committed to the concept of a global system for commercial communications. The Declaration of Policy and Purpose of the Communications Satellite Act of 1962 set forth Congressional intent:

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

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The INTELSAT Agreement of 1964 -- to which 58 nations have now adhered -- left no doubt as to its purpose. Its preamble expressed the desire:

"----to establish a single global commercial communications satellite system as part of an improved global communications network which will provide expanded telecommunications services to all areas of the world and which will contribute to world peace and understanding."

Of course, these agreements do not preclude the development and operation of satellite systems to meet unique national needs. The United States is developing a defense system -- as will others. But INTELSAT members did pledge that commercial communications between nations would be a product of international cooperation.

Today I reaffirm the commitments made in 1962 and 1964. We support the development of a global system of communications satellites to make modern communications available to all nations. A global system eliminates the need for duplication in the space segment of communications facilities, reduces the cost to individual nations, and provides the most efficient use of the electro-magnetic frequency spectrum through which these communications must travel.

A global system is particularly important for less developed nations which do not receive the benefits of speedy, direct international communications. Instead, the present system of communications --

- encourages indirect routing through major nations to the developing countries,
- forces the developing nations to remain dependent on larger countries for their links with the rest of the world, and
- makes international communications service to these developing nations more expensive and of lower quality.

A telephone call from Rangoon to Djakarta must still go through Tokyo. A call from Dakar, Senegal to Lagos, Nigeria is routed through Paris and London. A call from American Samoa to Tahiti goes by way of Oakland, California. During the recent Punta del Este conference, I discovered that it usually cost Latin American journalists more than their American colleagues to phone in their stories because most of the calls had to be routed through New York.

Such an archaic system of international communications is no longer necessary. The communications satellite knows no geographic boundary, is dependent on no cable, owes allegiance to no single language or political philosophy. Man now has it within his power to speak directly to his fellow man in all nations.

We support a global system of commercial satellite communications which is available to all nations -- large and small, developed and developing -- on a non-discriminatory basis.

To have access to a satellite in the sky, a nation must have access to a ground station to transmit and receive its messages. There is a danger that smaller nations, unable to finance or utilize expensive ground stations, may become orphans of this technological advance.

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We believe that satellite ground stations should be an essential part of the infrastructure of developing nations. Smaller nations may consider joint planning for a ground station to serve the communications needs of more than one nation in the same geographic area. We will consider technical assistance that will assist their planning effort.

Developing nations should be encouraged to commence construction of an efficient system of ground stations as soon as possible. When other financing is not available, we will consider financial assistance to emerging nations to build the facilities that will permit them to share in the benefits of a global communications satellite system.

CONTINUATION OF INTELSAT

The 1964 INTELSAT agreement provides only interim arrangements subject to renegotiation in 1969. Our representatives to the consortium will soon begin discussions for a permanent arrangement.

We support the continuation of INTELSAT. Each nation or its representative contributes to its expenses and benefits from its revenues in accordance with its anticipated use of the system. The 58 members include representatives from the major nations who traditionally have been most active in international communications. It has been a successful vehicle for international cooperation in the ownership and operation of a complex communications system.

We will urge the continuation of the consortium in 1969. The present arrangements offer a firm foundation on which a permanent structure can be built.

Some nations may feel that the United States has too large a voice in the consortium. As heavy users of international communications, our investment in such an international undertaking is exceptionally large. The early development of satellite technology in the United States and the size of our investment has made it logical that ComSat serve as consortium manager.

We seek no domination of satellite communications to the exclusion of any other nation -- or any group of nations. Rather, we welcome increased participation in international communications by all INTELSAT members. We shall approach the 1969 negotiations determined to seek the best possible permanent organizational framework.

- We will consider ceilings on the voting power of any single nation -- including the United States -- so that the organization will maintain its international character.
- We will support the creation of a formal assembly of all INTELSAT members -- so that all may share in the consideration of policy.
- We favor efforts to make the services of personnel of other nations available to ComSat as it carries out its management responsibilities.
- We will continue the exchange of technical information, share technological advances, and promote a wider distribution of procurement contracts among members of the consortium.

It is our earnest hope that every member nation will join with us in finding an equitable formula for a permanent INTELSAT organization.

DOMESTIC COMMUNICATIONS SATELLITE SYSTEMS

Communications satellites have domestic as well as international applications. Satellites that can beam telephone calls or television programs between New York and Paris can do the same between New York and Los Angeles. Daring proposals have already been made to tap the vast U.S. domestic market.

Our awareness of the social and economic potential of this new technology is met by similar excitement around the globe. Each nation will be making decisions about how domestic communications needs can best be met. The position taken by the United States is particularly important because our domestic market is so large and our role in international communications is so extensive.

There are important unanswered questions concerning the operation of a domestic system. Assuming these questions are answered favorably, we still must make the decision to move forward with such a system consistent with our international obligations.

The space segment of a communications satellite system is international by its very nature.

- A synchronous satellite occupies a permanent orbital position in the international domain of outer space.
- All satellites radiate electro-magnetic energy potentially capable of interference with other communications systems.
- All satellites use the internationally regulated frequency spectrum.

In view of the international nature of satellite communications and our commitments under the INTELSAT agreement of 1964, we should take no action in the establishment of a domestic system which is incompatible with our support for a global system.

This does not mean that the United States -- or any other nation -- will give up vital sovereignty over domestic communications. The flow of satellite communications -- both domestic and international -- is to and from ground stations owned by the individual nation or its representatives. Each country will have to determine for itself whether it wants to use communications satellites for domestic purposes. It must be prepared to bear the expense of such satellite use, just as it will derive any revenues.

It is the space segment -- not the ground station -- that is of legitimate international concern. How should a nation utilize satellites for domestic communications purposes?

There are several possible choices:

- A nation can lease circuits from an international INTELSAT satellite.
- It could elect to operate a separate satellite for its own domestic use.
- It could join with neighboring countries to operate a separate satellite.

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Logically, this decision should be based on economic grounds -- whether domestic requirements can be met most efficiently and economically by a satellite owned by INTELSAT, or by a separate satellite. Present studies indicate that a high volume of domestic traffic is necessary for a separate satellite to offset the cost advantage of sharing the use of an international satellite. The same considerations apply if domestic needs are to be met by a satellite shared by several nations.

If the regional satellite is to carry international traffic as well, INTELSAT -- the international communications consortium -- has an important stake in the result. Adequate provisions must be made so that any international traffic which is diverted will not jeopardize the economic efficiency of the INTELSAT system or limit its extension to developing countries.

INTELSAT members should adhere to INTELSAT supervision in any use of domestic or regional satellites.

Such supervision should include coordination of design so that all communication by commercial satellite is compatible with the global system. We must not sacrifice our goal of direct communications links among all nations. Domestic and international traffic should be able to flow freely through the entire global system, limited only by the technology itself.

Technical regulation is also necessary so that positions in orbit can be assigned, frequencies can be allocated, and energy from satellites does not interfere with other communications systems.

The alternative to this type of coordination is international communications anarchy -- lack of inter-connections, needless expense, pollution of frequencies, radio interference, and usurpation of orbital spaces. Nations should have no hesitation in choosing the route of international cooperation.

PARTICIPATION BY OTHER NATIONS IN INTELSAT

I urge the Soviet Union and the nations of Eastern Europe to join with the United States and our 57 partners as members of INTELSAT. INTELSAT is not a political organization. It holds no ideological goal except that it is good for nations to communicate efficiently with one another. It seeks no diplomatic advantage. It is quite simply a cooperative undertaking of many nations to finance an international communications system which is of advantage to all.

In 1963, this invitation was extended by the governments of those nations which joined in the creation of INTELSAT. Today, I renew that invitation on behalf of our government.

I have stated many times my hope that our commercial activities with the Soviet Union and Eastern Europe will grow, that our contacts will increase, and that we will emphasize those matters in which our interests are common rather than dwelling on those issues which divide us.

Here is a rare opportunity to join in an activity to bring benefits to all nations and loss to none. Recently the Soviet Union ratified the treaty for the peaceful uses of outer space. Nothing could better symbolize the truth that space belongs to all men, than an international undertaking that permits the free flow of communications. I earnestly hope that the Soviet Union and the nations of Eastern Europe will join in this historic action.

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(OVER)

The Soviet Union is a leader in satellite technology. I am advised that there is no insurmountable technical obstacle to an eventual linking of the Soviet MOLNIYA system with the INTELSAT system. The peoples of the world could rightfully rejoice if our advances in satellite technology were accompanied by this act of global cooperation.

Of course, this participation would require a revision of investment and voting ratios based on Soviet anticipated use of the system. Our representatives in INTELSAT are ready to participate in immediate discussions to make that membership possible.

INTERNATIONAL COMMUNICATIONS OWNERSHIP

Most nations handle their international communications through a "chosen instrument" -- generally, a government owned entity. The United States has no chosen instrument. Several record carriers and one voice carrier handle international traffic. In addition, ComSat provides satellite circuits to these carriers.

Our normal instinct is to favor the existence of multiple companies in each commercial field. We believe that competitive pressures -- among technologies as well as companies -- will usually generate lower prices for the user. Congress recognized in the 1962 Act that ComSat would be required to deal with several international carriers.

Yet, there is a legitimate question as to whether the present division of ownership continues to be in the public interest. Critics argue that:

- International communications are provided by an industry which is regulated in its rates and practices. Price competition, as we usually use that term, does not exist.
- Divided ownership has resulted in the construction and maintenance of expensive, duplicating communications facilities which increase operating costs and result in higher rates for the user.
- Our nation is in a relatively poor bargaining position on communications matters with foreign counterparts since we do not speak with a single voice.
- Disputes have existed between ComSat and the surface carriers over who should own the ground stations in the international system.
- Defense communications in the future could be subjected to delay.

Several proposals have been advanced which would affect our international communications posture. Legislation has been proposed to permit a merger of one or more of the international carriers. It has been suggested that ComSat should be permitted -- in certain circumstances -- to contract directly with users other than the international common carriers.

Questions have been raised whether additional communications capacity should be developed through surface cables, utilization of satellites, or other technologies.

A continuation of the review of these issues is desirable.

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TASK FORCE ON COMMUNICATION POLICY

I am appointing a Task Force of distinguished government officials to make a comprehensive study of communications policy.

It will examine a number of major questions:

- Are we making the best use of the electro-magnetic frequency spectrum?
- How soon will a domestic satellite system be economically feasible?
- Should a domestic satellite system be general purpose or specialized, and should there be more than one system?
- How will these and other developments affect COMSAT and the international communication carriers?

These are complex questions. Many of them are being presently watched by the Federal Communications Commission. But a long, hard look must also be taken by all parties with responsibility in this area -- for the ultimate decisions will work a revolution in the communications system of our nation.

This Task Force will examine our entire international communications posture. It should investigate whether the present division of ownership in our international communications facilities best serves our needs, as well as which technology can meet new communication requirements in the most effective and efficient manner.

The task force may establish working groups of government and non-government experts to study various technical, economic and social questions.

The task force should also determine if the Communications Act of 1934 and the Communications Satellite Act of 1962 require revision. I am asking the task force to report to me from time to time and to make its final report within one year.

GOVERNMENT ORGANIZATION

Our government must be organized to carry out its responsibilities in the communications field. Present authority is widely dispersed. The Federal Communications Commission has heavy responsibilities under the 1934 and 1962 Acts. The President and many agencies have responsibilities under these Acts, various Executive Orders, and as part of their general duties.

Communications is a vital public policy area -- and government organization must reflect that challenge.

I have asked the Bureau of the Budget to make a thorough study of existing governmental organization in the field of communications and to propose needed modifications.

CONCLUSIONS

This message does not create a new communications policy for our nation. Rather, it proposes the foundation for that policy.

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(OVER)

- It reaffirms our intentions as a partner in INTELSAT.
- It considers the need for modifications in our international communications posture.
- It sets in motion the necessary studies for a better understanding of policy needs in domestic and international communications.

The challenge of this new technology is simple -- it is to encourage men to talk to each other rather than fight one another.

Historians may write that the human race survived or faltered because of how well it mastered the technology of this age.

Communications satellites now permit man's greatest gifts -- sight, expression, human thoughts and ideas -- to travel unfettered to any portion of our globe. The opportunity is within our grasp. We must be prepared to act.

LYNDON B. JOHNSON

THE WHITE HOUSE,

August 14, 1967.

#

AUGUST 14, 1967

Office of the White House Press Secretary

THE WHITE HOUSE

The President today named the following to a Task Force on Communications Policy:

Chairman:

Eugene V. Rostow, Under Secretary of State for Political Affairs

Vice Chairman:

James D. O'Connell, Director of Telecommunications Management

James Reynolds, Under Secretary of Labor

Charles Schultze, Director, Bureau of the Budget

Gardner Ackley, Chairman, Council of Economic Advisors

Leonard Marks, Director, United States Information Agency

James E. Webb, Administrator, National Aeronautics and Space
Administration

Donald Hornig, Director, Office of Science and Technology

Anthony M. Solomon, Assistant Secretary of State for Economic Affairs

Solis Horwitz, Assistant Secretary of Defense

Donald F. Turner, Assistant Attorney General, Antitrust Division

Donald Agger, Assistant Secretary of Transportation

J. Herbert Holloman, Under Secretary of Commerce (Acting)

Dean W. Coston, Deputy Under Secretary of Health, Education and Welfare

Edward C. Welsh, Executive Secretary, National Aeronautics and Space
Council

Ex Officio: Rosel Hyde, Chairman, Federal Communications Commission

#

Staff Representatives

ARMSTRONG, Cole	Office of Telecommunications Management
BAKER, Donald	Chief, Evaluation Section, Antitrust Division Department of Justice
BERG, Capt. Winfred E.	National Aeronautics and Space Council
CLARK, Ralph	Office of Telecommunications Management
DAVIS, Dr. Ruth M.	National Library of Medicine National Institutes of Health
DREW, Dr. Russel C.	Office of Science and Technology
GENTRY, John N.	Executive Assistant to the Under Secretary of State
GOLOVIN, Nicholas	Technical Assistant Office of Science and Technology
KESTENBAUM, Lionel	Department of Justice
LOWE, Robert	Department of Transportation
LOY, Frank E.	Deputy Assistant Secretary for Transportation and Telecommunications Department of State
LYONS, Dr. William N.	Foreign Service Reserve Office United States Information Agency
MORRILL, William	Bureau of the Budget
NELSON, Thomas E.	Acting Director, Office of Telecommunications Department of State
NOLL, Roger	Senior Economist Council of Economic Advisers
OMBERG, Arthur	Department of Commerce
OSER, Hans	Department of Commerce

RADIUS, Dr. Walter	Office of DOD and Interagency Affairs National Aeronautics and Space Administration
ROGERS, Thomas	Director Office of Urban Technology and Research Department of Housing and Urban Development
SOLOMON, David L.	Technical Adviser, National Communications Office of Secretary of Defense
ZUCCOTTI, John E.	Special Assistant to the Under Secretary Department of Housing and Urban Development

Consultants

ALEXANDER, Sidney	Massachusetts Institute of Technology Cambridge, Massachusetts
BARNETT, Harold	Washington University St. Louis, Missouri
BARNETT, Stephen R.	University of California Berkeley, California
BAUMOL, William J.	Princeton University Princeton, New Jersey
BAXTER, William F.	Stanford University Stanford, California
BLOCK, Clifford	Agency for International Development Washington, D. C.
BOLTON, Roger E.	Williams College Williamstown, Massachusetts
BREYER, Stephen G.	Harvard University Cambridge, Massachusetts
CAPRON, William	Brookings Institution Washington, D. C.
CHAYES, Abram	Harvard University Cambridge, Massachusetts
CHAZEN, Leonard M.	Rutgers University Newark, New Jersey
CLAYTON, John	Department of Health, Education and Welfare Washington, D. C.
DEUTSCH, Jan G.	Yale University New Haven, Connecticut
DUGGAN, Michael A.	University of New Hampshire Durham, New Hampshire

EHRlich, Thomas	Stanford University Stanford, California
EINHORN, Henry	Department of Commerce Washington, D. C.
ELDRIDGE, Frank R.	Research Analysis Corporation McLean, Virginia
FISHER, Franklin	Massachusetts Institute of Technology Cambridge, Massachusetts
FISHER, Thomas	Office of Telecommunications Management Washington, D. C.
GARDINER, John R.	Writer Washington, D. C.
GREENBERG, Edward	Washington University St. Louis, Missouri
HOLBORN, Frederick	Writer Washington, D. C.
HUSZACH, Fredrick W.	American University Washington, D. C.
IRWIN, Manley R.	University of New Hampshire Durham, New Hampshire
JONES, William K.	Columbia University New York, New York
LAZARUS, Simon, III	Lawyer Washington, D. C.
MATHISON, Stuart	Massachusetts Institute of Technology Cambridge, Massachusetts
MEYERS, Charles J.	Stanford University Stanford , California

MORRIS, Fred W., Jr.	Telecommunications Consultant Washington, D. C.
NEISSER, Albert	Federal Communications Commission Washington, D. C.
PRICE, Monroe E.	University of California (UCLA) Los Angeles, California
ROSS, Leonard M.	Yale University New Haven, Connecticut
SCHARFF, Samuel A.	Consulting Engineer Englewood, New Jersey
SCHWARTZ, Herman	State University of New York Buffalo, New York
STONE, Christopher D.	University of Southern California Los Angeles, California
TAYLOR, Lester D.	Harvard University Cambridge, Massachusetts
TREBING, Harry M.	Michigan State University East Lansing, Michigan
WALKER, Philip M.	Massachusetts Institute of Technology Cambridge, Massachusetts

Cost Estimate

From available data, this is the cost picture: (all figures rounded to the nearest thousand)

	<u>Funded by</u>	<u>Cost</u>
CONTRACT STUDIES:		\$ 579,000
Page Communications Engineers	DOD(#)	\$ 102,000
Stanford Research Institute	AID	119,000
Complan Associates	DTM	38,000
GE TEMPO	DTM	100,000
Spindletop Research	HEW	38,000
RAND Corporation	DOD	47,000
Kelly Scientific Corporation	Justice	60,000
National Academy of Engineering	HUD	75,000
CONSULTANTS: (Per Diem and travel) (From vouchers on file)	DOD	82,000
*PERSONNEL:		
Staff of 8 (Averaging at GS-16, \$25,000 per annum for 13 months)	Parent Agency	217,000
Secretarial Staff of 5 (Averaging at GS-6, \$7000 per annum for 15 months plus studied estimate of overtime)	Parent Agency	49,000
SUPPLIES, EQUIPMENT, STAFF TRAVEL	State	29,000
TOTAL		\$ 956,000

(# - Of the total amount listed for DOD, \$100,000 was provided to DOD from the Bureau of the Budget out of expenses of Management Improvement.)

(* - It may be argued that this is not a valid item in that the Government was already obligated for the salaries of all but one, Dr. Leland Johnson. Alternatively, these officers and secretaries would have presumably been employed in other productive work were they not on the Task Force Staff. I would estimate salary and moving expenses for Dr. Johnson at \$35,000)

An unknown factor is the man hour costs of Staff Representatives and others in various Departments and Agencies. A guarded estimate would be that, at least, one GS-17 in each Agency devoted 10% of his time to meetings and in the preparation of papers.

14 Agencies x $\frac{\$27,000}{10}$ for one year =	\$ 38,000
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Of course, if one wished to boost the figure, as some seem to do, he could toss in the completely unknown factor of the number of industrial man hours invested by various interested parties (AT&T, Comsat, ITT, etc.)

Thus, we conclude, a minimum, direct cost figure (no salaries save that of Dr. Johnson)	774,000
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The maximum figure of cost to the Government	\$ 994,000
--	------------

President's Task Force on Communications Policy

Chairman:

ROSTOW, Eugene V.

Under Secretary of State for
Political Affairs, Department
of State

Vice Chairman:

O'CONNELL, James D.

Director of Telecommunications
Management

ACKLEY, Gardner

Replaced by Merton J. PECK
in February 1968

Council of Economic Advisers

AGGER, Donald G.

Assistant Secretary for International
Affairs and Special Programs
Department of Transportation

COSTON, Dean W.

Deputy Under Secretary
Department of Health, Education
and Welfare

HOLLOMAN, J. Herbert

Replaced by John F. KINCAID
in September 1967
Replaced by Joseph BARTLETT
in September 1968

Under Secretary
Department of Commerce

HORNIG, Dr. Donald F.

Director
Office of Science and Technology

HORWITZ, Solis

Assistant Secretary for Administration
Department of Defense

MARKS, Leonard H.

Director
United States Information Agency

REYNOLDS, James J.

Under Secretary
Department of Labor

SCHULTZE, Charles

Replaced by Charles ZWICK
in January 1968

Director
Bureau of the Budget

SOLOMON, Anthony M.

Assistant Secretary of State
Bureau of Economic Affairs
Department of State

TURNER, Donald F.
Replaced by Edward M.
ZIMMERMAN in June 1968

Assistant Attorney General
Antitrust Division
Department of Justice

WEBB, James E.
Represented by Willis H.
SHAPLEY, Associate Deputy
Administrator

National Aeronautics and Space
Administration

WELSH, Edward C.

Executive Secretary
National Aeronautics and Space Council

WOOD, Robert C.

Under Secretary
Department of Housing and Urban
Development

Ex Officio:
HYDE, Rosel

Chairman
Federal Communications Commission

Task Force Staff

NOVAK, Alan R.	Staff Director (from the Office of the Under Secretary of State)
JOHNSON, Leland L.	Director of Research (from the RAND Corporation)
POSNER, Richard A.	General Counsel (from the Solicitor General's Office, Department of Justice)
GRAY, Oscar (Jan. 68 - Aug. 68)	Counsel (from Department of Transportation)
HINCHMAN, Walter	Physicist/Systems Engineer (from Office of Telecommunications Management)
LASHER, Sebastian (Lt. Col.) (July 68 - Sept. 68)	Communications Engineer (from Department of Defense)
OSBORN, Charles	Systems Analyst (from Department of Defense)
SHERIDAN, James	Economist (from Federal Communications Commission; formerly Chief of FCC Broadcast Bureau)
STARR, Robert	Counsel (from Department of Health, Education and Welfare)
HICKS, Orton (Dec. 67 - May 68)	Research Librarian (from United States Information Agency)
LYONS, William N. (April 68 - Jan. 69)	Research Librarian (from United States Information Agency)

(N. B. - With inconsequential exception, at no one time were there more than 8 Staff members "on board." The figure 8 has been used in arriving at cost estimates.)

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Telecommunications

THE WHITE HOUSE
WASHINGTON

April 14, 1969

MEMORANDUM FOR CLAY T. WHITEHEAD

From Robert C. Odle, Jr.

Attached is Joseph Becker's article from Library Trends "Information Network Prospects in the United States." Because the article deals with, as I mentioned to you, the Rostow report on Communications Policy over which your shop has jurisdiction, I thought you might be interested in this article.

The concept of an information-bank from which information could be sent across the country is one which will undoubtedly be heard of more as time goes on. It was my hope that whoever has or will have White House staff responsibility for this area would contact Mr. Becker so that he would know the Administration is aware of this area.

I found the article most perceptive and extremely well written.

Rob Odle

HERBERT HILL FOCKLER
10710 LORAIN AVENUE
WOODMOOR
SILVER SPRING, MARYLAND 20901

March 25, 1969

Mr. Herbert Thompson
Office of the Director of Communications
The White House
Washington, D. C.

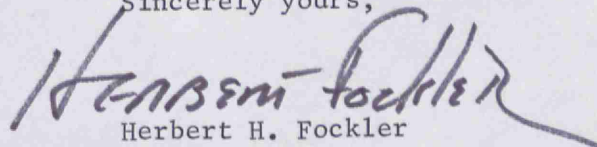
Dear Herbert:

I am enclosing an article by one of my colleagues, Joseph Becker, Vice President of EDUCOM, summarizing current plans and activities for formal communications networks to increase the dissemination and utilization of knowledge. The technology and procedures developed for and used by academic and scientific communications networks can be quickly adapted and applied for more effective communications with the general public.

Mr. Becker is a pioneer and outstanding authority, and I know he will be pleased to give you more information about communication systems and networks if you wish. His office telephone number in Bethesda is 530-6400.

Very best regards,

Sincerely yours,


Herbert H. Fockler

Enclosure

Information Network Prospects in the United States*

JOSEPH BECKER

UNMISTAKABLE SIGNS ARE POINTING the way toward the creation sometime soon of a national information network in the United States. The concept of a national network implies the interconnection of existing information systems and libraries through communications. Certainly one of the great strengths of this nation is the great array of intellectual, scholarly, and research resources to be found in its libraries and information centers. Without integration and close cooperation, however, these resources will remain a series of separate, insulated institutions. But if maximum communication can be established among them, this array can be converted into a national resource of immense value to citizens throughout the country. Belief in the importance and value of information networks has been expressed at the highest levels of government during 1967/68, and if this attitude persists, the vision of a network could easily be developed into a national goal.

National Activity. President Johnson, on two occasions in 1967, urged the integration of modern communications with library and information practices. The first speech was at the Conference on World Education in Williamsburg, Virginia, where he stated the need for providing the best library facilities in the world through exploitation of present communications technology.¹ On November 7, in Washington, D.C., when the President signed into law the Public Broadcasting Act of 1967, he remarked on the probable effects of information networks on the individual: "I think we must consider new ways to build a great network for knowledge—not just a broadcast

Joseph Becker is Director of Information Sciences, Interuniversity Communications Council (EDUCOM), Bethesda, Maryland.

* This article is based on an address delivered by the author to the Medical Library Association at its Annual Meeting in Denver, Colorado, June 11, 1968.

Information Network Prospects in the United States

system, but one that employs every means of sending and storing information that the individual can use."²

The President also appointed Eugene V. Rostow of the State Department to head a one-year commission, the President's Task Force on Communications Policy, and charged it with the responsibility of conducting a comprehensive review of United States telecommunications policy. Congress has passed a bill entitled the Higher Education Act of 1968, which includes a separate section on networks known as Title IX—Networks for Knowledge. Title IX has provisions designed to encourage and further joint programs among institutions of higher learning for the cooperative exploration of the new computer and communications technologies. Last May, in announcing the reorganization of the major health agencies, the Department of Health, Education, and Welfare stated that the National Library of Medicine would continue to serve as the Department's vital center for health communications and related scientific development.

Other national developments that are creating demands for expanded library service and for the building of information networks are the State Technical Services Act, the National Library of Medicine's program for regional medical libraries, the Regional Medical Program for Heart Disease, Cancer and Stroke, the Office of Education's support of libraries, the joint program of the Library of Congress, the National Library of Medicine, and the National Agricultural Library for development of machine-readable catalog data for monographs and serials, and the supporting programs of the National Science Foundation. During 1967, it became apparent to the National Science Foundation that the developing discipline-oriented information systems in the professional societies, the mission-oriented systems in the Federal agencies, and the private institutions and organizations with their specialized information systems would require some kind of coordination and eventual integration into a national information network.³ These programs have not only created a new and more favorable climate for libraries and information centers but have also emphasized the critical need for communication among them.

Despite the widespread enthusiasm for networks, neither industry nor government has yet proposed a grand strategy for coordinating the diversity of information network schemes that are springing up independently throughout the United States. Active network programs were underway within states, regions, government, professional societies, and industry. A nationwide plan for uniting the scattered

Bob
Edwards' is
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the Rostow
report

information networks is urgently needed. The Committee on Scientific and Technical Information (COSATI) of the Federal Council for Science and Technology has been trying hard to solve the network interface problems of the Federal Agencies and, in addition, established a sub-committee in 1965 to work exclusively on the development of a national system. Another committee of national scope is the Committee on Scientific and Technical Communications (SATCOM) established by the National Academy of Sciences. One of the primary functions of this group is to improve methods for promoting effective relationships between information systems and principal producers and users of scientific and technical information, and another objective is to stimulate the application of new techniques and systems for information transfer. Both COSATI and SATCOM share the belief that the earlier a basis for technical integration of networks can be established, the sooner it will become possible to incorporate these conceptions into local network planning, and the more quickly a national information network will become a reality.

Aware that a multitude of different systems were developing inside and outside the government, the National Bureau of Standards, within the past year, has initiated programs for standardizing formats for textual and numerical data exchanged through computers and communications. Also, a special Task Force was established by the White House Office of Science and Technology with the cooperation of the National Academy of Sciences for the Interchange of Scientific and Technical Information in Machine Language (ISTIM).

Although the U.S. government has been considering ways to tie together its own resources, it has not been blind to the tremendous opportunities which communications will provide for the international exchange of information. Leonard H. Marks, Director of the United States Information Agency, in an address before the National Association of Educational Broadcasters, proposed methods for implementation of a "world information grid" using satellite facilities through the INTELSAT consortium of nations.⁴

The above recounting is but a brief sketch of the very lively interest and activity prevailing within the Federal structure and the private sector in support of the information network concept. An additional network dimension exists at the state level.

Many states are readying network plans under Title III of the Library Services and Construction Act. Thus far, installation of teletype and telefacsimile networks has received the most attention but

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there are also signs of affiliation and amalgamation at the local level due to the availability of the MARC (*Machine Readable Catalog*) computer tapes from the Library of Congress. MARC tapes are certain to have a consolidating effect on technical processing, particularly among public and school libraries.⁵ The concept of a dynamic network involving all types of libraries has been advanced in Washington, New York, California and other states.

Bibliographic standardization is also being introduced abroad. The *shared cataloging* program of the Library of Congress is providing rigid specifications for the recording of bibliographic records of monographs in libraries in France, Great Britain, Denmark, Sweden, and other countries. Both MARC and the shared cataloging program constitute significant developments in the library world that will eventually facilitate network integration of bibliographic data on an international basis.

One functional group that has been active with respect to network building in the United States has been the educational community. Education's aim in this area is to improve the quality of instruction and research through exploration of the new computer and communications technologies. With the support of the U.S. Office of Education, network projects of various kinds have been initiated in many elementary and secondary school systems. In higher education a consortium was formed to further the same interest. The Interuniversity Communications Council (EDUCOM) is a voluntary consortium of educational institutions whose function is to facilitate the extra-organizational communication of a university. The concept of networking is central to the activities of EDUCOM, which, by 1968, had over ninety member institutions. An educational network among universities carries the idea of sharing to its ultimate goal; information resources available through any one member would be equal to the sum of the resources of all participating institutions.⁶

From Cooperation to Communication. The history of information networks may be traced back to the time when librarians first recognized the benefits of interlibrary cooperation. In 1853, for example, at the Librarians' Convention in New York City, Monsieur A. Vattemare described the chronology of cooperative efforts from 1832 to that date and discussed the usefulness of international cooperation among libraries. He spoke of the desirability of having a "permanent system of bibliographic exchange between governments, a central agency on each Continent in connection with each other to negotiate

these exchanges," and the value of union lists.⁷ Vattemare's dream was visionary in 1853 but today his ideas can be implemented in a very practical way; some of them have already been partially realized.

Two developments are responsible for the trend toward greater interlibrary cooperation. The first stems from World War II and the increase in government-sponsored research and development in science and technology. The second is evident in the changes in American education and culture that have occurred over the past decade and which have resulted in corresponding changes in the variety and quantity of published materials. Both have a major influence on the development of special libraries and information centers. These two forces converged and combined to generate new pressures for the creation of new information services that took many different forms. The number and type of abstracting and indexing services increased, many different union lists and catalogs evolved, library acquisition and exchange programs flourished and current awareness services were started to provide greater coverage and extended refinements. Further expansion of diverse information services in this country has taken place during the past two decades. The government, for example, has established large-scale *mission-oriented* information programs at NASA, Atomic Energy Commission, and in the Department of Defense, to make the fruits of government research more widely available. In the private sector, on the other hand, the development of *discipline-oriented* information systems was emphasized. These are found in the fields of chemistry, physics, biology, geology, mathematics, and so forth, and are operated by the professional societies. Another phenomenon has been the development of specialized information or analysis centers which serve as scientific middlemen to distill, interpret, and synthesize information in direct support of the working scientist.⁸ More and more, these organizations are producing machine-readable files, and efforts are underway to develop computer techniques for cross-accessing these data in order to satisfy a variety of interdisciplinary interests. The fact that the data are machine-readable increases their usefulness, because they are susceptible both to computer processing and to communications transfer.⁹

No one library can ever hope to become self-sufficient in the face of this expanding universe of information, and it is this realization which adds impetus to the U.S. government's drive for better communications through an information network in the United States.

Through the application of the new computer and communications

Information Network Prospects in the United States

technologies, and with the advent of Federal, state, and local legislation and programs, there is a definite trend in the U.S. toward the establishment of regional information systems, intra-state communication networks, centralized processing centers, and so forth. Gradually, as this movement toward synthesis extends, smaller information cooperatives are likely to develop into bigger ones, and in time each will become a communications node in an increasingly encompassing network.

Professional Motivation. Librarians are watching network developments very carefully. They are quick to grasp the meaning of interlibrary communications, and recognize the opportunity it will provide all libraries to share in the aggregate resources of the nation.¹⁰ There are also many signs of telecommunications activity within the profession. The year 1967/68 witnessed an increase in experimentation with facsimile for interlibrary loan, a noticeable rise in the number of teletype stations in libraries, and further research into the area of remote access to time-shared computer-controlled catalogs. Interest in information networks among librarians is therefore high and is constantly gaining momentum. Three motivating forces are responsible—the first is *service*, the second *economics*, and the third *technology*.

Librarians are eager to improve their local systems and services. This aim is expressed in a series of objectives: to serve more people, to make information more uniformly available, to supplement local collections by drawing more effectively on external sources, to integrate multimedia materials into the mainstream of library activity, to individualize library service, and to change the library's image from that of a place "where the books are kept" to that of an active information center. Networks imply a degree of democratization of information, a steady increase in the ability to serve at all points of service, and cooperative sharing without constraints of time, distance, or form of data. Librarians are thus motivated to pursue the network idea because of its potential service advantages.

Economics is the second factor. Financial pressures are forcing libraries, and all information activities for that matter, to consider ways of sharing rather than duplicating materials and other resources. The publishing rate and the cost of printed materials are rising steadily, and libraries are well aware that they cannot afford the luxury of open-ended purchasing for their individual collections but are required to buy more restrictively. This means, therefore, that

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appropriate local collections must be built to meet immediate needs, and a mechanism, such as a network, must be devised to make readily available the resources of distant, specialized collections. Furthermore, it is costly to establish a new library for every new population center. Certainly, an expanding and shifting population requires the best library service, but the cost of proliferating comprehensive replicate collections is prohibitive. Using the distribution potential of a communications network appears to be a very attractive and realistic alternative.

The third motivating force is technology. Librarians have begun, within the past five years, to accept the premise that it is technically feasible for sound, pictures, and digital data stored at distant locations to be made available with relative ease. Computers, with their direct access capability, and communications, with their multimedia distributive capacities, can function as effective coupling devices for bringing an individual user and his sources of information closer together.¹¹

What is a Network? Broadly defined, any network is an interconnection of things, systems, or organizations. Natural networks among libraries for the exchange of bibliographical information and the coordination of technical processing functions date back to the last century. The closest counterpart of a network in the library world today is interlibrary loan, which can be viewed as an organizational network. For a network to be an *information network*, more than two participants should be engaged in a common pattern of information exchange through communications for some functional purpose.

Normally, we tend to think of networks in terms of the telephone or the radio. However, these networks are primarily communication grids, whose wires and waves carry messages back and forth. Telephone and radio networks are independent of the content or purpose of the messages they carry and serve merely as arteries of communication. Where interdependence for information exists among a group of participants and there is a common function or purpose to be served, it seems logical to call such a network an information network.

Information network development is in its infancy and, as might be expected, its terminology tends to be nebulous and loose. A recent review of the 1967 literature on networks for the *Annual Review of Information Science and Technology* reported that network activities were generally identified in one of three ways.¹² Some authors refer

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to a network by the equipment which is used to operate it—this includes the telephone network, teletype network, and facsimile network. Some describe it by the form of data which the network carries—such as a digital network, audio network, and film network. And still others identify a network by the function it is to perform—for example, educational networks, management information networks, biomedical information networks, and financial networks.

Planning a Network. In planning an information network, certain fundamental system design considerations should be taken into account. The first, and in this author's view the hardest to express, is *formal organization*. This assumes that a group of participants recognize the value of belonging to a common information compact and are willing to accept the responsibilities of membership. More than lip-service cooperation is required. Participants should share a sense of common purpose, of course, but even more vital is their willingness to undertake legal, fiscal, and other contractual commitments to ensure and preserve the functional integrity of the network.

Examples of commitments that network participants may be called upon to make include: provision of materials and information services to the constituency served by other parts of the network on the same basis as that provided to its own constituency; maintenance of an agreed-upon level of service in terms of dollars and people; payment of a proportionate share of the expenses incurred in network operations; an understanding not to withdraw from the network without payment of penalties; and, agreement on the responsibilities of central network authority. This list of examples is small as compared to all of the organizational factors that will surely attend information network affiliation. Nevertheless, it illustrates a few of the crucial considerations that are involved.

Adequate *provision for communication* among participants is a second prerequisite for the formation of a network. Communications are the channels or circuits that rapidly bridge and interconnect the dispersed points of a network. They may consist of telephone lines, coaxial cables, microwave stations, satellites, or some combination thereof. A communications system may be owned by a network, and if so it is called a "dedicated" system; or a user may "lease" facilities from common carriers such as the Bell System or Western Union. By and large, the commercial carriers do not lease facilities but provide a specific service, such as telephone or teletype or facsimile or television or data transmission, although the carrier company itself may

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carry these separate services on a common transmission system. Petitions have been made to the Federal Communications Commission to require the common carriers to make multi-purpose transmission capacity available in bulk to be used in a number of alternate modes under the customer's control. Various other anomalies exist in the traditional common carrier tariff schedules and these too are under study by the Commission. Lower transmission costs for information or data transfer over great distances seem imperative if information networks are to grow. Both the Bell System and Western Union are in the process of upgrading their narrow-band systems, originally designed for voice communications, to broad-band facilities capable of carrying the vast quantities of digital and analog data generated by computers, TV cameras, facsimile scanners, and other technical equipment.¹³

Not all points in an information network will require the same communications support. Communications equipment and service requirements are determined for each node in a network by calculation of the anticipated traffic volumes, measurement of the length of probable messages, and analysis of the forms and rate of data to be transmitted and received. This will usually result in the installation of different levels of equipment at various echelons of a network. Communications compatibility, on the other hand, is a firm and standard requirement for all.

A third characteristic which an information network should possess is *bi-directional operation*. This means that information carried by the network, regardless of its form, may move in either direction. Hence each participant should be able, to some degree, to transmit as well as receive. "Conversation" between man and machines is a commonplace today for processing numerical problems through an on-line computer system. In an information network, the same interactive advantages should be forthcoming when one requests printed or graphic information at a distance. Bi-directional television is already being used by some educational institutions, and AT&T's Picturephone may soon bring a limited degree of bi-directional television in the home and office. In an information network, provision should be made to enable users to hold two-way conversations with people, computers, or files by voice, by keyboard, or by video.

In addition to formal organization, adequate provision for communications, and bi-directional operation, another important network feature is a *directory and switching capability*. A directory look-up

Picture phone

Information Network Prospects in the United States

system in an information network may be thought of as comparable to the yellow pages of the classified telephone directory. It will enable any user of a national information network to identify the particular point in the net best able to satisfy his request. The directory does not furnish the answer to an information question but puts the user in direct touch with the best source of response. The switching station, as in the telephone system, finds the optimum communications path for sending the inquiry and receiving the reply, taking into account existing conditions of overload, emergency operation, peak use, and so forth.

Conclusion. Thus, it becomes clear that the development of a national information network is a complex and difficult assignment—worthy of our effort, to be sure, but not something to be worked out overnight and without a great deal of careful, deliberate planning. A nationwide network of information systems connecting local, state, regional, and national resources in the U.S. will involve highly complex system design, the utmost technical skill, and above all a sense of purpose and commitment on the part of all those concerned with the effort.

Moreover, many problems and obstacles must be overcome before such a network can be realized. We need to develop acceptable criteria for determining what is to be placed on the network, we need to clarify the rules of network participation, we need to agree on network organization and operation, we need to adopt communication standards and other common practices, we need to investigate the implications of information system integration from a social, legal, financial, and technical point of view.

What we need most of all is a workable plan, not a rigid blueprint but a flexible framework for evolutionary network development, that will guide the growth of many emerging network programs. Only with such a plan can we expect our libraries, specialized information centers, research analysis centers, and other information activities someday to mesh into a smoothly working whole.

The government can and should play a key role in preparing such a plan. It will probably continue to be one of the major influences on information network development, setting a pattern for others to follow. It may create its own information networks in specialized fields, such as medicine, or it may make funds available to the private sector in order to facilitate regional development. In any event, more and more interconnections at the local level can be expected in the

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years ahead. Organizational interconnections will only occur from the bottom up, but the Federal government can greatly assist this trend by providing the multi-purpose arteries of communication essential to technical interconnection. Installation by the government or by the common carriers, of a nationwide broad-band electronic transfer grid for the exclusive use of the information community would have a salutary effect by setting the compatibility standards for all future network participants.

A national information network could be formed by the government as a public service, as a public utility, or as a publicly owned company through private enterprise. It is timely for the United States to consider establishing a domestic unit of some sort whose purpose it would be to furnish unity to the creation of a national information network. The unity and nationwide efficiency of the telephone and radio networks in America owes much to an early management decision to organize the program on a business basis through leasing and licensing arrangements. This proved to be the wisest and best course for the development of these networks. A similar type of management decision is needed now to point the way toward the regional organization and federated relationships which are prerequisite to the technical integration of information systems. Combined action on the part of the Congress, the Federal government, and the communications industry is the most practical way to bring this about.

In the United States, access to information is a public right. But, a rapidly increasing population and a rapidly expanding universe of information are introducing constraints and preventing the public from freely exercising this right. The object is to remove these impediments to knowledge by developing mechanisms such as networks that will facilitate the extraorganizational distribution and communication of information in all forms.

There seems little doubt that information networks will turn out to be the mechanism whereby the long-sought-after objectives of inter-library cooperation and information sharing will be realized in the United States. The years ahead will witness considerably more experimentation in the transfer of information and data between information activities over existing dial-up commercial transmission facilities. This is certain to lead to an even greater appreciation of the benefits of an information network and of the need for its accelerated development on a national basis.

Information Network Prospects in the United States

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Telecommunications
U.S. DEPARTMENT OF COMMERCE

COPY

4/10/69

To: Tom Whitehead

From: W. R. Hinchman

Note attaching paper entitled "Use and Management of the
Electrospace: A New Concept of the Radio Resource"
which is for presentation at IEEE International Communications
Conference - June 10-12, 1969.

(Paper filed in Domestic Satellite file)

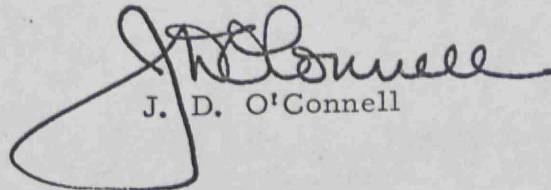
EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT
WASHINGTON, D.C. 20504

OFFICE OF THE DIRECTOR

April 9, 1969

MEMORANDUM FOR THE DIRECTOR:

In accordance with our current procedures, I am pleased to transmit this report of the significant activities of this office for the period ending April 8.



J. D. O'Connell

Enclosure

April 8, 1969

WEEKLY ACTIVITY REPORT NO. 60

NATIONAL TELECOMMUNICATIONS

1. Coordination of Teleprocessing Program

At the request of the General Services Administration an informal briefing was given General Williams, Commissioner of the Transportation and Communications Service on OTM work in the field of teleprocessing (computer communication).

FREQUENCY MANAGEMENT

1. Department of Commerce Support for OTM

On April 2 representatives of the OTM and the Department of Commerce met to determine how the services of the Department of Commerce, particularly the Institute for Telecommunication Sciences (ITS) at Boulder, Colorado, might be used in assisting the DTM. During the course of the meeting a review of planning in the frequency management area for the next two years was undertaken. As a result, it appears that Department of Commerce assistance might be rendered in the areas of (a) defining the growth and methods for control of electronic pollution, i. e., man-made noise, and (b) cataloging improvements in the state of the radio art in a ready reference form so that the OTM can determine what improvements in electronic equipment should be required of Government agencies. Additionally, this latter point can be expanded upon as a second step so as to include the feasibility of forecasting changes in the state of the radio art rather than having developments "spring upon" us as is currently the case.

*2. NRAC Support in Frequency Management Area

As noted in previous reports, computerized ADP is vital to effective management of the radio frequency spectrum. OTM's program, which makes use of the NRAC computer, has been in operation for over two years and is under continuing development. On April 2 OTM and OEP personnel reached an understanding with respect to the mutual requirements and capabilities of both offices and established a procedure for regular top level meetings in order that any problems may be aired at the earliest opportunity. The first areas treated include the extension of a contract with

HRB-Singer for provision of "software" support in the frequency management area and the extent to which NRAC capabilities might be expanded so as to meet the large requirement involved in the establishment of a National Electromagnetic Compatibility Analysis Facility (see previous reports for this concept).

3. National Academy of Engineering Support of OTM

One of the prime consultative capabilities available to the OTM is the Committee on Telecommunications of the National Academy of Engineering. A contract supporting this organization has been in effect since August 1968. On April 7 the Committee on Telecommunications met for the purposes of determining the future of the Committee, receiving reports on the two specific areas under study on behalf of OTM (defining the economic and social values of the spectrum and determining the contributions which telecommunications can make towards solving the urban problem) and conducting advance planning for the next several years. Also on the agenda was a report by the Director, OEP, on "Some new aims of the Office of Emergency Preparedness and the National Security Council" and "Highlights of the Recent INTELSAT Conference" presented by the Chairman of the U. S. Delegation, Leonard H. Marks. During the course of the meeting it was determined that there was general support for continuing the Committee and for working closely with OTM to determine areas of benefit to both the Academy and telecommunications at the national level. Coordination is continuing at staff level between the two organizations in order that future planning may be both conducive to the desires of the National Academy as well as responsive to the needs of the OTM.

*4. Interdepartment Radio Advisory Committee Meeting

On April 8 the IRAC, composed of all major Government users of radio and serving in an advisory capacity to the DTM, met and treated the following items: (a) Method for accommodating Collision Avoidance System (CAS) and military altimeters plus air-ground communications via satellites in the 1535-1660 MHz portion of the radio frequency spectrum. This is a particularly difficult problem in view of the safety of life aspects involved in the aviation applications. A course of action has been developed which should bring about a satisfactory accommodation of the respective interests involved. (b) Recommendations to the Department of State representative on the Committee with respect to the forthcoming meeting of the ITU Administrative Council scheduled for May 1969.

With respect to the forthcoming Space World Administrative Radio Conference of the ITU, the Committee recommended that the Conference be convened not earlier than mid/1971 and be of seven weeks duration. (c) Disposition of an FAA request for assistance in compiling a composite Government and non-Government listing of radar pulse recurrence frequencies. It has been brought to the attention of the Committee that the listing of radio frequencies, per se, is not sufficient in the case of certain air traffic radars wherein the pulse repetition rate can become a critical item. In view of the safety of life aspects involved, agreement has been reached that a survey shall be conducted to determine the PRF characteristics of Government radars falling in certain frequency bands. (d) Consideration was completed of an FCC Draft Notice of Proposed Rule Making which would provide certain high frequencies for use by electric power companies in the event of an emergency. This is a step towards reducing the likelihood of another northeast blackout situation.

SATELLITE TELECOMMUNICATIONS

*1. Initiation of the Pilot Program for a Domestic Satellite System

The DTM has prepared and sent to Mr. Clay Whitehead a memorandum concerning the pilot program for a domestic communications satellite system in the United States. This memorandum points up the need for an early decision on this program which is currently pending action of the FCC (Docket 16495), because of its special importance to the INTELSAT definitive arrangements.

2. INTELSAT Conference Activities

The first session of the INTELSAT Conference on Definitive Arrangements was held in Washington from February 24 to March 21, 1969. Preparatory Committee meetings during the intersession period are scheduled to begin about June 23, 1969. The reconvened INTELSAT Conference on Definitive Arrangements is scheduled to begin November 18, 1969.

*3. Governor Scranton Appointed U. S. Representative to the INTELSAT Conference

Former Governor William W. Scranton of Pennsylvania has been appointed as United States Representative to the INTELSAT Conference (Plenipotentiary Conference on Definitive Arrangements for the International Telecommunications Satellite Consortium). The appointment carries the rank of Ambassador. Governor Scranton will serve as Chairman of the United States Delegation to the

Conference, replacing Ambassador Leonard H. Marks, who resigned at the close of the first session of the Conference, March 21. Governor Scranton met with the DTM and members of the staff on April 7th and 8th.

TELECOMMUNICATIONS EMERGENCY PREPAREDNESS

1. Illinois Telecommunication Emergency Preparedness

During the period April 2-3, members of the Illinois Telecommunications Commission discussed with DTM representatives the Illinois statewide telecommunication study as it relates to telecommunication emergency preparedness. Specific items discussed concerned communication arrangements in support of law enforcement, fire fighting, conservation, natural disaster, civil disturbance and highway operations. The state representatives stated that communications for these purposes are now inadequate. A detailed review of the proposed communication improvement program, included in the just completed statewide study, indicates that Illinois will be able to overcome most of its deficiencies in this area if the program being recommended to the State Legislature is approved and funded.

2. Hawaii Telecommunications Coordination

Dr. John Bystrom, Hawaii State Government and formerly a member of the Office of Education in DHEW, visited the OTM for a discussion of telecommunications in support of the Hawaiian State Government. He briefed DTM representatives on a tentative program of study and system improvement and asked for comments on the program. Considerable discussion centered around the emergency functions of that State Government and the role of telecommunications in support of those functions.

INTERNATIONAL TELECOMMUNICATIONS

1. Pan American Union Telecommunications

On March 25 the Coordinator of Educational Television, Department of Educational Affairs in the Pan American Union, requested the DTM for technical advice on a proposed plan to develop a multi-national educational television system in Mexico, Chile, Columbia and Argentina. An exploratory meeting with the coordinator indicates that these four nations have agreed tentatively upon such a system, but that details of the system have not yet become firm. Future discussions will be concerned with the range of options open to the nations for backbone interconnection and for local distribution.

* Items considered of special interest to the Director, OEP



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Nixon Urged to Release Communications Report

By Lawrence Laurent

Washington Post Staff Writer

A California Congressman is pressing the Nixon Administration to release a presidential task force report that recommends establishment of a new Federal department of communications.

The 476-page report, which also recommends more funds for the Federal Communications Commission, was prepared by a Johnson Administration task force and has been kept under official wraps by both the Johnson and Nixon Administrations.

Rep. Lionel Van Deerlin (D-Calif.), in a New Orleans speech last week, called on President Nixon to release the report. Failure to do so, he said, would raise questions about "what special interests are still being protected at the highest echelons of the govern-

ment and protected from what?"

Copies of the report have been leaked to both Government officials and to members of the press. The task force included members of more than 15 Federal agencies, led by former Under Secretary of State Eugene Rostow. It spent more than \$1 million.

Some of its other recommendations are:

- The use of low-powered TV channels to meet the special needs of the ghetto.
- A domestic satellite system that would provide free channels for non-commercial and instructional TV.
- Financing of public (non-commercial) TV to "meet the need for more variety" and "a more resourceful localism" on TV.

Much of the report dwells on what every student of U.S. communications policy already knows: That need exists to coordinate management of the U.S. share of the electromagnetic (radio) spectrum.

"Our studies show," the report states, "that neither the FCC nor the Director of Telecommunications Management (DTM) has the resources essential to the satisfactory discharge of the regulatory and Executive Branch responsibilities as we now perceive them."

The urgency for better management of the frequencies comes from stepped-up demand being shouted by police, business, taxicabs, maritime radio and even broadcasters.

Certain to be controversial is the report's view that Community Antenna or Cable (CATV) "has high promise . . .

for improving and diversifying television services."

A cable system carrying 20 channels, the report claims, can be operated cheaply and could provide such programs as a series of local college plays, a foreign film festival, a continuous stock ticker, a college-level lecture series, along with special programs for ethnic groups.

Also controversial is the report's view that "over-the-air pay TV seems unlikely to reach substantial proportions." Pay TV—exactng a per-program charge—has been fought by commercial broadcasters and movie owners for 20 years. The FCC proposes to authorize nationwide Pay TV in June.

The task force decided also that any hope for broadcasting programs via satellite—direct to homes—is "unpromising."

Nor is the task force impressed with the promise of the "video record," which

some believe will become as common as long-playing audio records.

The "video record" has "some potential" for expanding "the range of visual information and entertainment in the home" but "does not meet the larger social need for low-cost, multi-channel facilities for specialized audiences."

In the dispute over a domestic satellite system—which must be decided soon by the FCC—the task force argues for a "prompt start" on a pilot program. "The overall management role in the venture," the report argues, "should logically be entrusted to Comsat (Communications Satellite Corp.), on the basis of its operational experience . . ."

Those who oppose Comsat—ABC, the Ford Foundation—claim that if the domestic satellite is given, even temporarily, to Comsat a proprietary claim for the future will result.

One of the task force's most unusual suggestions is for a four-channel, low-powered, TV system to be used in a ghetto such as the Watts section of Los Angeles. It would cost an estimated \$750,000 and "would be devoted to job information and training; to both in-school and at-home instruction tailored to the special needs of ghetto children; to the presentation of programs created by and for the local community; to public health; adult education; literacy training and other purposes."

On a broad level, the report stresses the presently chaotic state of spectrum management. The FCC, the report charges, "lacks resources adequately both to deal with the burdensome day-to-day business . . . and to develop long-run telecommunications policies."

The report's proposed solution is "a new and strengthened Executive Branch organization."

The Telecommunications Task Force Report—the only high-level study of U.S. communications policy ever written—probably will never be made public, officially. It will, however, enjoy a wide, covert circulation and undoubtedly will have some impact on Congressional policy-makers and even on members of the FCC.

Telecommunications Reports

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April 7, 1969

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employees or employees still in the progression schedules be treated as a national pattern item.

This refers to a provision in three-year contracts negotiated in 1968 permitting a company to open negotiations on start rates and schedules, excluding top rates, a step taken recently by the New England Telephone & Telegraph Co. (TELECOMMUNICATIONS, March 17).

The Executive Board statement on this subject declared that "every company having this clause in the contract should exercise its privilege during the year 1969," and added that "approval of an agreement by the Executive Board will not be forthcoming until and unless practically all companies of Bell acknowledge intent to exercise the privilege and establish effective rates.

"While we deal with many companies, we are but one single union. While there are many variables in the contracts negotiated by the union with the various companies, the particular article dealing with the re-opener on schedules was and is a national pattern item and will be treated as such. Finally, it must be recognized that the long struggle of the union to eliminate inequities in area differentials cannot be subverted by individual company actions which could widen the wage differentials. . .

"The board urges all companies with the permissive article dealing with wage schedules to exercise the privilege of the article during 1969. This is no time for shallow thinking based on a negotiating advantage. Fairness and equity are much more important."

On the subject of health care, the union called for a reduction from 3% to 1% of the corridor affecting deductions on insurance covering "catastrophic medical cases."

Endorsing the development of a dental program, the CBPC stated that the basic ingredients to a full coverage plan fall into three categories: basic benefits, such as initial examinations, full diagnostic X-rays, and cleaning, semiannual examinations and cleanings, extractions, fillings and inlays, oral surgery, periodontics, and denture repair; prosthetics, including full or partial dentures; and orthodontics.

A basic dental plan, with a reasonable schedule of allowances and with no prosthetic or orthodontia coverage, might cost somewhere between four cents and five cents per hour, based on a 40-hour work week, to cover all union members and dependents, it was said. Adding at least a modest range of prosthetic allowances could result in overall hourly costs of about 4½ to 5½ cents, and a full program including orthodontia might cost about eight cents per hour, according to CWA's estimates.

A statement on pension plans endorsed cost of living adjustments for pensions, improvement of survivor benefits by adding to the options available for selection by the retiree, and earlier retirement. The latter point recommends that the present age requirements for men should be adjusted to those in effect for women.

Discussing the feasibility of establishing a pension fund for the members of CWA, the CBPC noted that a special committee earlier had recommended against establishment of such a fund, but had commented on the desirability of establishing a multi-employer paid-for plan for the smaller units where the establishment of individually funded plans is not feasible. The CBPC last week endorsed this approach.

The committee also favored a suggestion for longevity recognition or a "savings plan," with company contributions to be based on a graduated scale, depending on the employees' deposit and his length of service.

The amounts of money involved in such a plan, it was stated, "should not be associated with normal occupational progression schedules, since they are supplements only indirectly related to job proficiency or occupation. . . Longevity recognition plans allow an employee who has reached the top of his progression, to expect some additional reward for his continued service and loyalty."

Also endorsed by the CBPC was a bargaining goal of five weeks of vacation after 20 years of service, and four weeks after 15 years (presently, it is five weeks after 25 years). On the subject of vacations, the committee also went on record in favor of a "vacation bonus benefit."

It commented, in this regard, that "Because of the longer vacations currently in vogue in the United States that encourage travel, insistence on vacation bonuses will undoubtedly become more prevalent in bargaining negotiations by U.S. trade unionists. Travel costs, however, make a trip away from home with its beneficial effects prohibitive. An additional sum, a bonus over and above the weekly vacation pay, is necessary to cover the higher cost of meals, fare or its equivalent expense, and other incidentals which greatly exceed the usual vacation pay of the worker."

The CBPC also: endorsed double-time pay for Sunday as such; urged the union President and Executive Board to conduct a study which will show the current status of short hour tours in the industry; denounced the "discriminatory practices that cause union members not to accrue credited service during periods of extended strikes," adding that "no reasonable effort should be spared to remedy this inequity"; and called on the companies to agree to pay the expense of printing contracts.

In another action, the committee listed four goals that should be pursued concerning union leave of absence: indefinite length of union

leave; in determining net credited and total service time, a union representative should be allowed full credit for the entire period of the leave; full-time paid shop stewards, with no loss of benefits; and leaves of absence extended to cover not only union business requirements, but election or appointment to the AFL-CIO or to public office.

The CBPC gave its approval to the statement on "responsible relationship" adopted earlier by the Executive Board (TELECOMMUNICATIONS, Feb. 17), and called upon Bell System companies to review the clause and give "tangible evidence" it will be implemented.

Commenting on an updated "Nathan Report" (a document first issued in 1965 and dealing with differentials), the CBPC said it remains "convinced that, for equity in wages, differentials for the same work between locations reflecting those differences which will equalize 'real pay,' that is, differences in the cost-of-living, are fairer than the prevailing wage theory. We are more convinced than ever. . . that cost-of-living differences between CWA work locations can be accurately predicted by statistical means.

"We believe that such differences of opinion between CWA and company managements with respect to the validity and appropriateness of application of this work are not serious differences. Most such differences could be resolved, if the company would relax its rigid defenses of the inequitable 'prevailing wage' theory and bargain in good faith. Points of statistical or procedural difference and special problems with respect to results, are bargainable matters." -End-

---FCC GETS FINAL SRI DATA BRIEFING; REPORT AVAILABLE WITHIN MONTH---

Availability to the general public of the Stanford Research Institute report in the Federal Communications Commission's computer/communications inquiry is now estimated at about a month away, following a final briefing session Thursday, April 3, conducted for the FCC by SRI representatives and the Commission's own consultants.

The final version of the report, with some minor changes to be made as the result of the session with the Commission, should be delivered to the FCC in two or three weeks. Soon thereafter, it may be possible for the FCC to provide one copy each to those organizations which filed comments and responses in the computer inquiry.

But in any event, within a week or 10 days after the final report is delivered to the FCC, it is slated to be available for public sale at a nominal price. Sales agent may be the Department of Commerce clearing house for federal scientific and technical information, which is handling sales of the interim report by SRI to the FCC on the land mobile frequency situation (see separate story). -End-

FCC ISSUES ORDER CALLING FOR HEARING ON PLANNED TWX ACQUISITION

Initial necessary procedures for a public hearing on the application of the Western Union Telegraph Co. to acquire the teletypewriter exchange service of the Bell System companies were set into motion Wednesday, April 2, by the Federal Communications Commission, with issuance of a hearing order.

Although it probably will be some months before full-fledged hearings can take place, due to the necessity for assembly of substantial amounts of information and supporting data, the FCC action permits appointment of a presiding hearing examiner and what is expected to be a relatively early prehearing conference.

The FCC Telegraph Committee will conduct the hearings, with the assistance of the hearing examiner appointed, and will issue a recommended decision. The committee's ruling then will be subject, of course, to the usual process of exceptions and oral argument before the full Commission.

Brief issues set for the hearing include whether the proposal by Western Union to acquire the Bell System TWX facilities is authorized by section 222(a) of the Communications Act, which calls on the FCC to decide whether a proposed domestic telegraph merger "will be of advantage to the persons to whom service is to be rendered and in the public interest"; whether it conforms with other applicable provisions of section 222, the 1943 domestic telegraph merger amendment to the law; and whether it will be in the public interest.

It was pointed out in the order that the application as presently filed does not affect the Independent telephone companies. It is assumed that initial proceedings under the hearing order will consist, insofar as the immediately foreseeable future is concerned, of a prehearing conference, with more detailed and formal developments to come along later in the year.

Independent telephone companies are expected to be advised of the progress of negotiations between the U.S. Independent Telephone Association Telegraph Services Committee and Western Union, looking toward recommendations which can be made to the Independents regarding their individual action in each case, this week. A USITA member letter is expected to cover the situation as it now stands.

The action was taken by six members of the FCC, with Commissioner James J. Wadsworth not on hand for the meeting. Although a hearing is mandatory under section 222, Commissioner Nicholas Johnson was listed separately as concurring in the result. It is understood that the National Association of Regulatory Utility Commissioners will be invited to appoint cooperating state commissioners.

-End-

ISSUES OF FULLY DISTRIBUTED VS. LONG RUN INCREMENTAL COSTS REMAIN AT CORE OF FCC TELEPHONE RATE INVESTIGATION, AS INFORMAL SESSIONS CONTINUE TO PRODUCE SOME RESULTS; NEXT CONFERENCES SET FOR MAY 12

As has been true since the beginning of the Federal Communications Commission's telephone rate investigation, the issue of whether interstate rates for the various Bell System services should be based on fully allocated historical costs or full additional (long run incremental) costs remains at the core of the current series of closed informal conferences in "phase 1-B" of the proceeding.

Prior to what may be a decisive series of conference sessions to begin Monday afternoon, May 12, all-out efforts will be made on "ad hoc" and even more informal bases to move toward agreements on principles which may be stipulated to by the diverse parties to the rate case, it was decided at a conference Monday, March 31.

HIGHLIGHTS: Relatively long recess permits time for "ad hoc" sessions, meetings of "cost study experts," and production of complete draft stipulation covering both agreed-on areas and those still to be considered. . . Discussions of applications of study results begin to "get to meat". . . Users still expressing primary concern over dollar effects of principles under discussion.

The relatively lengthy recess will provide time for, among other things: meetings of small groups of the major interested parties, to seek further progress toward accords among them; a possibly three-day meeting starting Wednesday, April 23, when the parties' "cost study experts" will get together on principles to be used in making fully distributed and long run incremental studies; and a draft of a "full stipulation," covering those areas of present tentative agreement and those not agreed to thus far, in an attempt to present a complete picture of what is being sought for the May sessions.

Two and a half days are available for the participants when they resume in mid-May, in what is turning out to be one of the longest series of closed-door meetings since those which produced Warren G. Harding as a Presidential nominee in 1920.

Nonetheless, those involved continued to express some optimism that the sessions will be productive of agreements which will cut down the length and complexity of the remaining hearings in "phase 1-B." There still appears to be almost no prospect that agreement will be so complete as to rule out the necessity for further hearings.

While those statements now tentatively agreed to are still general in nature, one participant commented that late in the March 31 session

"we began to get to the meat" in a discussion of the application of long run incremental costs in obtaining information useful in determining the minimum rate level for each category of service.

It was noted that, despite indications that the FCC Common Carrier Bureau staff and the American Telephone & Telegraph Co. representatives are moving closer to areas of possible compromise accord on major questions, representatives of the user groups in the conferences are continuing to express primary concern regarding the dollar effect of what is being discussed on their communications costs.

Undoubtedly, a searching look will be taken as to the future course of events when the conferences reconvene in May. A decision will be made as to whether sufficient success has been achieved to warrant going ahead with the sessions. Barring complete collapse or miraculous agreement, however, the May 12-14 meeting probably will not be the last in the series.

Some of the general points of tentative agreement thus far include the view that carrying out ratemaking principles and factors should not impair the Bell System's ability to achieve its overall allowed rate of return on its interstate investment, or permit it to earn an excessive overall rate of return.

Another concludes that once agreement is reached on the principles to be applicable in determining long run incremental cost and fully distributed cost for the major categories of interstate services, the Bell System, in consultation with the FCC staff, would undertake to develop appropriate methods to be used in such studies at regular predetermined intervals, and move as rapidly as possible to produce up-to-date cost data. By procedures deemed appropriate by the FCC either formal or informal, interested persons would have the opportunity to express their views on the appropriate methods of making the cost studies.

Still another tentative agreement provides that in assessing market conditions, consideration should be given, as appropriate, to reasonable estimates of such elements as price elasticities for various services; income elasticities; price elasticities for particular service categories; cross-elasticities among substitute services, whether supplied by Bell or others; existing and potential competition and competitive necessity; customer requirements; the effects of existing tariff provisions; and the effects of FCC policy on the availability of consumer alternatives.

The group has tentatively recognized that in any fully distributed cost studies to be undertaken to implement agreed-on ratemaking principles, depreciation expense is a relevant cost element and depreciation reserve is a relevant component of the net investment determined for the various service categories.

In allocated depreciation expense and reserve in any such FDC analysis, the statement goes on, the total of the test period expense and reserve will be allocated among the various service categories. While existing depreciation policy and practice should be studied, the determination of depreciation policy and the prescription of depreciation rates are not at issue in phase 1-B, it is noted. -End-

BELL COMPANIES FILE FOR RATE INCREASES IN RHODE ISLAND, NEW MEXICO

The first rate increase in Rhode Island since 1957 was proposed by the New England Telephone & Telegraph Co. last week in a filing with the state Public Utility Administrator.

The revised rates, amounting to a 15% increase in revenues, would produce \$9,120,000 gross additional income, or \$3,960,000 after taxes, on an annual basis.

In another rate development, the Mountain States Telephone & Telegraph Co. has followed up an application of earlier this year in New Mexico, in which it asked the State Corporation Commission for a review of its earnings, by filing for new rates to produce additional annual revenues of about \$8,500,000, or \$3,800,000 after taxes.

Under the proposed tariffs filed by NET&T in Rhode Island, rates for home telephone service would increase by varying amounts from 30 cents to \$1.50 a month, and for business service, from \$1.50 to \$5.15. Increases in miscellaneous charges for supplementary services are also being proposed.

In New Mexico, the proposed increases for main station telephones range from 75 cents to \$2.20 a month for residence service, and from \$1.90 to \$5.85 for business service. The proposed schedule would generally result in a reduction in the cost of direct distance dialed calls, but would increase the cost of person-to-person calls.

It would extend the hours in which reduced night rates would be in force from the present 6 p.m. to 4:30 a.m. to a proposed period of from 5 p.m. to 7 a.m., and the reduced rates would continue in effect over weekends. Independence Day and Labor Day would be added to the list of days when reduced holiday rates would apply. A number of rate increases for supplemental miscellaneous and auxiliary equipment have also been proposed. -End-

- - -

CONSUMMATION OF THE MERGER of the Carolina Telephone & Telegraph Co. into United Utilities, Inc., bringing the United System to more than 2,000,000 telephones in 21 states and with assets in excess of \$1 billion, was announced late last week by the two companies. The action was taken following action by the Federal Communications Commission Telephone Committee granting necessary approvals. -End-

FUNDAMENTAL QUESTION RAISED BY FCC, IN NOTICE OF INQUIRY, IF PHONE COMPANIES CAN PROVIDE CATV SERVICE TO PUBLIC THROUGH SUBSIDIARIES

A fundamental question as to whether telephone companies should be permitted, either directly or through subsidiaries, to furnish community antenna television service to the public was raised by the Federal Communications Commission in a notice of inquiry released Friday, April 4.

The Commission said that it has before it 17 applications for section 214 (construction) authorizations to build facilities for CATV channel service from telephone companies where the CATV customer is an affiliate or subsidiary, or otherwise connected with, the applicant telephone company.

HIGHLIGHTS: FCC asks whether, if telephone companies may provide CATV service to public, any conditions should be attached to section 214 authorizations. . . Comments due May 2, with replies by May 16. . . Some of applications on hand are from United and General companies, FCC points out. . . Raises question of AT&T consent decree relevance, despite sale of Carolina Tel. & Tel. stock.

"Foremost" among the questions raised, the FCC declared, "is whether the telephone companies, either directly or through their owned or controlled affiliates, should be permitted to engage in furnishing CATV service to the public and, if so, what conditions should be attached to any authorizations therefore issued by the Commission under section 214 to such companies to insure that rendition of the service will serve the public convenience and necessity."

A relatively short comment period was directed by the FCC. It called for original comments in the notice of inquiry and rulemaking proceeding by Friday, May 2, and replies by May 16.

Included among the applications referred to by the Commission were some from United Utilities, Inc., and General Telephone & Electronics Corp. telephone operating subsidiaries. The two organizations have CATV subsidiaries, respectively United Transmission, Inc., and GT&E Communications, which would be the customers in each of the section 214 applications referred to.

The FCC pointed out that a recent listing of homes served by group CATV operators showed United Transmission and GT&E Communications as 18th and 36th on the list, respectively. The Continental Telephone Corp., which does not have any section 214 applications for CATV channel service pending at the Commission, was 28th on the list referred to. The FCC stated that it would be helpful "to receive comments that will assist (the Commission) in considering what policies may be adopted to

avoid undue concentration of control of CATV systems by telephone companies."

In the order, the FCC also referred to applications filed by the Carolina Telephone & Telegraph Co., in which the Southern Bell Telephone & Telegraph Co. and South Central Bell Telephone Co. have had an ownership interest. These interests are in the process of being sold to United Utilities, the FCC noted, however. Nonetheless, it stated in a footnote that the Carolina Tel. & Tel. applications "raise a question, among others, as to the relevance, if any, of the Western Electric Co. consent decree."

The decree bars Bell System companies generally from non-telephone business, other than government projects, but in the meantime Bell System spokesmen have emphasized a policy of not getting into ownership or operation of CATV operations directly serving the public.

The FCC said it seeks to "determine whether we should depart from our existing policy of considering each section 214 application on an ad hoc basis and on its own merits, whether we should decline to entertain any and all such applications, or whether we should entertain only certain applications which fall within predetermined exemptions."

Although the Commission did not specifically direct a "freeze" of section 214 applications from telephone companies seeking to furnish channel service to affiliated CATVs, last week's action almost inevitably has that practical effect. Unopposed applications from telephone companies to serve unaffiliated customers are now being granted fairly routinely by the FCC Common Carrier Bureau under delegated authority, but no guidelines have been handed down by the Commission--and presumably will not be during the pendency of the rulemaking inquiry--for handling applications to serve affiliated CATVs.

The notice last week said that "some of the applications listed are for a certificate to construct or operate channel facilities that will be used to provide 'wide spectrum' services under published tariffs. Under such service offering the facilities would be offered not only for CATV purposes but for any other services, such as high speed data, where the availability of wide spectrum facilities may be necessary or desirable.

"Although the principal customer of the requested facilities in such 'wide spectrum' applications is expected to be the named affiliated CATV customer rather than other users, it is requested that the comments herein give consideration to and appropriately discuss the policy implications, if any, of such proposal as contrasted with the proposals to serve only CATV customers."

The Commission noted that involved in the current inquiry are some matters also pertinent to its wide-ranging inquiry into CATV-related

subjects, in which initial comments are due June 15. But it said it would be preferable if comments were now focused on the questions raised in last week's notice.

Questions raised by the FCC included: effect on the FCC's long range concern about a common carrier acting as a program originator; effect on concentration of control of CATV systems; whether protection is needed against "any potential unfair or anti-competitive practices that might arise" as a result of affiliated relationships;

Whether protection is needed against "potential detrimental effects upon regular telephone service consumers," as to whether CATV investments would impair telephone companies' ability to raise capital, affect research and development, or conflict with requirements to furnish customers' service in such areas as wide spectrum and video telephone;

Whether a substantial segment of the public would be deprived of CATV service unless service is provided to affiliated CATVs; the legitimate role of local and state authorities in deciding on franchise holders; and the effect on CATV operators possibly acting as common carriers in making available unused channels.

The FCC asked whether it "should prohibit telephone company ownership affiliation with CATVs or, alternatively, what conditions might be imposed on certificates granted in affiliated cases," and whether it should "impose policies or conditions retroactively on presently operating telephone company-affiliated CATV systems that are not now the subject of section 214 applications?" -End-

C&P GETS FCC APPROVAL TO OPERATE 'BELLBOY' SERVICE ON NEW FREQUENCY

In the first such action under its recently announced guidelines (TELECOMMUNICATIONS, March 17), the Federal Communications Commission has authorized the Chesapeake & Potomac Telephone Co. to use one of the new 150 megacycle frequencies for "bellboy" operations in Washington and its suburbs. C&P was directed to complete construction by Nov. 30, and to limit the number of receivers to 3388--the number now in operation on another frequency--pending any further hearing.

The FCC noted that there are a number of applications by non-wireline carriers for their one-way paging frequencies in the area, and that a comparative hearing probably will be required. But it pointed out that C&P has been rendering service in the area for about seven years, adding that it would limit the number of subscribers to the present total to "avoid the accrual of any undue competitive advantage."

The Commission stated it believes the action to be "fully in keeping" with the action of the Second U.S. Circuit Court of Appeals in affirming the FCC's original one-way radiopaging order. -End-

CHANGES IN AT&T PRIVATE LINE TARIFF PROVIDING FOR INTERCONNECTION
OF CUSTOMER-PROVIDED SYSTEMS AND EQUIPMENT FILED, EFFECTIVE JULY 1

Changes in the Bell System's private line tariff, no. 260, providing for interconnection of customer-provided terminal equipment and communications systems, have been filed with the Federal Communications Commission on three months' notice, to take effect July 1, by the American Telephone & Telegraph Co.

The private line interconnection tariff revisions, following earlier sweeping tariff changes in the long distance and wide area message telecommunications tariffs by some months, were the result of an extensive project in which AT&T earlier spelled out (TELECOMMUNICATIONS, Jan. 27) some of the changes it was willing to make.

HIGHLIGHTS: Changes permit some connection of customer-provided systems to private line services of greater than voice grade, through wideband data service terminals. . . Approach of new filing similar to those in message toll and WATS tariffs. . . Technical criteria would not be effective for another year, to give customers and manufacturers time to make any needed changes.

In one change from the previously indicated tariff revisions, AT&T reported that "The revised regulations will permit, under certain specified conditions, connection of customer-provided communications systems to private line services of greater than voice grade through a wideband data service terminal furnished by the telephone company."

AT&T continued, "The extent of customer requirements for such connections and the possible additional means of accomplishing the connections without impairing the telephone company facilities or service will be a part of our continuing study of ways to broaden the use of telephone company facilities."

In general, the approach of the private line tariff revisions is similar to those for message toll and WATS. Connections at customers' premises may be by direct electrical or by acoustic or inductive means, but direct electrical connection requires service protection arrangements. Where connections are made to the public telephone network, they must be made through a telephone company-provided network control signaling unit.

The regulations specify minimum technical criteria to protect the telephone companies' facilities when receiving inputs from customer-provided facilities. "To permit the users and the manufacturers of customer facilities to make any necessary changes or modifications in their equipment to meet these criteria, it is proposed that the criteria

as well as the requirement for connection through service protecting arrangements become effective one year from the proposed effective date of the tariff revisions," AT&T specified.

Direct electrical connection of customer-provided communications systems to private line channels, except for the series 10,000 entrance facilities covered in an earlier change in the AT&T tariff, effective at the start of this year, must be made through switching equipment provided by the telephone companies, the new tariff specifies.

"Initially, the service protecting arrangements which will be required will be furnished as a part of the private line service terminal rate at no additional charge to the customer," AT&T reported. "However, later development of protecting arrangements for special customer requirements may require a charge in some situations."

The revised regulations permit connection, at the customer's premises, of one private line channel to another through switching equipment provided by either the customer or the telephone companies. They "permit a mixture of customer-provided and telephone company-provided teletypewriter equipment on the same private line," AT&T noted in the transmittal letter.

"The existing regulations relating to the use of customer-provided channel-driving equipment have been expanded to provide for its use on certain private line voice channels," AT&T stated. "The provisions also provide for the connection of derived channels to additional private lines and to the message telecommunications network."

AT&T observed that "While we believe the regulations should go into effect as filed, they do represent significant and far-reaching changes which will further expose the public communications facilities to conditions with which there has been no experience.

"It is not possible, for example, to evaluate at this time the impact on the quality of service which will result from customers connecting less than twice grade facilities to the message telecommunications network. Similarly, we are unable at this time to calculate the economic consequences of the added costs to all concerned in assuring the proper functioning and administration of large communications networks made up of a mixture of customer-provided and telephone company facilities. The effects of these matters will need to be carefully watched by the telephone company and the Commission."

Regarding the later imposition of minimum protection criteria, it was noted that the current filing exempts some types of private lines. Some exemptions, such as series 9000 channels--a military system--are because "the nature of the service provided, or the type of facilities used, are such that minimum protection criteria are not needed," AT&T

said. "For others, such as series 1000 channels"--generally teletype-writer--"the exemptions are only because minimum protection criteria applicable to these private lines have not yet been established. These criteria are currently under development and will be filed as soon as they are established."

It was explained that "Where customer-provided terminal equipment or communications systems are connected to private line service and there is connection of such facilities to the message telecommunications network, the customer equipment or system must comply with minimum network protection criteria" as set forth in the message toll tariff. Unlike the private line-only criteria, these requirements are not deferred, but would take effect with the tariff changes generally on July 1.

In addition, it was noted, "the revised regulations provide for the telephone company to furnish private line channels to connect customer-provided communications systems with PBX systems, centrex systems, or other switching equipment furnished to the customer by the telephone company.

"These channels may be connected, at a customer's premises, to the message telecommunications network or to other private lines through switching equipment provided by either the customer or the telephone company. Connection to the message telecommunications network must be such that the functions of network control signaling are performed by a network control signaling unit furnished by the telephone company."

For those customers whose private systems may already be interconnected under existing tariff regulations, such as power, pipeline, and railroad companies, the National Aeronautics & Space Administration, the military, airlines, and government agencies, their facilities "may continue to be connected with private line service under the existing provisions in lieu of the new regulations," AT&T reported.

The tariff includes a \$10 maintenance of service charge, for visits to customers' premises by telephone company personnel when the trouble reported is found to be caused by customer-owned equipment. This charge, it was pointed out, applies both to the revised regulations and to the existing tariff provisions covering those users listed in the preceding paragraph.

When the upcoming informal conferences on interconnection under FCC auspices were first directed, private line interconnection was regarded as a high priority item for the agenda. Arrangements for the conferences may be announced in a week or two.

-End-

A CONTRACT FOR THE DESIGN AND ANALYSIS of deployable 60-to-120 inch parabolic antennas will be awarded to the Goodyear Aerospace Corp. by the Communications Satellite Corp. on behalf of the International Telecommunications Satellite Consortium.

-End-

FORMER GOVERNOR SCRANTON TO HEAD INTELSAT CONFERENCE DELEGATION

William W. Scranton will be named Chairman of the U.S. delegation to the International Telecommunications Satellite Consortium conference, which is now in recess until Nov. 18 after recently completing a four-week meeting in Washington.

The former Governor of Pennsylvania and an Assistant Secretary of State in the Eisenhower administration will be appointed by President Nixon to replace Leonard H. Marks, who resigned March 21 at the conclusion of the first four weeks of the conference, which is seeking to develop "definitive arrangements" for development of a global satellite communications system. Governor Scranton's appointment was to have been formally announced last week but was delayed because of the death and funeral services for former President Eisenhower.

Meanwhile, Mr. Marks, who served as Chairman of the conference as well as head of the U.S. delegation, last week was named Chairman of the Board of the Gustav Hirsch company of Columbus, Ohio. The company specialized in engineering services for the communications and electrical field.

-End-

HAWAIIAN TELEPHONE ASKS 10 SATELLITE CIRCUITS FOR PACIFIC AREA SERVICE

Hawaiian Telephone Co. Thursday, April 3, asked the Federal Communications Commission for authority to acquire and to operate 10 satellite channels for use in providing its regularly authorized services between Hawaii and Pacific area points, excluding the U.S. mainland.

In its application, the company said its current requirements through the end of 1969 for satellite circuits to serve the points involved are: Japan and the Philippines, four each, and Hong Kong and Australia, one each. A new Hong Kong earth station is expected to be operational in July.

Other filings with the FCC last week in connection with overseas service included one from RCA Global Communications for authority to acquire an additional voice circuit in that TAT-2 cable. The company said the continued use of a temporary circuit is necessary to meet a requirement of the National Aeronautics & Space Administration.

Cable & Wireless/Western Union International filed tariffs providing for a reduction in rates for telex services between Puerto Rico and India; WUI filed similar tariffs covering reductions in the telex rates between the continental U.S. and Hawaii, on the one hand, and India; and WUI filed another tariff to allow Western Union Telegraph Co. domestic telex subscribers to obtain international telex service in the outbound direction by placing a domestic call to WUI's operating office in San Francisco, Calif.

-End-

CWA OPPOSES EXTENSION OF SURTAX ON INDIVIDUAL AND CORPORATE INCOMES;
BEIRNE SAYS CONDITIONS ATTACHED TO SUPPORT IN 1967 HAVE NOT BEEN MET

The Communications Workers of America is opposed to a continuation of the 10% surtax on individual and corporate incomes, President Joseph A. Beirne said Thursday, April 3, in making public a letter to President Nixon outlining a position on the subject taken by the union's Executive Board at a meeting in Washington.

Mr. Beirne pointed out that the CWA two years ago supported enactment of the surtax, with its support conditioned on four factors. These conditions have not been fulfilled, he declared. They are: "ability to pay, and equality of sacrifice; meaningful tax reform; critical examination of the 7% investment tax credit and accelerated depreciation; and, continued support by Congress for Great Society programs."

The surtax, Mr. Beirne declared, "actually seems to have provided a handy excuse" for companies to raise prices, and for regulated utilities, including telephone, to seek higher rates. The surtax, in effect, has become an "inflationary factor," the CWA official said.

The CWA, he added, will continue to oppose the surtax unless Congress acts to "correct drastic imbalances and inequities which exist" in the present tax laws. It is "nonsense," he stated, for legislators to say they do not have time now to correct any inequities before the automatic expiration of the surtax under existing law.

While there is no mention of the excise tax on telephone service in the CWA statement, Mr. Beirne said in responding to a question at a press conference that the union continues its historic opposition to this and other excises now in effect. "Excises only increase the prices of goods and services that individuals have to pay." -End-

ORGANIZING FUND PROPOSAL TO BE VOTED ON BY CWA CONVENTION DELEGATES;
PROGRAM CALLS FOR 50 CENTS PER MONTH PER MEMBER TO FINANCE ACTIVITY

A special organizing fund, financed by a 50 cents per member per month increase in per capita dues, will be recommended to delegates to the June convention of the Communications Workers of America. The program has been unanimously adopted by the union's Executive Board as a means of "pumping new life into the growth objectives laid out by convention delegates in 1965," it was said.

The money to be raised would be restricted to growth activities, and would be made available to locals in carrying out external organizing activities. Another element of the proposal would provide a new staff person in each district whose sold duty would be to give guidance and leadership to staff and locals in achieving the growth goals of the union. -End-

DISCOUNTED CASH FLOW METHOD USED BY KOSH IN ARRIVING AT FAIR RETURN ON EQUITY FOR WESTERN UNION DEFENDED AS TELEGRAPH RATE SESSIONS GO ON

The discounted cash flow method he employed in arriving at a proper rate of return on equity for the Western Union Telegraph Co. produces sound and defensible results for a utility, although it is not applicable to a "go-go growth" stock, David A. Kosh, Washington public utility economist, told a Federal Communications Commission hearing last week.

Under cross-examination principally by FCC Counsel William M. Leshar in slightly less than a day and a half of hearings, April 2-3, Mr. Kosh explained the methods he employed to conclude that Western Union's cost of equity is about 13%, and his use of a "pro forma" capital structure differing slightly from the actual capital structure of the company at the end of the 1967 test year.

HIGHLIGHTS: Hearings resume May 26, to allow FCC staff time to analyze later testimony and receive and study further information asked of Western Union. . . Use of "pro forma" capital structure permits stability in rate of return calculations, as opposed to employment of actual structure at any one point, Kosh points out.

The hearings resume Monday, May 26, with the recess intended to allow time for the FCC staff to analyze Western Union testimony which has been received at several intervals since early in 1969. The first two spokesmen to be cross-examined, Mr. Kosh and Dr. Paul Davidson, had offered their statements first (TELECOMMUNICATIONS, Jan. 6). The recess will also afford time for the FCC staff members to obtain and study items of information they have requested and which thus far have not been supplied.

When it developed during the questioning that Mr. Kosh's equivalent capital structure of 30% debt, 15% preferred, and 55% common stock differed somewhat from the end-of-1967 actual structure of 3.14% debt, 19.5% preferred, and 49.1% equity, the witness explained that the purpose of using a pro forma capital structure is stability. A variation of four or five percentage points is not significant, he declared, since fluctuations of that amount above and below average figures will normally occur over a period of a few years.

For somewhat the same reason, he pointed out, he did not use outstanding convertible preferred issues of Western Union in his calculations. The convertible feature of such securities, he noted, distorts the cost of capital, since obviously convertibles are marketable at lower interest or dividend costs than those which are not.

Early in his appearance, Mr. Kosh told Mr. Leshar that he did not

use earnings-price ratios as a measure of the cost of equity because the situation in securities markets now is such that earnings-price ratios do not give meaningful results.

Noting Mr. Kosh's conclusion that a rate of return for Western Union in the 10-10½% area would be "at the very bottom of the zone of reasonableness," Mr. Leshar recalled the FCC's decision in the landline haul rate case of some years ago that a fair rate of return for the telegraph company would be 7½-8%. Mr. Kosh pointed out that there have been many changes in the interim affecting utility earnings and rates of return.

In his discussion of convertible preferred with the FCC counsel, the witness declared that with reasonable earnings, the Western Union convertibles will be converted into common stock, and were designed for that purpose.

Discussing the aspect of his rate of return conclusions relating to debt capital costs, Mr. Kosh said it would have been "tempting" to adjust his cost of debt calculations to reflect recent sharply increased interest costs. But he said that in looking at rate of return considerations from a long-range point of view, any current interest rate is a temporary situation. It is important, he went on, to establish a fair rate of return at a level which will stand up for a while.

Asked whether investors use the discounted cash flow method--which establishes a capitalization rate for equity consisting of dividend yield plus growth--Mr. Kosh said the more sophisticated investors do so. It is the analysts and major investors, he added, who establish the market over the long term.

A fair rate of return applied to original cost should keep the market price of a stock above its book value, at least by enough to offset "underpricing" of new issues, he declared. Under these circumstances, he continued, a utility is always in the position to issue new common stock. But in a bull market, he said, the market price should be farther above book than the underpricing allowance, so that it will not go below the book value when the overall market declines.

Asked about an allowance for variations in income tax actually paid by the companies in the various utility and common carrier groups he studied, Mr. Kosh said that in some situations, usually involving accelerated depreciation, it appears that dividends are being paid out of capital. But the receipt by a shareowner of "tax free" dividends reduces the tax basis on which the stock was bought, he noted, adding that if the dividends were not "tax free," the market price of the stock presumably would be different.

At one point, the staff offered an exhibit showing capitalization

rates for the individual companies with which Mr. Kosh made comparisons, in the airline, trucking, pipeline, water, electric, and gas distribution fields. The exhibit, using two different methods, a regression equation offered by Mr. Kosh and a process of addition of dividend yields and earnings growth rates, showed appreciably different capitalization rates for some of the companies.

The ones with the widest variations, Mr. Kosh pointed out, were generally lower earning companies, some of them excluded from his study. He observed that had the lower earning companies been included, the result inevitably would have a higher cost of equity capital indicated as the result of his analysis.

When Mr. Leshner pointed out that Western Union has not in fact been paying income taxes in recent years, Mr. Kosh replied that with a fair rate of return, and a reasonable capital structure, the company will be paying them. In his study of an equivalent capital structure, he went on, he started off with the actual situation in which no taxes were paid, but assumed that a change would in fact have a tax effect.

At present, he reported, Western Union does not have much left in the way of income tax deductions. There is still a loss carrying forward of a "few million," he noted, but under a fair rate of return, the company soon will be paying income taxes fairly close to the corporate rates listed in the Internal Revenue Code.

For the Department of Defense, Curtis L. Wagner, Jr., raised questions about variations in the rates of return for different Western Union services suggested in Mr. Kosh's exhibit. The witness said he believes that the company should earn a fair return from the combination of all of its services, and that he does not consider it a "subsidy" for some services to contribute to others.

Examiner Herbert Sharfman sustained objections by Western Union Counsel Jack Werner to questions by Mr. Wagner related to rates for the Autodin system. It was noted that Autodin rates are currently the subject of a DoD complaint filed with the FCC.

Thomas P. Carolan, representing the telegraph employee unions intervening in the case, questioned Mr. Kosh briefly on statistical significance of correlation coefficients used in the witness' study of comparative earnings. -End-

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SEN. JOHN J. WILLIAMS (R., DEL.) will be a featured speaker at the annual business conference of the Maryland-District of Columbia Utilities Association, scheduled for Friday, April 11, in Washington, it was announced last week. Other speakers include Chairman William O. Doub of the Maryland Public Service Commission, and George Nigh, Lieutenant Governor of Oklahoma. -End-

---ROMNES EXPECTS MORE THAN 70 ESS EXCHANGES BY CLOSE OF THIS YEAR---

With 45 electronic switching systems already in service in the Bell System, there will be more than 70 in operation by the close of this year, American Telephone & Telegraph Co. Chairman H. I. Romnes reported last week to the AT&T shareowners in the quarterly statement accompanying their dividend checks.

Mr. Romnes noted that the Western Electric Co. has announced plans to build a new facility at Dallas, Tex., for the production of ESS equipment. He pointed out that the Dallas plant will be the second devoted principally to ESS, joining the Columbus, Ohio, works, which has been the main producer of such equipment since 1962.

Financial and business volume aspects of the quarterly report, including per-share earnings of 97 cents on AT&T stock for the first quarter of the year, had been reported earlier by Mr. Romnes (TELECOM-MUNICATIONS, March 24). Business volumes recorded for the quarter ended Feb. 28 included a new record of 1,214,000 telephones added, and a 13% increase in long distance calling.

Commenting on the 13% increase in long distance calling during the quarter, compared with 10½% a year ago, Mr. Romnes observed that "Some of this growth is due to greater use of our network for the transmission of data, which has been increasing rapidly as more companies employ computers and other data handling equipment."

The AT&T shareowners were advised of a new arrangement under which the First National City Bank of New York will act as the agent for stockholders who wish to reinvest their dividends automatically in AT&T stock, purchased at the regular market price. -End-

WACHOB, LILLEY ELECTED TO TOP OFFICES OF TELEPHONE PIONEERS

Robert M. Wachob, President of the Bell Telephone Co. of Pennsylvania and the Diamond State Telephone Co., has been elected President of the Telephone Pioneers of America. On July 1, Mr. Wachob will become head of the 318,000-member organization of veteran telephone employees, succeeding Allen G. Barry, President of the New England Telephone & Telegram Co.

Robert D. Lilley, President of the New Jersey Bell Telephone Co., was named Senior Vice President of the Pioneers.

At the same time, six regional Vice Presidents were elected for two-year terms. They are: George F. Coleman, Area Personnel Supervisor, Pacific Telephone & Telegraph Co.; Edward C. Gambill, District Traffic Manager, Northwestern Bell Telephone Co.; V. S. Ladegaard, General Personnel Supervisor, Wisconsin Telephone Co.; Edward W. Bruck, Chief

Accountant, Cincinnati & Suburban Bell Telephone Co.; Maclin B. Cogbill, Jr., Services Supervisor, Bell Telephone Co. of Pennsylvania; and Hiram S. Cody, Jr., Secretary and Treasurer, Western Electric Co. -End-

INTERNAL REVENUE SERVICE RULES TELEPHONE EXCISE APPLIES TO LOCAL GROSS RECEIPTS AND SIMILAR TAXES SHOWN SEPARATELY ON USERS' BILLS

In one of two rulings announced last week regarding the federal excise tax on local telephone service, the Internal Revenue Service has concluded that the 10% federal impost must be paid on amounts of subscribers' bills reflecting local gross receipts, occupational, and similar taxes levied on the telephone companies but passed along to customers.

The second IRS ruling related to the tax status of private line services and equipment which are included in subscribers' bills for local service under "services and equipment," without further detail. IRS said that these items are not subject to the local phone excise.

On the subject of imposing the federal excise levy on the entire local service bill, including the gross receipts and similar taxes, IRS said that unlike the U.S. tax, "which is imposed on the person paying for the service, the state and local taxes under consideration are imposed on the companies engaged in the business of providing the service. Since these taxes are directly attributable to the telephone services provided, they constitute an element of the cost of providing the service along with costs attributable to labor and equipment.

"The fact that amounts attributable to such taxes are passed on" to customers "and are separately stated on bills sent to customers does not change the legal incidence of the taxes. Therefore, the practical effect of separately stating amounts attributable to state and local taxes on bills sent to customers is simply to identify an element of the total charges for the telephone services provided to such customers."

In connection with private line services included with customers' local service bills, IRS noted that "the telephone company retains records itemizing in precise detail the monthly rates and charges for the specific items of equipment and service furnished. If specific billing detail is required by a subscriber, it is furnished by the telephone company."

Thus, IRS said, the billing procedure meets the requirement of a separate charge for private communication service, and is not subject to the telephone excise tax.

The rulings were reported in the March 31 Internal Revenue Bulletin, 1969-13. They are designated as revenue rulings 69-151 and 69-152.

---REPORT CARTERPHONE ANTITRUST COURT CASE SETTLED FOR \$375,000---

The eight-year-old, \$1,350,000 triple damage civil antitrust lawsuit of the Carter Communications Corp. against the American Telephone & Telegraph Co., Southwestern Bell Telephone Co., and General Telephone Co. of the Southwest has been settled out of court for a payment of \$375,000 to Carter, it was reported last week.

Informed sources said that settlement of the suit did not include any provisions for the parties to take action, other than to end the litigation and for the defendants to pay the agreed-on amount.

The court proceeding, filed in the U.S. District Court in Dallas, sparked the now-famous Federal Communications Commission proceeding. The court had remanded the case to the FCC as the "expert" agency on communications aspects of the proceeding. -End-

SNET STOCKHOLDERS AUTHORIZE ISSUANCE OF 3,000,000 MORE COMMON SHARES

Stockholders of the Southern New England Telephone Co., at their annual meeting last week, authorized the issuance of 3,000,000 additional shares of common stock, bringing the total authorized to 13,000,000. The company has no present plans for issuing the stock, it was stated, but will probably need to issue some within the next two years.

SNET President Alfred W. Van Sinderen pointed out, in his report to the meeting, that the company cannot make firm and final plans for the year until it receives a decision from the Connecticut Public Utilities Commission on its application for higher rates.

In a meeting following the shareowners' session, the company's Board of Directors elected Alan J. McBean, Assistant Vice President-personnel relations, to be Assistant Secretary and Assistant Treasurer. He will succeed Robert H. Pratt, retiring early at his own request.

-End-

REA-FINANCED TELEPHONE SYSTEMS EXTENDED SERVICE TO 100,000 IN YEAR

During last year, Rural Electrification Administration-financed telephone systems extended dial service to another 100,000 subscribers, REA reported April 2 in a summary of developments in its field of activity during 1968. The rural telephone systems now provide dial service to 2,317,364 subscribers in 46 states, REA reported.

Initial loans were made to 10 new borrowers during the year, bringing the total to 867--636 commercial companies and 231 cooperatives. The agency reported that its cumulative total of loans approved since the telephone program started in 1949 was \$1,566,132,744 by the end of last year, with \$1,297,543,551 advanced to borrowers. -End-

ANNUAL GUESSING GAME ON FCC IN FULL SWING; LEE SEEN AS CHAIRMAN

The annual spring guessing game as to the identity of the next appointee to the Federal Communications Commission, which grows in audience participation every time the national administration changes hands, is on again in full swing as the weeks grind on toward June 30, technically the expiration date of the present term occupied by FCC Chairman Rosel H. Hyde.

Various "candidates" for appointment to the FCC, avowed and otherwise, have surfaced. At the same time, factors adding to the speculation included the long-rumored possibilities that Commissioner James J. Wadsworth would prefer a diplomatic post to membership on the FCC, and that one of the incumbent Democrats--conceivably Robert T. Bartley--will be offered a responsible post elsewhere to give the Republicans a four-member FCC majority.

Whether or not the rumor mill is correct--and it often is not--the reports seem to be coalescing on Mr. Hyde's retirement from the Commission later this year and the selection of Commissioner Robert E. Lee as Chairman.

-End-

SENIOR MEMBER OF PENNSYLVANIA PUC, O'HARA, REAPPOINTED AND CONFIRMED

Pennsylvania Public Utility Commissioner William F. O'Hara, senior member of the agency in point of service, has been appointed and confirmed for the last two years of a 10-year term. He ended a 10-year term April 1, and was shifted into another which winds up in 1971. Commissioners Daniel H. Huyett III and Louis J. Sparvero, both serving on an interim basis since their appointments last year, have been confirmed by the state Senate.

Former Indiana Public Service Commission Chairman Phillip L. Bayt, whose term expired March 31, has entered the private practice of law in Indianapolis.

-End-

PROPOSED VIRGINIA CONSTITUTION TO INCLUDE CONSUMER PROTECTION PROVISIO

Both houses of the Virginia state legislature have approved versions of proposed new language in the state's constitution specifically providing that the consumer interest be considered in proceedings before the state Corporation Commission. A proposed new constitution for the state is being developed by the legislature.

One version would require a representative of consumer interests to appear before the state commission in all cases, while the other charges the commission with the duty of protecting the interests of consumers.

-End-

TELEPHONE COMPANIES IN KENTUCKY GET FCC AUTHORIZATION TO CONSTRUCT MICROWAVE FACILITIES, AS COMMISSION TURNS DOWN CO-OP'S OPPOSITION

Applications by the South Central Bell Telephone Co. and General Telephone Co. of Kentucky for microwave radio route construction in the area of Horse Cave and Glasgow, Ky., opposed by the South Central Rural Telephone Cooperative Corp., were granted last week by the Federal Communications Commission.

The applicants reported that the radio facilities will be used primarily for telephone traffic between Glasgow, a General of Kentucky toll center, and Louisville, and are necessary to handle increasing traffic loads and eliminate an open wire route which is in poor condition and difficult to maintain.

In opposing the projected construction, the cooperative said it plans its own toll center at Horse Cave, connecting its own exchanges in the area and discontinuing existing toll connections at three points with South Central Bell and General of Kentucky. It contended that when its toll center is built, Bell and General would not need the microwave systems, but might cite them as evidence of already available facilities in proceedings before the state commission on the co-op's application.

Turning down the opposition, the FCC cited the telephone companies' projections of anticipated circuit requirements over the route. "We do not believe that the public interest would be served by forcing applicants to defer construction of these facilities which are presently needed to replace deteriorating wire lines and provide needed message circuit capacity," a unanimous FCC in a 6-0 vote, stated.

It said that although the co-op "has argued that the completion of the proposed radio facilities will prejudice the disposition of its proceeding before the state regulatory commission, it has not as of this date filed any application for authorization for its proposed Horse Cave toll center. It would appear that (the co-op) has evidenced an absence of diligence, since (it has) apparently been considering the construction of such a facility for a period of several years and (has) been on notice for over seven months that applicants intend to add the facilities being considered herein."

The co-op also charged that the proposal would be an invasion of its territory, but the FCC noted that General already serves Glasgow, and the Bell link would merely be a point of connection.

The South Central Bell and General of Kentucky applications had been granted once by the FCC, last Oct. 1. However, the co-op petitioned for reconsideration late that month, and the grants were rescinded while the protest and answers to it were studied.

-End-

MCI REPORTS FINANCIAL POSITION 'INTACT,' BUT ASKS 'EXPEDITED ACTION'

"Expedited action" was asked last week by Microwave Communications, Inc., in another filing in the long-pending Federal Communications Commission docket involving MCI's applications for authority to operate a special service microwave common carrier between Chicago and St. Louis.

MCI declared, in a "current status report," that its "financial position remains intact, despite the length of the intervening time" since the FCC hearings on its applications. "Monetary considerations on a nationwide scale have undergone considerable fluctuation, and MCI wishes to report that its financial arrangements have not been impaired by reason of costs of equipment, interest rates, and tightening of credit."

But, it said, it has been in the "difficult position of undergoing a constant financial drain with absolutely no income." It said it "should not be kept in the present position indefinitely with a continued outgo of money and no income." -End-

OHIO PUC MUST PERMIT INTRODUCTION OF NEW SERVICE, STATE TRIBUNAL RULES

Telephone users should not be denied the availability of new services while the Ohio Public Utilities Commission completes a review of the justness and reasonableness of the proposed rates for the new service, the Ohio Supreme Court has ruled. The commission is required by state law under such circumstances to permit the filing of the new rate schedule and fix a time when it will take effect, while in the meantime investigating the rate schedule if it wishes, the state's highest court held.

The case originated with the filing by the Ohio Bell and Cincinnati & Suburban Bell Telephone Cos. for applications for authority to introduce into service an acoustic coupling device to minimize noise pickup in noisy locations. The PUC, after a joint hearing, denied the applications on the basis that it should decide on the justness and reasonableness of the rates before permitting the service to become effective. -End-

WALLER NAMED DATA COMMUNICATIONS COORDINATOR OF CONTINENTAL TELEPHONE

David T. Waller, who has been Illinois State Marketing Manager for Continental Telephone Corp. subsidiaries, has been named to a newly established post of Data Communications Coordinator. President P. J. Lucier of Continental said the new assignment was set up to help provide data processing assistance to the Continental companies, and also in connection with customers' requirements.

-End-

NEW YORK TELEPHONE CLEARED BY FCC OF CATV OPERATORS' VIOLATION CHARGES

No violation by the New York Telephone Co. of the section 214 construction permit requirement order of last June, in alleged unauthorized extensions of service to a community antenna television system operator, has been shown following an investigation, the Federal Communications Commission concluded last week.

The Teleprompter Corp. and Manhattan TV Cable Services, competitors of New York Telephone's Manhattan customer, Comtel Inc., had charged that extensions of service were made after the FCC directed last year that telephone companies' channel service construction cease until section 214 authorizations were approved.

The FCC noted that the four situations reported were each in the same blocks "already penetrated," and that "no new streets were traversed." It added, "The installation of cable from one building to an adjoining or nearby building within a block does not involve the type of construction contemplated by our cease and desist orders." Commissioner Robert E. Lee dissented in the 5-1 vote. -End-

VAN DEERLIN URGES RELEASE OF TASK FORCE REPORT AS AID TO CONGRESS

Congressional hearings within a month or so on community antenna television and related subjects have been forecast by Rep. Lionel Van Deerlin (D., Calif.), in an address to the Southern CATV Association. But Mr. Van Deerlin joined those calling for public release of the report of President Johnson's task force on telecommunications policy, saying that "outside help" is needed in that area for proper conduct of Congressional hearings.

He estimated that 100,000 man-hours of work and between \$1,000,000 and \$1,500,000 went into preparation of the report. Rep. Van Deerlin predicted that it might be "easier" for President Nixon to release the report than it was for President Johnson, because he is not bound by sponsorship of the report. -End-

COUNCIL OF STATE TELEPHONE ASSOCIATION EXECUTIVES SCHEDULES MEETING

The National Council of State Telephone Association Executives will hold its annual meeting April 8-9 in Indianapolis, Ind., to discuss a number of problems of general interest. Meeting topics range from toll negotiations and settlements and satellite communications to convention arrangements and public affairs. Presiding will be Robert O'Bannon, Manager of the Indiana Telephone Association. -End-

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VIRGINIA TELEPHONE & TELEGRAPH CO., Charlottesville, Va., last week filed with the Securities & Exchange Commission a registration statement for 130,000 shares of common stock. -End-

NET&T PRESIDENT BARRY EMPHASIZES NEED FOR 8½% EARNINGS ON CAPITAL

A need for earnings of at least 8½% on invested capital was stated Tuesday, April 1, by President Allen G. Barry of the New England Telephone & Telegraph Co. at the annual meeting of stockholders.

"The spiraling inflationary trends of the times" have pushed costs to such high levels that earnings on capital of at least 8½% are needed to "maintain investor confidence, to attract the additional investment necessary for the future growth of the business, and to assure the quality and quantity of communications" expected of the company, he declared.

A "moderate increase of some telephone rates" is required, and the filings of new tariffs in Rhode Island last week (see separate story) will be "followed elsewhere in the months ahead," Mr. Barry said. -End-

SOUTH CENTRAL BELL REPORTS ON A YEAR OF 'UNPRECEDENTED GROWTH' IN 1968

The newest Bell System operating company, the South Central Bell Telephone Co., set new records for construction expenditures and telephone growth in its five-state territory in 1968, spending \$281,000,000 while adding 332,000 new stations to bring the total to 5,720,000, it was pointed out in the annual report.

While the company began operating July 1, 1968, in a split of the territory of the Southern Bell Telephone & Telegraph Co., the report covers the entire year.

Presenting results of a year of "unprecedented growth," the report noted total operating revenues last year amounting to \$790,601,000, compared with \$719,266,000 a year earlier, but operating expenses increased even more, some 12.1%, resulting in net income for 1968 of \$109,607,000, a decline from \$111,317,000 in 1967. -End-

HAWAIIAN TELEPHONE ANNUAL REPORT SHOWS 'EXCEPTIONAL GROWTH' IN 1968

The Hawaiian Telephone Co. recorded a year of "exceptional growth" in 1968, adding a record 28,347 telephones to its statewide system and completing 22% more long distance calls than in the preceding year, the company's annual report, made public last week, disclosed. Telephones in service increased to 352,196, including transfer last year of 2800 residence telephones at Hickam Air Force Base from the military to the company.

Total operating revenues last year were \$71,106,000, a rise of 16% over 1967. Operating expenses, including taxes, were \$55,924,000, an increase of 18%. Net income was \$10,521,000, compared with \$10,282,000 the preceding year. -End-

NEW ENGLAND TEL. & TEL. GETS SECTION 214 CATV CHANNEL SYSTEM PERMIT

Continued operation and extension of community antenna television channel facilities in Hyannis, Yarmouth, and Dennis, Mass., by the New England Telephone & Telegraph Co. was authorized by the Federal Communications Commission in an action last week. New England Tel. & Tel. received a certificate under section 214 of the Communications Act for the facilities, which are providing CATV channel service to Cape Cod Cablevision Corp.

The FCC was asked to deny the application by two prospective competitors of Cape Cod Cablevision. The Commission noted, however, that the communities involved had granted the CATV operator permission to locate its facilities along the route, and had not taken similar action where the petitioners were concerned. The towns, it was added, have no objection to the grant of the New England Tel. & Tel. application.-End-

CATV OPERATOR CALLS ON FCC TO RULE AGAINST GT&E ILLINOIS CATV SYSTEM

A good example of the type of local franchised dispute which will reach the Federal Communications Commission under present rules and procedures relating to community antenna television systems has come in a "petition for permanent special relief" filed with the FCC by TeleCable Corp., operating CATVs in various parts of the U.S., against GT&E Communications and the General Telephone Co. of Illinois.

GT&E has been awarded a CATV franchise by local authorities in Bloomington and Normal, Ill., over the bids of two competitors, including TeleCable. The latter charged that GT&E entered the competition for the franchise "to force an independent CATV company to accept a leaseback agreement." It said GT&E won the franchise "because it was the only applicant that faced no problems in dealing with a local telephone company or in paying its leaseback tariff rates."

Last week's filing, which asked the Commission to rule that CATV operation in the Illinois communities by GT&E would be contrary to the public interest, declared that "The facts of this case demonstrate the threat to the vigorous development of CATV posed by the telephone companies' monopoly leverage."

"The Commission, in order to fulfill its responsibilities in protecting the public interest in interstate wire communications, should immediately assert its authority under section 218 of the Communications Act," providing for inquiries into the management of common carriers. "A thorough investigation should be made of the extent to which the management of General is seeking to avoid current and future competition from non-affiliated CATV operators."

-End-

BRITISH COMMONWEALTH TELECOMMUNICATIONS COUNCIL ASSIGNED NEW FUNCTIONS

The British Commonwealth Telecommunications Council last week took over the role of coordinator of international telecommunications facilities serving the needs of 655,000,000 people in 23 countries. The responsibility was held formerly by the Commonwealth Telecommunications Board, which went out of existence at the end of March.

The board was established in 1949. Its main concern has been with the implementation of agreements reached in 1948 between the great majority of Commonwealth governments for the mutual exploitation on a common user basis of the network of telegraph cables and radio facilities which link these countries together and to non-Commonwealth countries.

The council, formed in 1966, comprises senior officials of the external telecommunications administrations of the partner governments. While it will take over the work of the board in administering the facilities covered by the 1948 agreements, it has a prime objective of devising and recommending to governments a unified system of accounting which would embrace all services carried by all media used in Commonwealth telecommunications. -End-

THREE PETITIONS TO INTERVENE IN 48 kHz LEASED CHANNEL CASE APPROVED

Additional petitions to intervene in the Federal Communications Commission's hearing case involving wideband 48 kiloHertz overseas leased channel services have been granted by Examiner Charles J. Frederick. Latest to be formally authorized to intervene were Western Union International, Hawaiian Telephone Co., and Aeronautical Radio, Inc. Initial direct testimony in the case is due to be distributed April 14, and hearings are now scheduled to begin May 13. -End-

RCA ANNOUNCES FIRST SATELLITE LEASED CHANNELS BETWEEN U.S. AND BRAZIL

RCA Global Communications announced Friday, April 4, that the first private telegraph leased satellite channels between the United States and Brazil have gone into service. They link the offices of C. Itoh & Co., Varig Airlines, and Nissho-Iwai American Corp. in New York and Rio de Janeiro.

The circuits are provided jointly by Empresa Brasileiro de Telecomunicacoes (Embratel) and RCA Globcom. -End-

ITT SUBSIDIARY AWARDED \$2,800,000 SATELLITE EARTH STATION IN GREECE

The Greek telecommunications organization (OTE) and ITT Space Communications have signed a \$2,800,000 agreement covering the purchase by the government agency of a satellite system ground station. -End-

RCA ASKS FCC TO DISMISS COMSAT PETITION INVOLVING CARIBBEAN CIRCUIT

RCA Global Communications last week asked the Federal Communications Commission to dismiss a petition of the Communications Satellite Corp. to deny an RCA application for authority to grant to Compania Anonima Nacional de Telefonos de Venezuela a one-half interest in the second Florida-St. Thomas, U.S.-Virgin Islands cable system.

RCA declared that Comsat's petition of March 17 was well after the deadline of Jan. 29 for such action. In addition, it stated that Comsat's objections are based on erroneous grounds regarding the use of satellite vs. cable circuits because RCA's application covers facilities for which authorization had been previously granted. -End-

CONTINENTAL COMPANIES ASK EXTENSION OF DATES FOR ALASKA PROCEEDING

The Continental and Glacier State Telephone Cos., seeking to intervene in a Federal Communications Commission proceeding on applications of Communications Engineering, Inc., for a common carrier microwave system to link Anchorage with oil drilling platforms in Cook Inlet, Alaska, have asked for approximately 45-day extensions of procedural dates in the FCC case.

They noted that the FCC Common Carrier Bureau has suggested that the sessions be called off or postponed indefinitely, until the question of Alaska Public Service Commission certification of the applicant is decided (TELECOMMUNICATIONS, Feb. 24). The companies said they are ready to offer substantial testimony, but that the added time is required to clarify the situation. The CEI applications are being opposed by the Alaska Communications System. -End-

DISPUTE BETWEEN INDEPENDENTS OVER SERVICE TO MT. HOOD AREA CONTINUES

A dispute between the United Telephone Co. of the Northwest and the Estacada, Ore., Telephone & Telegraph Co. on service to the projected new Mt. Hood Meadows Village, now before the Federal Communications Commission as well as the Oregon Public Utilities Commissioner, took another procedural step when Estacada asked the FCC to reject a petition by United to deny the former's applications for a point-to-point microwave radio system.

Estacada contended that the Oregon territorial franchise law is permissive, rather than mandatory, and that it filed a map with the Oregon PUC showing the new area as part of its service area. United, meanwhile, submitted an application to the state commission for a boundary change, on which a hearing has been held but no decision reported. Estacada, which serves Mt. Hood Meadows, 11 miles away from the new village area, said it has already installed \$80,000 worth of plant in the new area. -End-

'INTERIM' REPORT BY STANFORD RESEARCH OF LAND MOBILE RADIO FREQUENCY STUDY CONTAINS NO 'SURPRISES'; NO RECOMMENDATIONS MADE AT THIS STAGE

An "interim" report by Stanford Research Institute of its study of land mobile radio frequency interservice sharing and frequency assignment principles was made public by the Federal Communications Commission last week.

There were no significant "surprises" in the report to anyone who has taken part in the work of the FCC's Land Mobile Advisory Committee. There were also no "recommendations," as such, which the FCC could "implement" under its present structure, even if it wanted to. The FCC study contract had actually called for no "recommendations" at the "interim" report stage, although the Commission had asked the organization to "forecast" at that point, if possible, any recommendations it could see "clearly" coming at the conclusion of the 12-month study.

SRI, which began its study nine months ago, does present in the "interim" report a number of "conclusions which the study team of T.I. Dayharsh and W. R. Vincent has arrived at during this period. Their studies showed that some mobile radio channels were heavily congested while others were not; the team "observed" an unspecified number of "over-designed" land mobile systems "which cover larger areas than their purposes require; and the studies indicated that the land mobile channels were generally more "loaded" in the Los Angeles area than in the Detroit area, the two sections of the country used in the study.

One finding of the team was that an expansion of interservice sharing of frequencies among the land mobile services, if no other steps are taken, would not "improve" land mobile spectrum utilization. A combination of expanded interservice sharing and more equal channel loading on an intraservice basis, however, SRI said, along with data base improvement, continuous regional monitoring, and other "proper implementation" steps toward better "spectrum engineering," could "eliminate most" of the present "congestion" problems.

Two sections of the "interim" report are now available: an 87-page Part A, titled "acquisition, processing, and analysis of spectrum occupancy data," and a 65-page Part B, titled "an analysis of the spectrum management problem." These are now available for \$3 each from the U.S. Department of Commerce, National Bureau of Standards, Clearinghouse for Scientific Information, Springfield, Va. 22151. Order PB 182-792 and PB 182-918.

-End-

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INTERNATIONAL STANDARD ELECTRIC CORP. LAST WEEK reported consolidated net income in 1968 amounted to \$65,271,000, compared with the 1967 total of \$52,503,000. Consolidated sales of the International Telephone & Telegraph Corp. subsidiary totaled \$1,320,000,000 last year, against \$1,197,000,000 a year earlier.

-End-

---NOTES ON THE NEWS---

Seven new seminars related to advanced programming, time-sharing systems, and specific data processing concepts will be sponsored by the Control Data Corp. during the next three months, it has been reported. Conducted by CDC's subsidiary, C-E-I-R, Inc., through its Institute for Advanced Technology, the sessions will be held in various cities, with emphasis in the scheduling on New York City, Washington, and Minneapolis. . .

Robert E. LaBlanc, who was a special studies engineer for the New York Telephone Co. and previously a marketing supervisor with the American Telephone & Telegraph Co., has accepted a position with Salomon Brothers & Hutzler as co-Manager of the technology group in the brokerage firm's research department. . .

Dr. John N. Lein, Associate Dean of the University of Washington School of Medicine, has been elected to the Board of Directors of the General Telephone Co. of the Northwest. . .

The Nebraska Telephone Association will hold its 69th annual meeting Thursday, April 10, at the Hotel Cornhusker in Lincoln. . .

The South Carolina Independent Telephone Association has scheduled its annual convention for Wednesday through Friday, May 7-9, in the Fort Sumter Hotel in Charleston. . .

The Nevada Telephone Association will hold its spring conference and business meeting, including an election of officers, April 23-25, at the Sahara Tahoe Hotel, Stateline, Nev. . .

George D. Prestwich last week was named Vice President-defense marketing of RCA Defense Electronic Products. Prior to joining RCA, Mr. Prestwich was with the General Electric Co. since 1955. . .

Development of a new, versatile high-capacity data communications system, called Datanet-355, was announced last week by General Electric Co. The system is especially designed to match the fast computing speeds and high volume input-output requirements of the GE-600 information systems, but is readily adaptable to other advanced systems, the company stated. . .

Cybermatics, Inc., Fort Lee, N.J., data processing firm, announced last week that it has formed a new Business & Market Analysis Group, to provide a computer-based subscription service for corporate and market planners. The new service, the company said, "will furnish subscribers with a better basis for business forecasting of industrial markets for products and services". . .

Appointment of Harvey N. Stanley as Director-product planning of Pulse Communications, Falls Church, Va., was announced last week. Mr. Stanley previously was with the Atlantic Research Corp. . .

FCC Commissioner James J. Wadsworth, President of the International Club of Washington, is one of five nominees for election to three-year terms on the club's Board of Directors. Another nominee for a seat on the board is Abbott M. Washburn, who has been acting head of the U.S. delegation to the International Telecommunications Satellite Consortium conferences. . .

Appointment of W. Rogers Hamel as Vice President-corporate activities in Washington, was announced last week by Raytheon Co. Mr. Hamel joined Raytheon in 1951 and prior to his new assignment he was Vice President and General Manager of its submarine signal division. . .

A new Cable & Wireless, Ltd., project, a tropospheric scatter system to link Guyana and Trinidad, has been officially opened. Guayana, C&W said, now will be able to take full advantage of the C&W system, linking the English-speaking countries of the Caribbean to each other and to the rest of the world. -End-

TELEPHONY EDITOR JOINING USITA HEADQUARTERS AS PUBLIC AFFAIRS DIRECTOR

James M. Basham, Editor of Telephony magazine for the past two years, is joining the U.S. Independent Telephone Association Washington headquarters staff April 14 as Director of Public Affairs.

Mr. Basham, formerly with the public relations departments of the Illinois Bell Telephone Co. and the National Safety Council, and earlier an editorial staff member of Illinois newspapers, will be responsible for a regular USITA program in the field of public affairs. -End-

REA APPROVES FOUR LOANS TO TELEPHONE BORROWERS TOTALING \$3,818,000

The Rural Electrification Administration last week approved loans to four telephone borrowers, totaling \$3,818,000, including a loan of \$1,558,000 to the Northwest Mutual Aid Telephone Corp., Columbus, N.Dak., to upgrade the service in five exchanges to one party and to extend it to 127 new subscribers.

Other loans went to: the Eastex Telephone Cooperative, Henderson, Tex., \$1,250,000, to finance facilities for 1166 new subscribers and make general improvements; Badger Telephone Co., Webster, Wisc., \$508,000, to be used for facilities to upgrade the entire system to one-party service and replace a major portion of overhead line with buried cable; and the Crandon, Wisc., Telephone Co., \$502,000, to upgrade the existing system to all one-party service and add 127 new subscribers.

-End-

ITT TO PURCHASE DECCA SYSTEMS AND OBTAIN HALF INTEREST IN DECCA RADAR

Agreement has been reached under which the International Telephone & Telegraph Corp. will purchase Decca Systems, Inc., and a half interest in Decca Radar, Inc., it was announced last week.

Decca Systems is the United States distributor of the air navigation products of the Decca Navigator Co. Ltd., of London. It also does some manufacturing under license from Decca. ITT is buying voting shares equal to the number held by Decca in Decca Radar, the U.S. distributor of marine navigation products of Decca Navigator and Decca Radar.

DSI, to be renamed ITT Navigator Systems, Inc., will continue to market the air navigation products of Decca Navigator, both by U.S. manufacture and by importation from Decca. ITT Navigator Systems will also have manufacturing rights for the U.S. for Decca navigator marine products.

DRI will be renamed ITT Decca Marine Inc., and under long term distribution agreements will continue its present activities and also intends to distribute in the U.S. certain marine products of ITT. -End-

COLLINS BOARD OF DIRECTORS OPPOSES TENDER OFFER BY ELECTRONIC DATA

Stockholders in the Collins Radio Co. have been advised of the opposition by the company's Board of Directors and management to a tender offer by the relatively small Electronic Data Systems Corp., seeking to acquire a majority interest in Collins. It has been reported that a number of other companies are holding merger talks with the Collins firm.

Chairman and President Arthur A. Collins advised the stockholders in a letter that the Electronic Data proposal was regarded unanimously by the Board of Directors as "hostile to the interests of the company and its shareholders." -End-

TELCOM, INC., ACQUIRES ST. LOUIS CONSULTING ENGINEERING ORGANIZATION

Telcom, Inc., and J. C. Bernard & Associates, the latter a St. Louis consulting communications engineering firm, announced last week that they have completed a transaction under which the Barnard company will become a wholly owned subsidiary of Telcom.

The Barnard organization, which will continue to carry on business under its own name, furnishes engineering services principally for domestic telephone companies, including microwave, telephone, central office and outside plant, and rate and separations studies. With its associated firms, Barnard had a gross business of \$1,400,000 last year. -End-

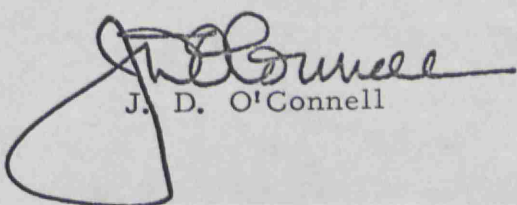
EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF TELECOMMUNICATIONS MANAGEMENT
WASHINGTON, D.C. 20504

OFFICE OF THE DIRECTOR

April 2, 1969

MEMORANDUM FOR THE DIRECTOR:

In accordance with our current procedures, I am
pleased to transmit this report of the significant
activities of this office for the period ending
April 1.



J. D. O'Connell

Enclosure

April 1, 1969

WEEKLY ACTIVITY REPORT NO. 59

FREQUENCY MANAGEMENT

1. Improved Communications-Electronics Standards

One of the responsibilities of the DTM as set forth in E. O. 10995 deals with the development and promulgation of standards for communications-electronics throughout the Federal Government. This is a most important item in view of the fact that the Executive Branch agencies are currently consuming in excess of 50% of the output of the country's electronic industry. On March 26, discussions were held with contractual interests for the purpose of defining a follow-on to the current contract dealing with standards and specifications. The general objective of FY 69 planning is to establish a basis and a methodology for generating technical performance standards for use by the OTM which will lead to more effective utilization of the spectrum by communications-electronics equipment. This is a complex issue and will involve the collection, analysis, and synthesis of information on terminology, test procedures, economic factors, equipment currently in use, foreseen developments and state of the art equipment.

2. ADP Development Planning Coordinated with NRAC

Computerized ADP is essential to effective management of the use of the radio spectrum. OTM's program, which makes use of the NRAC computer, has been in operation for over two years and is under continuing development. On March 26, OTM and NRAC personnel agreed on the use of the NRAC computer for the next phase of development of the OTM system. The satisfaction of OTM requirements for the application of advanced computer techniques, such as time-sharing and video display, will be held in abeyance pending further study and development of the capability within NRAC.

3. First Meeting of ERMAC

On March 27, the first meeting was held of the DTM's Electromagnetic Radiation Management Advisory Council (ERMAC). This Council, established pursuant to OEP Order 1200.7, serves in an advisory capacity to the DTM as regards both Government and non-Government activities bearing on the adequacy of control of electromagnetic applications which may involve, directly or indirectly, the production of harmful radiant energy in any portion of the electromagnetic spectrum.

Membership of the Board has been selected to represent the multi-disciplines involved, i. e., industrial, academic, professional communities including the primary fields of medicine, biological sciences, electronics, radiological safety, information handling, electrical engineering and spectrum management. The first meeting was generally formative in nature. Representatives of DOD, HEW and ARPA were in attendance in observer status. There was full support for the need for forming such an advisory council and it is foreseen that this organization will perform a very useful function to the OTM in his determination of answers to the question "precisely what are the potential impacts of communications-electronics operations upon living organisms, materials and electrical/electronic equipments?"

4. Radio Frequency Usage Information

On April 1, OTM representatives met with personnel from the Illinois Institute for Technology Research Institute for the purpose of reviewing the status of the OEP contract with IITRI dealing with radio frequency usage. The purpose of the contract is to define in depth those parameters (technical, economic, social, etc.) which have a bearing upon and should be integrated into the decision making equation applied in the determination of policy and operational considerations pertaining to use of the radio frequency spectrum. This effort will be the foundation for future OTM efforts in this area since the definition of the data base to be employed is the first step toward obtaining better radio frequency management at the national level. The IITRI effort is a "pioneering" one and requires careful monitoring by the OTM staff to insure a useful end product.

5. Direct Broadcasting from Satellites

A matter of considerable importance at the national level with respect to foreseen applications of space telecommunications technology deals with the matter of direct broadcasting from satellites. It is also apparent that this matter has potential political considerations, i. e., obtaining concurrence on the part of all nations to the accessibility of their peoples to direct broadcasting from satellites of other nations. From a technical standpoint this item has recently been under consideration by NASA, at the instigation of OTM and, under U. N. auspices, by a Working Group of the Committee on the Peaceful Uses of Outer Space. The U. N. Working Group recently completed a week's study of this area and concluded that direct broadcasting of television signals into existing, unaugmented home receivers on an operational basis is not foreseen for the period 1970-1985. Direct broadcasting of television into augmented

(modified) home receivers could be technically feasible as early as 1975 and direct broadcast into community type receiver antenna installations is close at hand. On April 1, OTM and NASA representatives met to discuss the current planning of the space agency in the direct broadcasting field. Such input is essential to the decision making process currently under way between FCC and OTM as to the length, depth and breadth to which direct broadcasting should be fostered within the United States. It is foreseen that a pilot model of some form, perhaps initially in the form of an FM broadcast satellite, will be a precursor to any further undertaking in this field.

6. Two Major Telecom Bulletins Issued

On April 1, two major actions affecting U. S. Government radio stations were taken by DTM to assist in improving the management of the use of the radio spectrum. The first action established a new program for the reporting of frequency usage information by U. S. Government agencies. Beginning in the fourth quarter of 1969, the initial phase of the procedure will be implemented and will involve the reporting of hours of use per quarter of frequencies in the band 4-30 MHz. The second action established a new program for improving local field level selection and coordination of the use of certain radio frequencies. The initial phase will be implemented on May 1 and will be limited to telemetering operations in the band 1435-1535 MHz in the southern California area.

FEDERAL-STATE TELECOMMUNICATIONS

*1. NATO Civil Emergency Planning

OTM representatives attended the Civil Communications Planning Committee Meeting held in Brussels, Belgium on 24, 25, and 26 March.

*2. Participation in APCO Conference

During the period March 26 through March 28 Mr. Lathey of OTM attended the 4th Western States Regional Conference of Associated Public-Safety Communications Officers. Held in Phoenix, Arizona, it was attended by representatives of eleven western states and by a wide range of industry representatives. The conference considered the need for improved telecommunications in support of public safety programs and the application of technological developments to public safety organizations. At the request of the conference chairman, Mr. Lathey made a presentation on "Public-Safety Telecommunications: The Promise and the Challenge."

NATIONAL TELECOMMUNICATIONS

1. Coordination of Teleprocessing Program

Material being developed for consideration as a basis for an OTM action program in the field of teleprocessing (communications and computers) was presented in an informal briefing to GSA's Associate Commissioner for data processing on March 27. The initial reaction to the briefing was favorable, and further in-puts from the GSA are expected.

* Items considered of special interest to the Director, OEP



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D.C. 20546

Telecommunications
MAR 26 1969

OFFICE OF THE ADMINISTRATOR

MEMORANDUM FOR: Dr. Clay T. Whitehead
The White House

SUBJECT : Your telephone call of March 25, 1969

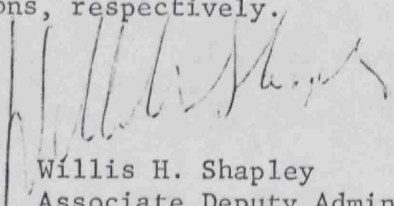
The NASA people who met with you in my office on March 18, 1969, in addition to myself were:

Mr. Arnold W. Frutkin, Assistant Administrator for
International Affairs, Tel. Code 13 - 21187

Dr. Walter A. Radius, Special Assistant to the Assistant
Administrator for DOD and Interagency Affairs (specializing
in communications matters), Code 13 - 24583

Mr. John J. Kelleher, Operational Systems Support Program
Manager, Space Applications Programs, Office of Space
Science and Applications, Code 13 - 22388

Feel free to call any of them directly for further information on international activities, communications policy matters, and technical aspects of communications, respectively.


Willis H. Shapley
Associate Deputy Administrator

Telecommunications

SBC

SYSTEM DEVELOPMENT CORPORATION

2500 Colorado Avenue, Santa Monica, California 90406

March 26, 1969

Dr. Clay T. Whitehead
Deputy Assistant to the President
Office of the President
The White House
Washington, D. C.

Dear Tom:

Sorry I could not get back to you later on during the week but things got a little bit hectic after I saw you. I am certainly glad I got to Washington early Monday and we were able to have dinner.

I met with Bill Duke the next day and we had a long talk about the Corporation for Public Broadcasting and public broadcasting in general. They certainly do have a problem trying to define a useful role for themselves. It is very clear to me that unless they come up with a unique as well as attractive program, they are going to have a lot of difficulty getting money out of the Administration. And what they do get will very likely be so very small that it will not make more than a tiny dent in the national need for public broadcasting. I agree that until they have something worthwhile perhaps they ought not get very much money. But please don't quote me, at least not to Bill Duke.

I agreed to prepare a paper for Bill exploring the role of the Corporation for Public Broadcasting in at least two specific areas that I believe might make them unique and certainly different from what commercial broadcasters can offer. Specifically, I am thinking about education and training programs into homes, factories, and businesses using radio and television and community awareness programs or, better still, community broadcasting for ghetto areas both urban and rural. I am not limiting myself to television but am also looking at educational radio. I am not at all convinced that the CPB should do more than just provide funding and expertise for program preparation. In other words, I am not convinced that they have to originate programs out of New York. The CPB could provide seed money for program preparation and production, program distribution and for R&D on techniques for satisfying special needs.

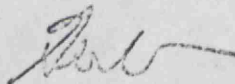
March 26, 1969

But I am getting ahead of myself. When the paper is done I shall certainly send you a copy.

It seems as if whether you like it or not, at least some portions of the Rostaw report will be issued. Kelly Associates published their report on Public Safety and the Radio Spectrum in the IEEE Spectrum Magazine, January, 1969. Herman Land and Associates published their rebuttal to The RAND Report in a pocketbook called, I think, "The Wired City" (this was the report financed by the Networks). And some day soon RAND will issue our report on Telecommunications and Urban Development. So it seems that various pieces are being made public and I wonder if this is good. Unless these pieces are read in the context of what the Task Force was trying to do, they could very well be misinterpreted. It seems to me that this might be an argument for releasing the report and allowing the new Administration to wash their hands of the past. If, as you say, the report is not very forceful in suggesting legislative actions, it would certainly not interfere with any future plans the Nixon Administration might have.

It was good seeing you again and let's keep in touch.

Cordially,



Herbert S. Dordick
Deputy Director
Research & Special Projects

HSD:kf

MEMORANDUM

THE WHITE HOUSE
WASHINGTON

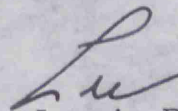
March 25, 1969

MEMORANDUM FOR

Robert Ellsworth

I have received many verbal and written requests such as the enclosed, urging that the Task Force Report on Communications Policy (the Rostow Report) be released. I concur now in this recommendation and suggest its release could be accompanied by a statement indicating that the study was generated in the previous Administration, that it is being issued as a document for public consideration, and that the Nixon Administration is giving careful attention to it and will be reviewing its recommendations.

I wonder what you think about this matter.



Lee A. DuBridge
Science Adviser

enclosure

Telecommunication
March 26 1969
Phoned DuBridge 1510
3-27-69
No reply in writing
A

March 25, 1969

Dear Professor Barnett:

Thank you for sending me a copy of your papers on Wired City Television.

I am interested also in your recommendation that the White House Task Force Report on Communications Policy be published. This matter is now being given careful consideration by this Administration.

Very truly yours,

Lee A. DuBridge
Science Adviser

Professor Harold J. Barnett
Department of Economics
Washington University
St. Louis, Missouri 63130

WASHINGTON UNIVERSITY



ST. LOUIS, MISSOURI 63130

DEPARTMENT OF ECONOMICS
226 MCMILLAN HALL

March 13, 1969

Dr. Lee A. DuBridge
Science Advisor to the President
Executive Offices of the President
Washington, D. C.

Dear Dr. DuBridge:

As you requested, I enclose A Proposal for Wired City Television,
in a full length version and also as a summary from the American
Economic Review.

Also enclosed are letters I wrote to the President and to
Paul McCracken, asking release of the White House Task Force Report
on Communications Policy, and their replies thereto.

I appreciate the opportunity we had to discuss communications.

With best wishes,

Sincerely yours,

Harold J. Barnett

Harold J. Barnett
Professor

HJB:vf

Enclosures

WASHINGTON UNIVERSITY



ST. LOUIS, MISSOURI 63130

DEPARTMENT OF ECONOMICS
226 McMILLAN HALL

February 18, 1969

The Honorable
The President of the United States
The White House
1600 Pennsylvania Avenue
Washington, D. C.

Dear Mr. President:

I hope that you will soon decide to release the reports of the White House Task Force on Communications Policy. This can easily be done without committing yourself or your Administration on policy or in any other way.

These reports, with their virtues and defects, constitute the most powerful body of substantive research on telecommunications policy ever compiled. The persons assembled from universities and research institutions who participated in this Task Force effort were, in most cases, talented researchers who, despite personal inconvenience and financial loss, contributed their efforts as government consultants or staff in the belief that this would serve the public welfare.

The public purse paid for the very substantial effort, and the research community provided the research in its usual belief that government knowledge and research results would be available for public perusal and consideration.

I respectfully plead, Mr. President, that we not begin a new credibility problem by denying important research findings to the academic community which needs them as inputs for further research, or to the general public.

Sincerely yours,

Harold J. Barnett
Professor

HJB:vf

THE WHITE HOUSE

WASHINGTON

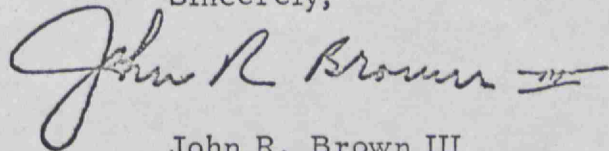
February 26, 1969

Dear Professor Barnett:

Your letter to the President has been received and is being held out for his attention. Meanwhile, I wish to thank you on his behalf for your interest in writing.

With best wishes,

Sincerely,

A handwritten signature in dark ink, reading "John R. Brown III". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

John R. Brown III
Staff Assistant
to the President

Professor Harold J. Barnett
Department of Economics
226 McMillan Hall
Washington University
St. Louis, Missouri 63130

WASHINGTON



UNIVERSITY

ST. LOUIS, MISSOURI 63130

DEPARTMENT OF ECONOMICS
226 MCMILLAN HALL

February 18, 1969

The Honorable
Dr. Paul McCracken, Chairman
Council of Economic Advisers
Office of the President
Washington, D. C.

Dear Paul:

I attach a copy of a letter to the President.

I think it would be a serious error if the Administration repressed the Task Force reports. I've never seen them in final form and, from what I've heard (they've leaked widely but unevenly), will disagree strongly with some. But public research efforts should not be bottled, and I trust that the new Administration will not opt for this kind of relationship with the research community and the public.

With best wishes.

Sincerely yours,

Harold J. Barnett
Professor

HJB:vf

Enclosure

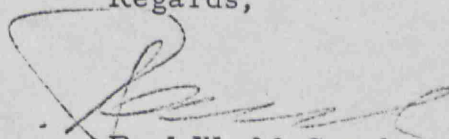
THE CHAIRMAN OF THE
COUNCIL OF ECONOMIC ADVISERS
WASHINGTON

February 21, 1969

Dear Harold:

Thanks immensely for your good letter of February 18. The major problem arises because the Task Forces were assured that the Reports would not have to reflect the polish necessary for publishable papers. We shall, however, explore the matter further. It was good to see you at the Cosmos Club and I particularly appreciate your suggestions.

Regards,



Paul W. McCracken

Dr. Harold J. Barnett
226 McMillan Hall
Department of Economics
Washington University
St. Louis, Missouri

Horizons for Public and Global Broadcasting

By HERBERT MITGANG

For the first time in years, Congress and the Federal Communications Commission are taking a hard look at television and radio licensing practices and the content of broadcasts, especially the effects of violence. "Video at Blue-Pencil Point," says Variety's front-page headline, but it is doubtful that Government or industry censorship is in prospect or called for.

In the United States, the commercial networks can rise to great occasions—witness the space adventures—but regular schedules are stuck in familiar grooves season after season. Several bold F.C.C. commissioners are causing some improvement by what is known as the raised-eyebrow ruling. But Federally granted station licenses will be far more difficult to disturb unless promise and performance are really scrutinized at renewal time under the law.

The most hopeful portent for better choice on the dial nationally is the Corporation for Public Broadcasting. So far it is not even a British Broadcasting Corporation in diapers but there is capacity for growth. It has a flexible mandate; what it lacks (in addition to decent Federal funding) is a visionary blueprint.

The Corporation for Public Broadcasting — which is not merely a laboratory experiment and does have public ac-

countability and responsibility —should enlist the intellectual wealth of the country and real professionals on the functioning level. If it boldly enters the house of television through the front door, it could become the channel for struggling educational stations and lead to a noncommercial "fourth network" in the United States.

For Man's Benefit

Internationally, television is just beginning and therefore stands a chance of growing up maturely. Will governments and men be able to overpower chauvinism and private gain—as they have not done on earth—and reach for the sky?

A fascinating and relatively unnoticed meeting on international communications wound up in Washington a few days ago. Its made-in-America hardware is ingenious; its future, too, requires a brilliant blueprint. Given not just the tools but aspirations, a worldwide satellite network could be created to leap artificial boundaries and contested continents for mankind's benefit.

Right now the emphasis is on hardware; of necessity, the technological aspects must come first. But it is not too soon to think ahead to the time when broadcasting can span the oceans regularly—and, somehow, satellites can serve as a chosen instrument for education, information and peace.

The 66 member nations at the Intelsat (International Telecommunications Satellite Consortium) meeting represented all the continents, plus the United Nations. The Soviet Union and Eastern European states were present among 29 observer nations. The aim was to devise a single commercial satellite system; that did not quite happen. But delegates will now report back to their countries, and in November they will reconvene to consider a draft of a formal agreement.

This existing consortium signified the first joint venture in the peaceful uses of outer space. There are now communications satellites over the Atlantic and Pacific Oceans. When the next one is put up this year over the Indian Ocean at an apogee of 22,300 miles, there will be a full global system. The member nations of Intelsat get the "message" through their own sovereign ground stations; there are no direct satellite-to-home broadcasts.

Toward a Global System

The United States plays the dominant role—for the time being—because the satellites originate from Cape Kennedy and the experienced manager of the consortium is Comsat (the quasi-public Communications Satellite Corporation). But what emerged from this international meeting was an awareness that no single nation or bloc can

rule the communications heavens, technically or politically.

There are signs that the Soviet Union is interested in linking its Orbita (domestic system) and future Intersputnik (regional system) with the American-run Intelsat consortium. The governing structure of a true one-world system remains to be reconciled, but the concept of a single satellite network is possible despite differing ideologies.

Eventually, national and international broadcasting can be intertwined. But the wonder of instantaneous communication should not be regarded purely as a mechanical adventure. A codified philosophy and priorities must be established that place global education, medical and scientific data, and non-propagandistic information of the sort distributed by UNESCO ahead of ordinary commercial demands.

Earthlings should not have to be bound by stale national broadcasting practices. Globally, satellites can be used for more than the world of sports; for other than living-room wars brought to you "live" in dying color from the world's battlefields. Something better could come from up there than down here.

HERBERT MITGANG is a member of the editorial board of *The Times*.

Nixon Urged to Release Communications Report

REPORT, From A1

Much of the report dwells on what every student of U.S. communications policy already knows: That need exists to coordinate management of the U.S. share of the electromagnetic (radio) spectrum.

"Our studies show," the report states, "that neither the FCC nor the Director of Telecommunications Management (DTM) has the resources essential to the satisfactory discharge of the regulatory and Executive Branch responsibilities as we now perceive them."

The urgency for better management of the frequencies comes from stepped-up demands and being shouted by police, business, taxicabs, maritime radio and even broadcasters.

Certain to be controversial is the report's view that Community Antenna or Cable (CATV) "has high promise . . .

for improving and diversifying television services."

A cable system carrying 20 channels, the report claims, can be operated cheaply and could provide such programs as a series of local college plays, a foreign film festival, a continuous stock ticker, a college-level lecture series, along with special programs for ethnic groups.

Also controversial is the report's view that "over-the-air pay TV seems unlikely to reach substantial proportions." Pay TV—exactng a per-program charge—has been fought by commercial broadcasters and movie owners for 20 years. The FCC proposes to authorize nationwide Pay TV in June.

The task force decided also that any hope for broadcasting programs via satellite—direct to homes—is "unpromising."

Nor is the task force impressed with the promise of the "video record," which

some believe will become as common as long-playing audio records.

The "video record" has "some potential" for expanding "the range of visual information and entertainment in the home" but "does not meet the larger social need for low-cost, multi-channel facilities for specialized audiences."

In the dispute over a domestic satellite system—which must be decided soon by the FCC—the task force argues for a "prompt start" on a pilot program. "The overall management role in the venture," the report argues, "should logically be entrusted to Comsat (Communications Satellite Corp.), on the basis of its operational experience . . ."

Those who oppose Comsat—ABC, the Ford Foundation—claim that if the domestic satellite is given, even temporarily, to Comsat a propri-

etary claim for the future will result.

One of the task force's most unusual suggestions is for a four-channel, low-powered, TV system to be used in a ghetto such as the Watts section of Los Angeles. It would cost an estimated \$750,000 and "would be devoted to job information and training; to both in-school and at-home instruction tailored to the special needs of ghetto children; to the presentation of programs created by and for the local community; to public health; adult education; literacy training and other purposes."

On a broad level, the report stresses the presently chaotic state of spectrum management. The FCC, the report charges, "lacks resources adequately both to deal with the burdensome day-to-day business . . . and to develop long-run telecommunications policies."

The report's proposed solu-

tion is "a new and strengthened Executive Branch . . ."

The Telecommunications Task Force Report—a high-level study of U.S. communications policy even—probably will not be made public, officially, however, enjoy a wide circulation and undoubtedly will have some impact on congressional policy-makers even on members of the

Nixon Urged to Release Communications Report

By Lawrence Laurent
Washington Post Staff Writer

A California Congressman is pressing the Nixon Administration to release a presidential task force report that recommends establishment of a new Federal department of communications.

The 476-page report, which also recommends more funds for the Federal Communications Commission, was prepared by a Johnson Administration task force and has been kept under official wraps by both the Johnson and Nixon Administrations.

Rep. Lionel Van Deerlin (D-Calif.), in a New Orleans speech last week, called on President Nixon to release the report. Failure to do so, he said, would raise questions about "what special interests are still being protected at the highest echelons of the govern-

ment and protected from what?"

Copies of the report have been leaked to both Government officials and to members of the press. The task force included members of more than 15 Federal agencies, led by former Under Secretary of State Eugene Rostow. It spent more than \$1 million.

Some of its other recommendations are:

- The use of low-powered TV channels to meet the special needs of the ghetto.
- A domestic satellite system that would provide free channels for non-commercial and instructional TV.
- Financing of public (non-commercial) TV to "meet the need for more variety" and "a more resourceful localism" on TV.

See REPORT, A11, Col. 1

FCC Weighs Rules On Cable TV as Hearings End

By STAN BENJAMIN
Associated Press Writer

The Federal Communications Commission has taken under advisement proposed new rules for cable television, following two days of hearings and an afternoon of almost continuous criticism yesterday.

The only support came from attorney Louis B. Nizer, representing producers and distributors of copyrighted television film programs.

Critics of the FCC proposals have been most vehement against one feature — a provision that community antenna television (CATV) systems could snatch distant broadcast signals off the air and relay them to paying customers, by cable, with the consent of the program copyright owners.

Cite Supreme Court

CATV proponents, relying on a Supreme Court decision in the "Fortnightly" case, contend that such signals are in the public domain and they need not pay for their use.

They say the "retransmission consent" proposal of the FCC would circumvent a kind of copyright claim on these signals.

Nizer asked the FCC to "clarify" its intention by specifying that the consent required is that of the program supplier.

That, presumably, would put Nizer's clients — the film producers and distributors rather than the stations which broadcast the films — in a position to collect from the CATV operators.

Takes a Blasting

Nizer said he had no other quarrel with the proposed rules.

But the FCC took a blasting from new witnesses for the CATV industry, and from a congressman and a labor leader. They said the proposed rules would "freeze" the industry and have already caused layoffs in CATV equipment manufacturing plants.

Rep. Samuel S. Stratton, D-N.Y., said 250 workers have been laid off from Technical Appliance Corp. in Sherburne, N.Y.

Louis L. Kaplan, international representative of the United Electrical, Radio and Machine Workers of America, said the firm's parent concern, Jerrold Corp., had laid off 1,188 because of the proposals.

Layoff Cause Disputed

FCC Commissioner Kenneth A. Cox, however, quoted the trade publication Cable News as saying that Jerrold layoffs were caused by excess inventory, rather than the FCC.

Milton J. Shapp, founder of Jerrold, who had sold the company to Geneva Instrument Corp. to run for governor of Pennsylvania in 1967, charged that "the broadcasters, the networks, the copyright owners, home antenna manufacturers and others with financial goals . . . have goaded the commission into this program to curtail CATV."

Shapp, now a major stockholder in three Pennsylvania CATV systems, said the FCC assertion that CATV competes with broadcasting is "fundamentally incorrect and is based upon a distorted view of the true nature of CATV."

By offering multichannel re-

more broadcasters to compete in a given area, but CATV itself is not the competitor of any broadcaster."

Sanford S. Randolph, president of the West Virginia and Mid-Atlantic Community Television Association, said "many of our members believe our industry has been sentenced to death and that these hearings are little more than a post mortem which might salve some conscience."

Representatives of telephone and microwave transmission companies—common carriers—including the giant American Telephone & Telegraph Co. also testified, but their concern was mainly with FCC statements which would not have been mandatory rules in any case.

'Serious Concern'

The FCC had urged that local authorities concern themselves "with various licensing considerations pertinent to the public interest" including the question of carrier rates. It had also suggested that "the public interest would be served by encouraging CATV to operate as a common carrier on any remaining channels not utilized for carriage of broadcast signals and SATV originations."

Both suggestions gave "serious concern" to the common carriers, their spokesmen said.

The FCC has allowed June 16 for written comments on its inquiry, with reply comments due Aug. 15.

It has said it would take action before considering comments.

Soviet to Join U.S. Parley
On Space Communications

Acceptance of 'Observer' Role Viewed
as a Move Toward Global Use and
Ownership of Satellite System

By JOHN W. FINNEY
Special to The New York Times

WASHINGTON, Jan. 22 — The Soviet Union, in an apparent reversal of policy, has made a tentative move toward joining with Western nations in the ownership and use of a global communications satellite system.

State Department officials disclosed today that the Russians had accepted a United States invitation to participate in an international conference here next month on communications satellites.

The purpose of the conference will be to work out permanent arrangements for ownership and use of the Intelsat communications satellite system sponsored by the United States five years ago.

The Soviet action was acclaimed by Leonard H. Marks, the United States representa-

tive to the conference, as "an encouraging move" that could lead to a single communications satellite system linking all nations of the world.

While the Soviet Union will come to the conference in an "observer" status, its attendance carries with it an implied interest in eventually joining the Intelsat system, which is owned by an international consortium of 63 nations.

The United States had notified all members of the United Nations that it would extend an "observer" invitation to any nation that had "a serious interest in the possibility of becoming an Intelsat member at a future time." To the delight and surprise of American officials, the Soviet Union took

Continued on Page 11, Column 1

Soviet Will Attend Conference in U.S. on Space Satellite Communications

Continued From Page 1, Col. 3

up the offer.

Ever since the Intelsat system was set up five years ago at American initiative, the Soviet Union has attacked it as a United States-dominated enterprise and has spurned repeated offers to join in the network.

The Soviet Union has proposed to set up a competing network known as Intersputnik, but has had little success.

Its apparent change in policy came a week ago when it quietly notified the State Department that it would attend the month-long conference.

American officials saw an encouraging indication that the

Soviet Union had more than a passing interest in the conference in the fact that it is sending a relatively high-ranking official, N. Z. Talyzin, Deputy Minister of the Soviet Ministry of the Soviet Ministry of Communications.

Bulgaria has also accepted an "observer" invitation, and United States officials expect other Communist countries in Eastern Europe to attend.

At least 80 nations will attend the conference, beginning Feb. 24.

Among them will be Yugoslavia, which was already gravitating toward the Intelsat system. She has accepted technical aid from the United States-owned Communications Satel-

lite Corporation (Comsat) in construction of a ground station.

For the Johnson Administration, the Soviet decision to attend the conference represents a final but unpublicized achievement in its East-West bridge-building efforts.

For the Nixon Administration, it opens opportunities for cooperation in space and promotion of better communications between nations.

In a 1967 message to Congress, in which he urged that the Soviet Union and other Communist countries join in the Intelsat system, President Johnson observed: "Nothing could better symbolize the truth that space belongs to all

men than an international undertaking that permits the free flow of communications."

In that message, and again at the 1968 summit meeting in Glassboro, N. J., the President emphasized that Intelsat was "not a political organization," "no ideological goal except that it is good for nations to communicate efficiently with one another" and sought "no diplomatic advantage," but rather was "quite simply a cooperative undertaking of many nations to finance an international communications system which is of advantage to all."

In analyzing the Soviet move, Mr. Marks, the former director of the United States Information Agency, said he believed

the Russians had come to "understand that what President Johnson said is true, namely that there should be one global system if we are going to take the great step forward of linking the world together."

It is acknowledged by State Department officials that the Soviet Union undoubtedly has motives in deciding to attend the conference.

By attending even in an observer status, for example, the Soviet Union may be able to give moral support to the counter-demanding a required, which has meant that "one-nation, one-vote" formula in the management of the Intelsat consortium.

The Soviet Union proposed the consortium.

such a formula in its Intersputnik system in an obvious bid to the developing countries, which have little or no voice in the Intelsat consortium.

In the interim agreements under which Intelsat has been operating since 1964, a weighted voting formula has been followed, with the size of a country's investment and use of the system.

The United States, as the major investor and user, has a 53 per cent vote. On major policy decisions a 65 per cent vote is required, which has meant that the United States and a few of its European allies could exercise effective control over the consortium.