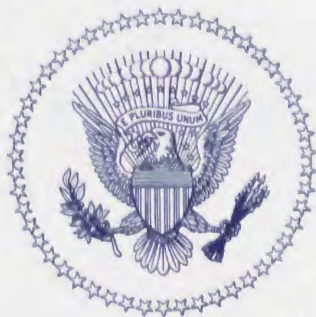
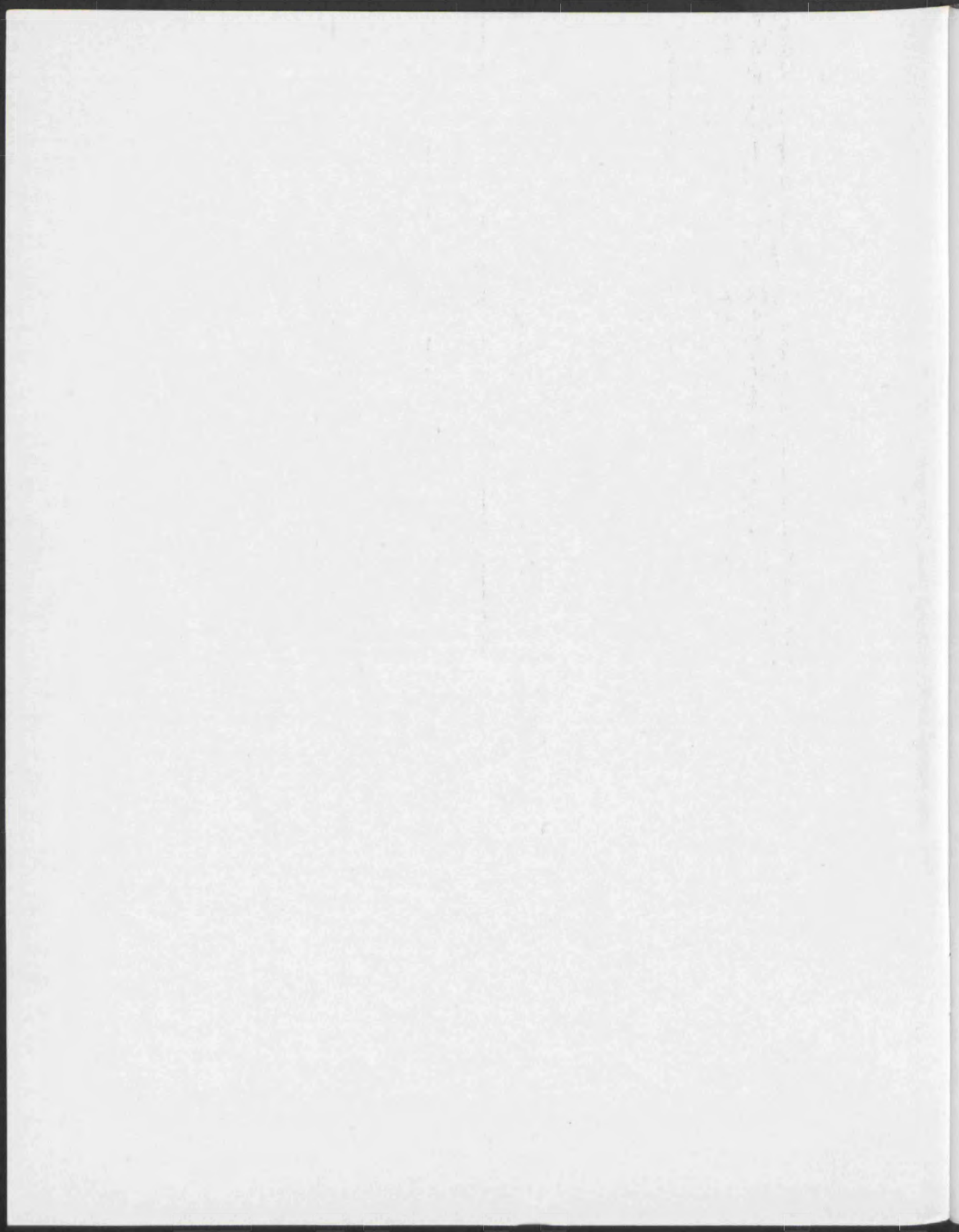


Executive
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President



**ACTIVITIES
AND
PROGRAMS
1975-1976**

OFFICE OF TELECOMMUNICATIONS POLICY



OFFICE OF TELECOMMUNICATIONS POLICY

EXECUTIVE OFFICE OF THE PRESIDENT

WASHINGTON, DC 20503

Executive
Office
Of The
President

July 22, 1976

ACTIVITIES AND PROGRAMS 1975-1976

This report provides a comprehensive overview of the activities and programs of the Office of Telecommunications Policy (OTP) during the period from July 1, 1975, to June 30, 1976. The report is organized into several sections, including: a) Introduction; b) Policy Development; c) Regulatory Proceedings; d) International Communications; e) Spectrum Management; f) Telecommunications Research and Development; g) Public Information; h) Administration; and i) Summary. The report also includes a list of major events and a list of personnel who served on the staff of the OTP during the reporting period. The report is intended to provide a clear and concise summary of the work of the OTP and to serve as a reference for future activities and programs.

J. H. Seeger
John H. Seeger
Deputy Director

OFFICE OF
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ACTIVITIES
AND
PROGRAMS
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OFFICE OF
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POLICY

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OFFICE OF TELECOMMUNICATIONS POLICY

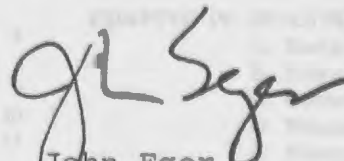
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WASHINGTON, D.C. 20504

OFFICE OF THE DIRECTOR

FOREWORD

Calendar 1975 was the fifth full year of operation of the Office of Telecommunications Policy in the Executive Office of the President. The following report summarizes the principal activities of the Office for 1975 according to four broad functional areas--Government Communications, Domestic Communications, International Communications, and Spectrum Management. In addition, we have included a significant amount of historical data which will serve to acquaint the casual reader with a general background of the policy issues discussed. I trust that this report will stimulate continued productive dialogue within academia, industry, and government as we jointly work to solve the complex policy problems associated with modern day communications technology and its application to social needs.


John Eger
Acting Director

OFFICE OF TELECOMMUNICATIONS POLICY

EXECUTIVE OFFICE OF THE PRESIDENT

WASHINGTON, D.C. 20503

DATE: 10/15/73

MEMORANDUM

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John Eger
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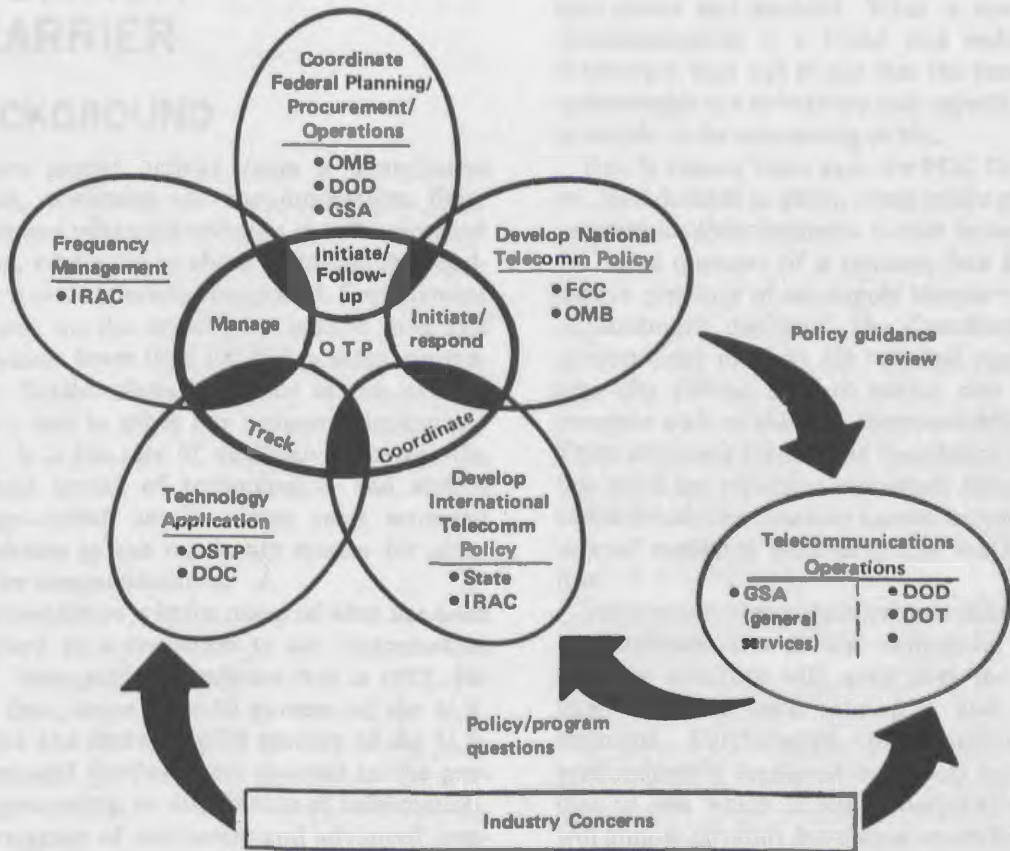
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“OTP FUNCTIONS AS THE PRESIDENT’S PRINCIPAL ADVISOR ON TELECOMMUNICATIONS POLICY”



"OTF FUNCTIONS AS THE PRESIDENT'S PRINCIPAL
ADVISOR ON TELECOMMUNICATIONS POLICY"



CHAPTER I.

DOMESTIC COMMUNICATIONS

A. COMMON CARRIER

1. BACKGROUND

Common carrier activity from a quantitative standpoint, dominates the communications field. Telephone and telegraph revenues in 1974 exceeded \$30 billion, compared to about \$6 billion in broadcasting and cable television combined. Employment in 1974 was on the order of 1 million men and women, versus fewer than 100,000 in mass communications. Similar disparities exist in the level of investment and in other key economic indicators. However, it is the rate of qualitative change—the growth and spread of technological and service innovation—which has in recent years attracted fresh attention to the regulatory system for common carrier communications.

The United States is in the midst of what has been characterized as a transition to an "information society." Some statistics indicate that in 1975, for the first time, more than 50 percent of the U.S. labor force and more than 50 percent of the U.S. Gross National Product were devoted to the production, processing, or distribution of information. The convergence of computers and advanced communications contributed to this growth by revolutionizing customary patterns of business and finance, entertainment and leisure, and the processes of information storage, exchange, and retrieval.

In earlier times, the expansion of new technology was welcomed without too much concern for future impact. There was room to make up rules and develop policies on a case-by-case basis. Policy was often no more than an accumulation of regulatory decisions. But the quickening pace of technological advances in communications has now rendered the ad hoc method of policy formulation not only obsolete but dangerous. The conditions of today require cohesive planning for the future so that crises,

such as those experienced in the energy field, can be anticipated and avoided. What is now needed in communications is a broad and enduring policy framework that will insure that the benefits of new technologies are effectively and expeditiously made available to the consuming public.

Nearly twenty years ago, the FCC first deliberated, then decided to allow, competitive entry into the communications common carrier industry, which, for three quarters of a century, had been the exclusive province of monopoly suppliers. In a series of landmark decisions, the Commission opened monopolized markets for terminal equipment and inter-city private lines to permit new entrants to compete with established communications carriers. These decisions formed the foundation for a transition from the regulated monopoly structure of the communications common carrier industry to a mixture of regulated monopoly and market competition.

Since some telecommunications submarkets bear the attributes of a natural monopoly, the optimal industry structure will, even over the long term, likely embrace both monopoly and competitive segments. Furthermore, the transition from a predominantly regulated monopoly industry structure to one which is more competitively oriented will almost certainly have some unsettling effects on various producers and users of telecommunications equipment and services. A principal objective of OTP has therefore been to fashion a set of regulatory tools and procedures designed to ease and expedite the transition, while insuring that the monopoly and competitive elements of the industry can coexist and operate efficiently with a minimum amount of regulatory interference.

2. STUDIES AND ANALYSES

OTP derives support for the plans and policies that it proposes from a coordinated program of

research studies and analyses. The program draws on in-house resources; support services of the Office of Telecommunications, Department of Commerce; and from universities and consulting firms in the private sector. Some of the major OTP studies in various stages of preparation are described below:

a. Cost Economies

Since the principal justification for monopoly carrier status is the ability of a single firm to serve the entire market at costs not achievable by two or more sellers, OTP has sponsored research to determine which functions and which services demonstrate these economies of large scale production. This continuing research effort is designed to identify and further refine the nature and extent of these cost economies. To date, the study results confirm earlier findings that in fact monopoly is warranted by economies of large production in only a subset of existing common carrier markets.

b. Computer Analysis of the Telecommunications Network

To assist in its analysis of the social costs and benefits associated with a broad range of alternative policies, the Office, with contractor support, is in the process of developing a detailed computer model of the intricate and interrelated engineering-economic network which makes up the bulk of the nation's telephone system. The model, which should be completed in 1976, is intended to provide OTP with an expanded capability for analyzing a number of current policy issues.

c. Installation Charges

As part of a continuing effort to evaluate the impact of the introduction of competition, OTP initiated a study in 1974 of the effect of introducing cost related charges for the installation of business and residential telephone equipment. Historically, installation charges have been haphazardly related, if at all, to the relevant attributable costs. A case

study of the experience of a Colorado telephone company with cost-related installations was completed in 1975; the results have been incorporated into the Office data base on the potential impact of usage sensitive pricing.

d. Separations Procedures

Much of the equipment used to produce and deliver telephone services is used to provide both intrastate and interstate services. Certain end-to-end services often involve crossing state lines and are therefore subject to both Federal and state jurisdictions. For rate-making purposes, the costs of this commonly-used plant must be separated and allocated to either the state or the Federal jurisdiction. Once allocated, the costs form the basis for determining revenue requirements, and hence the level of telephone rates in the two jurisdictions.

The procedures devised for separating common plant have no basis in economic principle and have received only tentative guidance from the courts. Rather, they are arbitrary and derive from compromise among the affected parties. OTP has argued that current separations procedures are unnecessary barriers to further desirable changes in the structure of the industry, since the procedures may lead to a disproportionate impact on the charges for local telephone service.

With this background, OTP has funded a study which will (a) trace the evolution of separations procedures, (b) assess the impact of changed procedures, and (c) evaluate alternative procedures specifically in terms of their abilities to accommodate an orderly and equitable transition to more competitive markets. The results of the study, as well as OTP's analysis and recommendations, will be forwarded to the FCC for its consideration later this year.

e. Cost Allocation and Rate Structures

A recurrent and difficult issue in telecommunications, as in other regulated industries, concerns the "proper" allocation of cost to each of the services of the regulated multi-service firm. When costs vary

directly with the volume of each service produced and are assigned to that service, there is no problem of allocation. However, in capital intensive industries like telephony, these direct or variable costs often constitute only a relatively small proportion of the total; the majority of the costs are often joint or common to the production of two or more services and cannot, therefore, be unambiguously assigned to a particular service.

Various rules have been suggested to resolve such cost allocation problems. Yet, the issue remains unresolved; the FCC after more than ten years of consideration has been unable to decide upon governing principles. It is clear, however, that if competition is to survive in markets where it is economically and technologically feasible, the regulated monopoly carriers *must* be precluded from arbitrarily understating costs—and hence rates—in competitive markets as a way of contending with existing competitors and/or forestalling market entry.

After analyzing the various viewpoints, OTP has determined that proper cost allocation is necessary to any attempt to achieve a proper balance between competition and regulated monopoly. Accordingly, the Office has initiated a major study in conjunction with the National Science Foundation which is designed to identify the effect of alternative cost allocation rules on selected public interest criteria—efficiency, equity, progressiveness, market structure, and others. Although the study will not “solve” the long-standing cost allocation problem, it should assist in making the problem more manageable. By establishing general guidelines for the allocation of common cost among services, the “regulatory lag” associated with seemingly endless cost studies should be shortened and the amount of resources engaged in these studies reduced.

A final objective of the study is to stimulate the development of long-overdue revisions to the Uniform System of Accounts. The current accounting system is not designed to provide the information necessary to determine the separable costs of different telephone services.

f. Mobile Communications

Throughout 1975 OTP continued its study of the potential uses of mobile communications systems and methods which must be used to improve spectrum efficiency in this area. OTP also examined the likely effects of cross-elasticities of demand for new mobile services on existing ones.

The Office has directed special attention to one-way paging service, the fastest growing mobile communications service. A series of studies, which addressed economies of scale in the provision of paging services, the probable market for pagers to 1990, technical characteristics of particular types of paging, and the economic benefits of the use of tone-only and tone-voice pagers have recently been completed. The results suggest that greater reliance on an unrestricted marketplace in particular markets is likely to lead to more efficient spectrum use and more efficient resource allocation. The studies and the results of OTP's in-house analysis will be forwarded to the FCC in 1976.

g. Information Technology

The surge of technology applicable to the creation, processing, storage, distribution, and use of information has altered the shape and structure of both the domestic and world economies. Along with the development of what some call an information economy have come a bewildering array of problems. The distinction between electronic data processing and communications, already blurry a decade ago, has grown even less distinct and may disappear entirely in the near future. In other areas, as well, the boundaries between information industries are being erased by technology. Mail service and funds transfer by electronic means defy conventional industry classification; and, transmission via optical fibers may eventually cut across broadcasting, cable, and telephone industry lines.

Solutions to these information-related problems are elusive, yet critical to orderly and rapid social and economic development in the last quarter of the century. The Government has responded to the emerging problems largely on an uneven, ad hoc

basis. Despite the growth and importance of the information sector, of which telecommunications is a major part, our understanding of the policy implications has not kept pace. OTP has therefore designed its program of studies in part to evaluate these developments, to assess their impact on the telecommunications sector, and to support the formulation of a coherent policy in this area. OTP is surveying research which is being conducted in the private sector and is initiating a study of its own which will examine the characteristics of various kinds of information and the extent to which market processes under existing law will provide for the efficient and equitable use of information technology.

3. POLICY INITIATIVES

a. Congressional Activity

In November 1975 the Acting Director presented in testimony to the Congress a comprehensive and detailed "state of the industry" which reviewed recent technical and regulatory developments; identified and analyzed the central issues; and, concluded with a set of recommendations—eight in all—designed to facilitate and insure full implementation of the policy objectives of OTP. The recommendations called for, among other things, a presumption in favor a competition and a commitment to market forces; a detariffing of terminal equipment; and, the development and adoption of new principles to govern rate making, cost allocation, and jurisdictional separations. Subsequently, the Office submitted, at the request of the Congress, a detailed four-year action agenda spelling out a timetable for the implementation of the OTP programs. The agenda was also forwarded to the Chairman of the FCC.

b. Filings with the FCC

In 1975 the Office filed two major domestic policy documents with the FCC. The first, (Docket 20097), supported by extensive analytical justifica-

tion, recommended that the brokerage of communications services be allowed on an unregulated basis. A "broker" is a party which leases space from existing regulated carriers and subdivides or adds to it to meet the specialized needs of individual or group users. He is a communications middleman between the owners of facilities and the users of services and serves a valuable economic function without duplicating any of the investment of established carriers. OTP believes that unregulated entry into the brokerage function will promote customized service innovations, increase the productivity of existing facilities, and eliminate existing inefficiencies and inequities in common carrier tariffs. Regulation of brokers, on the other hand, would restrict the provision of tailored services and lead ultimately to protectionist restrictions of the type which have provoked extensive criticism of common carrier regulation in the transportation field.

The second filing, (Docket 20003), was filed in response to the Commission's call for comments on the economic impact on residential telephone services of competition for private-line business traffic. The introduction of competition into markets long served by a single regulated supplier inevitably will produce unsettling and, to some extent, unknown effects in all the markets served by the industry. Established carriers have justified, in part, their opposition to competition by arguing that the effects of competition will be especially adverse to users of basic telephone service. That is, as established carriers move to meet competitor's rate challenges, they will be forced at the same time to adjust their rates upward in the noncompetitive sectors of the market. Drawing on the results of past in-house and contract research, OTP argued that the impact on home telephone rates to date has been minimal, and, that any potential adverse effect on local rates could be offset largely by making appropriate changes in intrastate rate making practices and in the procedures governing the allocation of costs of plants used in common for interstate and intrastate services.

B. CABLE TELEVISION AND BROADBAND COMMUNICATIONS

Because of the large channel capacity available in the modern cable system and its capability for two-way communications, broadband communications technology offers the potential for increasing consumer choice in television programming and for delivering a diversity of new communications services. However, despite cable's capacity to expand telecommunications services, it presently serves as little more than a retransmission device for carrying broadcast television signals. Moreover, the framework for the present regulation of cable communications is premised on a law that addresses only limited-signal technologies and that does not, therefore, recognize the potential for this new medium.

1. CABLE COMMUNICATIONS ACT OF 1975

In January 1974, the Cabinet Committee on Cable Communications, chaired by the Director of OTP, published its recommendations to deregulate cable communications. Based on OTP staff analysis performed in 1973 on the potential economic and social consequences of vertical integration in the cable industry, and on the probable impact of expected cable growth on the broadcast and program production industries and the public, the Cabinet Committee recommended a new cable policy founded on the principle of separating control over the medium from control over the messages distributed via that medium.

The Committee proposed that programming, advertising and other information services on cable channels should be allowed to develop on a free and competitive basis. It perceived cable of the future as a medium open to all for programming or information services, at published, nondiscriminatory rates.

Recognizing, however, that imposition of the separations policy should be deferred until cable had matured as an industry, the Committee recommended a transition period for gradual incorporation of new cable policies. In early 1974, OTP prepared a draft cable bill to implement certain of the "transitional" recommendations of the Committee report, and to establish a national policy for cable before further cable growth made policy changes impracticable. Subsequent drafts of the bill were prepared during 1975, reflecting the comments and suggestions of various agencies of the Federal Government, interested parties, and affected industries. The most recent draft was sent to OMB in August 1975 for Executive clearance; and has been the subject of continued study by the Administration.

2. RURAL EXTENSION OF TELEVISION SERVICES

From the results of in-house and contract research, OTP determined that, under current broadcast distribution techniques, substantial numbers of Americans residing primarily in rural areas were deprived of an adequate level of television service. The study suggested that service could be improved in these areas through a "hybrid" method. The results of the study establish upper and lower cost estimates for the provision of three and five channels of television service nationally.

OTP forwarded the results of these studies to the FCC along with its policy recommendations in early 1975 in order to invite reexamination of certain Commission rules that inhibit the combined operation of the three television distribution technologies.

3. SUBSCRIPTION CABLE

OTP completed a study to evaluate consumer demand for direct subscriber purchase of television programs over cable in December 1975. The study

assessed consumer demand in terms of a variety of program services, and has been useful in our considerations of draft cable legislation.

4. URBAN CABLE CONSTRUCTION COSTS

A study of the potential economic impact of near term technological development on the cost of building urban cable systems was conducted pursuant to OTP's request, by the Policy Research Division of the Office of Telecommunications, Department of Commerce. Cable growth in urban areas has not been significant due, in part, to high construction costs. The study found that direct sharing arrangements with utilities could lead ultimately to significant savings, but that near term realization of savings through technological developments such as fiber optics do not seem promising.

5. FIBER OPTICS STUDY

During FY 1976 OTP initiated through the Department of Commerce's Office of Telecommunications, a study to determine the policy implications of innovative developments in local distribution technology, such as fiber optics. The study will have several phases, including examination of technical capability, component costs, system applications and costs, and economic analyses of present and alternative policies concerning the provision of telephone and broadband services to the home.

C. BROADCASTING

1. PUBLIC BROADCASTING

When Congress enacted the Public Broadcasting Act of 1967, it envisioned the eventual adoption of a long-term Federal funding system. It felt that such

a scheme would insulate the Corporation for Public Broadcasting (CPB) from the possibility of Government influence over programming inherent in the annual appropriation and budgetary processes of the Congress and the Executive branch.

In 1974, OTP drafted and sent to Congress legislation that would carry out this intent. The bill included provisions to insulate public broadcasting from the annual appropriation and budgetary processes of the Federal Government; encourage continued contributions from private sources through a matching grant system; and require that a substantial portion of the Federal appropriations be distributed directly to local stations.

Reintroduced in 1975, the bill provided for a five-year authorization and appropriation for Fiscal Years 1976-80, whereby each \$2.50 of non-Federal contributions would be matched by \$1.00 in Federal funds, subject to a maximum permissible appropriation for each fiscal year, beginning at \$70 million in 1976 and reaching \$100 million in 1980. The legislation also permitted CPB to support the use and development of new communications technologies, such as satellites and cable, for the distribution of educational television programming. The bill, absent the appropriations language, was signed into law by President Ford on December 31, 1975.

2. FAIRNESS DOCTRINE AND RADIO REGULATIONS

Limitations on the number of channels available for over-the-air broadcasting has led to a unique application of the First Amendment to the broadcast medium of expression: those who control broadcast outlets are required to inform their viewers of contrasting points of view on controversial issues of public importance. This "fairness" obligation is enforced by the FCC on a case-by-case basis, with the result that the Government may become the arbiter of the programming and journalistic judgments of broadcasters. In a society founded on principles of freedom of expression, this process represents a

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GOVERNMENT

troublesome intrusion by Government into the journalistic function.

Recognizing that the Fairness Doctrine (or some similar mechanism) may be necessary because of the dearth of available broadcast outlets, OTP recommended that it be enforced in a way that minimizes detailed governmental supervision of program content. OTP proposed, in its license renewal legislation (S. 1589), that the Fairness Doctrine be enforced through a review of a broadcaster's overall performance at license renewal time, rather than in the present case-by-case fashion. This bill was introduced, but not adopted, in the 93rd Congress.

In continuing to explore various alternatives for resolving Fairness Doctrine problems, OTP is considering legislation to establish an experimental program for the modification of the Fairness Doctrine and other program content regulations for radio stations located in the 10 top broadcast markets. Arguments of frequency scarcity which justified existing program content requirements, as a practical matter, no longer apply in the larger radio markets. The significant number of radio outlets available to the public makes reasonable a reinstitution and reaffirmation of traditional First Amendment concepts.

3. VHF DROP-INS

In December 1975, OTP filed comments with the Federal Communications Commission in Docket 20418, an inquiry into the feasibility of adding additional VHF television assignments to the Commission's allocation table. This Docket was initiated in response to OTP studies which concluded that the existing criteria for assignment of VHF channels were overly conservative and failed to take ad-

vantage of available engineering techniques which would permit a substantial increase in the number of new VHF channels in the top 100 television markets. Specifically, OTP recommended that the Commission require either precise frequency offset or synchronous frequency control for all VHF-TV stations; that the principal city contour requirement for signal level be eliminated; that present maximum to minimum ratios for transmitting antenna be increased; that the Commission abjure consideration of the economic viability of a "drop-in" and make that an entrepreneurial judgment rather than a regulatory one; and finally that a spectrum engineering approach based upon a spectrum interference ratio be substituted for the existing separation criteria.

4. ADDITIONAL SERVICES FOR TELEVISION

An OTP-commissioned study, completed by the Denver Research Institute in December 1975, assessed the feasibility of providing additional services via broadcast television. These services include captioning for the deaf, multichannel sound for stereo music and multi-lingual telecasts, and a variety of information services delivered in alphanumeric format on the screen (e.g., stock market reports, news headlines, sports scores). The Denver Research Institute found the implementation of some of these services to be technically and economically feasible. These findings are relevant to the FCC's disposition of a petition by the Public Broadcasting Service requesting authorization to provide captioning services. The results of the study were released and forwarded to the FCC in February of 1976.

CHAPTER II.

GOVERNMENT COMMUNICATIONS

The Federal Government is one of the world's largest users of telecommunications. This use includes a vast array of leased and publicly owned terrestrial and satellite systems employed for national defense and the administration and operation of day-to-day Government functions. The Government's expenditure in the procurement and operation of communications-electronics and telecommunications services is estimated to be over \$10 billion annually. In addition, the Government devotes considerable funds and resources to the development of specialized research leading toward the technical improvement and qualitative expansion of existing and planned systems.

The Office of Telecommunications Policy is the primary coordinating mechanism for the establishment of national policies with regard to the Federal Government's use and procurement of telecommunications equipment and services. With the establishment of the "Government Communications Planning Program" through the issuance of OTP Circular 12 in late 1973, OTP formalized a systematic review procedure whereby it could carry out its mission of identifying areas of duplication, overlap and inefficiency in competing governmental communications systems. This review remains the essential underpinning of OTP efforts in this area.

The Director of the Office of Telecommunications Policy also functions as the principal advisor to the President on telecommunications matters. An area of current concern involves the Government's extensive involvement in the acquisition, storage and transmission of computerized and personally identifiable information. This rapidly expanding role in the processing of information has created the potential for abuse of individual rights to informational privacy. OTP has played a significant role in the development of a useful dialogue in this area and will continue its substantial efforts to define areas of potential abuse and recommend alternative methodologies.

Consistent with its role as coordinator of Government communications programs, OTP is responsible for the management of the Government's communications programs in times of National Emergency, and for assuring that all existing systems are capable of meeting the requirements for emergency use. Related to this responsibility is OTP's involvement in the establishment of a National Government Operated Radio Warning System using the National Weather Service VHF/FM forecasting and warning network for communicating attack or disaster warnings directly to the home.

Finally, as a leader in the use of telecommunications for a wide variety of activities ranging from military command and control, to educational and health services delivery, the Federal Government provides substantial technical and financial assistance to state and local governments for the purpose of improving their telecommunications capabilities. Although OTP is not directly involved with the dispensing of funds and the allocation of resources, it retains overall coordination authority in the operation of Federal-state assistance programs.

A. GOVERNMENT COMMUNICATIONS PLANNING PROGRAM

The underlying objective of the Government Communications Planning Program is to encourage each department and agency to undertake more explicitly documented long-term planning for its use of communications and to disclose its plans for interagency coordination at the earliest feasible time. Specifically, this continuing program seeks: (1) identification of all communications activities and

resources of the Federal Government; (2) determination of needs for effective information exchange among the various departments and agencies; (3) promotion of economy in the Government's use of communications through sharing of facilities, elimination of duplication, and effective use of commercial services; and (4) facilitation of greater use of telecommunications to improve productivity and to enhance coordination of Federal Government activities.

Under Circular 12, all appropriate Federal departments and agencies were assigned to one or more mission area planning groups according to their particular responsibilities. The mission areas included: Environment, Law Enforcement, National Security and Transportation. A lead agency was designated for each group to assure that specific coordination procedures for the group were established and enforced.

Interagency coordination continues to be accomplished under the planning program in two phases: First, the agencies most directly involved in a particular mission area review and coordinate individual plans for the communications systems designed to support those missions. Administrative and other communications systems not specifically aimed at one of the four mission areas are coordinated by the General Services Administration. The second phase of coordination begins when the initial review is completed by the mission area planning group and forwarded to OTP for coordination across the entire range of mission areas.

In accordance with OTP Circular 12, the initial set of annual summary plans submitted by the mission area groups and the GSA was received in late 1974. This summary was designed specifically to develop an initial inventory of Federal Government telecommunications systems. OTP devoted considerable resources to the analysis of this first report and issued a private contract for the development of a Data Base which could facilitate the assembly of inventory data into a coherent, standardized description and format.

The second set of summary plans was received by OTP in late 1975. Whereas the first plans were inventory oriented, the second submission was aimed

at an individual effort by each involved agency to review the results of the system inventory and to identify problem areas which might arise due to duplication, overlapping, technical incompatibility or other various constraints.

Throughout 1975, OTP concentrated its efforts on completing the system inventory; performing analyses of specific mission area requirements including the development of strategies for the optimization of existing combinations of systems and services; and the identification of special problems which may arise from the application and integration of new telecommunications technologies and services. Two areas of continuing concern to OTP in this review process involve the establishment of a National Warning System for voluntary home use and the development of an efficient and cost effective plan for the provision of Radio Navigation services.

1. NATIONAL WARNING SYSTEM

During 1974, OTP completed its efforts to determine the national warning system best suited for voluntary home use. In January of 1975, the Office issued a revised Warning Policy which designated the National Weather Service VHF/FM forecasting and warning system as the sole Government-operated radio system for communicating attack or disaster warnings directly to the general public in their homes. The policy statement also reaffirmed OTP's view that the acquisition and use of any home warning receiver should be a voluntary decision by each individual citizen who desires the service. As the Weather Radio System was already operational in many communities, the level of Federal investment necessary to provide nationwide coverage was projected as being considerably less than that required by even the most limited utilization of other proposed systems.

Utilizing the mechanism provided by the National Warning System Steering Group, OTP established procedures in 1975 to allow the newly created system to provide national attack warnings

as well as natural disaster alerts; to broaden the participation of commercial broadcasters in the issuance of warnings; and to provide for use of civil defense sirens in nondefense warning situations. Coordination and liaison functions with the National Oceanic and Atmospheric Administration, Department of Commerce and various other Government agencies will continue throughout 1976 in an effort to accelerate the implementation of this vital service throughout the Continental United States.

2. RADIO NAVIGATION SYSTEMS

OTP has been examining the overall efficiency and compatibility of Government-sponsored navigation systems since early in 1972. The initial results of this examination were manifested in the Coastal Confluence Navigation Decision of 1973 in which one obsolete system was scheduled for phase-out and a proposed system which would have duplicated already existing capabilities was cancelled in favor of two existing complimentary systems.

In continuance of its efforts in this area, OTP commissioned a study of the entire range of navigations services and systems currently supported by the Government. The results of the study performed by the Computer Science Corporation were released in February of 1975. Essentially the study revealed that over 75 separate and distinct navigation systems were currently in operation or in the planning stages. It further suggested that this number could be reduced to a range of between 12 and 35 systems over a period of twenty years with savings accruing to the Government in the vicinity of 40 percent. During 1976, OTP, in coordination with the Department of Transportation Navigation Working Group, will begin work leading to recommendations for the consolidation of navigation programs and the development of a time-phased navigation system planning model which can be used as a means for top level management to better assess the economic impacts of policy decisions in long-range navigation planning.

B. PROCUREMENT POLICY FOR GOVERNMENT COMMUNICATIONS

In June 1974, OTP issued an elaboration of the long-standing national policy of relying on private enterprise to serve Federal needs. While this policy had generally been followed in the area of telecommunications, OTP felt that the policy directives were ambiguous and subject to varying interpretations when applied to the highly specialized and dynamically changing field of telecommunications. In the absence of specific guidance, agencies had been free to choose between purchase or lease of telecommunications facilities and direct purchase of telecommunications services.

Under OTP Circular 13, a Government-wide policy has been established for telecommunications which favors the direct purchase of service and which shifts much of the burden of system design, engineering, management, operation, maintenance and logistical support to the private sector. Under this policy, the Federal Government will serve as the provider rather than as the user of telecommunications facilities only if the needed commercial service is unavailable at the time it is needed, or is inadequate from either a technical or operational standpoint, or is significantly more costly.

In 1975, OTP continued its oversight role in the monitoring of individual agency compliance with the policy guidance contained in Circular 13. Specific activities included:

- Commissioning a comprehensive analysis of procurement practices of the Federal Government as they relate to communications services and facilities. This work will contribute to the development of recommendations for change, as appropriate, to stimulate and encourage increased competition within the private sector. The results of this study will be made available during 1976.

- The establishment of new budget submission guidelines separating Automatic Data Processing and Telecommunications as distinct line items.

- The initiation of an extension of Circular 13 policy guidelines to the procurement of international telecommunications facilities and services.

- The development of preliminary discussions focusing on commercial alternatives for existing successful Government-sponsored experimental programs such as the ATS-6 communication satellite program. In this regard, the Interagency Committee on Communications Satellite Applications has met several times during 1975 in an attempt to identify Federal requirements that could benefit from a Public Service Satellite Consortium approach.

C. COMPUTER COMMUNICATIONS AND PRIVACY ISSUES

Computer communications or teleprocessing is a phenomenon that has emerged from the joining of computer and communications technology and the burgeoning demand for information exchange and processing. The interconnection of user terminals and computers through communications technology provides remote access to computer capacity and stored data, as well as communication between terminal users.

A primary manifestation of the growing trend within Government toward teleprocessing concepts is the potential threat that such communications systems pose to individual rights to informational privacy. In February of 1974, the Executive branch expressed its concern for this problem by creating the Domestic Council Committee on the Right of Privacy. The Director of OTP is a member of this committee and a significant amount of the agency effort in the privacy area has been in support of the committee's activities.

During 1975, OTP made public the results of two studies concerned with privacy issues. The first, entitled "Legal Protections of Privacy" evaluates the

existing statutory protections for individual privacy, and develops suggestions for the strengthening of these protections. The second study was developed in response to OTP's growing concern with the Federal Government's involvement in Electronic Funds Transfer systems and applications. Entitled "Value Choices in Electronics Fund Transfer Policy," the study is an examination of the social implications of EFT, and is particularly innovative in its treatment of the noneconomic effects of EFT, particularly those involving individual privacy.

OTP became directly involved with the Department of Treasury and with the Attorney General during 1975 relative to the possible negative effect that various proposed communications applications might have on the preservation of individual privacy concerns. The Treasury Department proposed regulations early in the year which would have allowed that department to utilize the facilities of the Federal Reserve System in the issuance of recurring payments by means other than checks.

OTP made recommendations that the United States Government not assume an early involvement in EFT systems since such an operational role could conceivably hamper the orderly development of EFT in the private sector and at the same time lead to various problems associated with Government access to and control of individual financial information. Upon review of the issues surrounding the implementation of a Government-operated EFT system, a decision was made to significantly curtail the scope of the proposed program pending further study in the area.

In 1974, the FBI proposed the addition of a message switching capability to the National Crime Information Center (NCIC). When this proposal was first announced, OTP recommended extreme caution based on two specific points: (1) that the proposed expansion of the system's capabilities was an improper Federal intrusion into a state concern and (2) that a centralized and Federally-controlled telecommunications system, carrying sensitive state and local law enforcement information, could pose serious threats to individual privacy unless adequate safeguards were developed limiting both the content

of the law enforcement files and those who might have access to them. OTP continued to press these concerns during 1975, as did several other agencies and various members of Congress. Late in 1975, the Attorney General announced that implementation of the FBI proposal would be deferred until Congress had the opportunity to address more fully the issues which had been raised.

During 1975, OTP continued its initiatives related to privacy issues in cable television, nonverbal communications, and participant monitoring of telephone conversations. Specifically, these initiatives include:

- The drafting of legislation which would extend to non-verbal communications such as telex, telegraph and computer interconnection, the same safeguards that presently exist with regard to verbal communications.

- The submission of cable television legislation which includes a list of safeguards that would preclude the unauthorized monitoring of program selection and related material regarding individual cable subscribers.

- The examination of participant monitoring techniques employed by Federal agencies, i.e., a situation wherein one of the parties to a conversation records that conversation, or allows a third party to record it. As a result of this effort, OTP has developed the position that in most cases, Federal agencies should not engage in participant monitoring unless all parties to a conversation have been notified and have agreed to such monitoring. The Office has begun work on the establishment of guidelines implementing this policy within the Executive branch.

D. FEDERAL-STATE COMMUNICATIONS

One of OTP's assigned responsibilities is the coordination of Federal assistance to state and local governments in telecommunications. OTP's objectives in this area have been: (1) to eliminate duplication in the development of demonstration pro-

grams; (2) to assure that conflicting requirements of different Federal programs do not inhibit the efficient development of state and local government telecommunications systems; (3) to preclude the emergence of an undesirable degree of operational or technical control by Federal agencies over state and local government telecommunications systems; and (4) to encourage the delivery of public services, especially emergency services, by state and local governments.

During 1975, OTP continued to direct its efforts in this area toward follow-up on the OTP policy for nationwide "911." This follow-up has principally involved three activities: (1) providing further policy guidance to Federal departments and agencies managing "911" assistance programs; (2) continuing support of a "911" Information Center at the Department of Commerce; and (3) working with the Departments of Health, Education and Welfare and Transportation to establish a role for "911" services with respect to all Federal emergency medical service programs. OTP's handbook for assisting communities with planning for "911" service implementation has received wide distribution and is in its third printing by the Government Printing Office.

In response to the "Emergency Medical Service Act," P.L. 93-154, OTP has provided assistance to EMS Federal assistance agencies, HEW and DOT, and to State EMS telecommunications Planners and managers. OTP chairs the EMS Communications Interagency Work Group which is the key Federal EMS communications coordinating mechanism. In response to the EMS community, OTP developed and published "A Report on a Biomedical Telemetry Standard for Emergency Medical Communications," March 1975. In addition, the EMS Communications Group, chaired by OTP, is in the process of developing an EMS Communication Planning Guide and an EMS Communications Manual to assist state and local governments in the preparation of EMS communications plans.

In mid-1975, OTP initiated a dialogue with the National Governors Conference designed to explore ways and means for the establishment of a formal

GOVERNMENT COMMUNICATIONS

mechanism for Federal-state cooperation in telecommunications matters. Significant progress has been made in the following areas:

- A resolution was drafted and adopted by the Conference which provides for the establishment of formal lines of communications between OTP, GSA and the National Governors Conference in the development of improved and expanded telecommunications facilities for state governors.

- OTP in coordination with GSA and OMB has undertaken a comprehensive analysis of the Intergovernmental Cooperation Act of 1968 pursuant to the development of policy guidelines for the provision of various Federal telecommunications services to the state governments. It is anticipated that during 1976, action will be commenced to provide FTS telephone service and associated teleconferencing capability to the various states that desire such service.

- Preparatory work has been carried out leading to further initiatives in 1976 designed to develop an agenda for action in the resolution of various communications policy issues affecting Federal-state activities and concerns.

E. NATIONAL SECURITY AND EMERGENCY COMMUNICATIONS

As a result of rising concern over the reliability and effectiveness of national security communications, OTP substantially increased its activity in this area during 1975. Over the years, the military services have come to rely almost exclusively on commercial communications for command communications within the United States, while utilizing a mix of commercial and Government-owned facilities for international services. This structural design provides at least the potential for serious concern relative to the reliability, survivability and overall

security of domestic commercial communications systems and those international systems which are used for military communications.

OTP has the principal role and responsibility to act for the President in operating national telecommunications in times of national emergency and disaster. In the event of enemy attack or major natural disaster, damage to communications facilities will most likely reduce available capacity in the face of increasing service demands. In order to address these needs, OTP recognizes the need to be constantly aware of the ability of existing national telecommunications resources to meet emergency needs.

Emergency communications plans and capabilities must conform to three basic principles: (1) provision must be made for maximum common use of facilities for both emergency and routine operations; (2) balance must be assured between the survivability of communications systems and the durability of the facilities which they support; and (3) responsibilities must be clearly defined and delegated to insure maximum efficiency in times of emergency.

In 1975, the Office participated with other Federal agencies in the Civil Readiness Exercise, REX 75. This provided an opportunity to exercise emergency plans and test various concepts for the management of national telecommunications resources. Several actions resulted from lessons learned during REX 75 involving a reevaluation of our emergency relocation team membership, a review of the adequacy of telecommunications information in the automated damage assessment data base, and a review of the communications serving the OTP teams at their relocation sites. The latter two items will be completed in 1976.

In a continuing program of providing guidance to Federal departments and agencies, OTP worked with representatives of the National Communications System (NCS), Federal Disaster Assistance Agency (FDAA), Defense Civil Preparedness Agency (DCPA), and other agencies in the preparation of a draft Federal Response Plan for Peacetime Nuclear Emergencies. Work on that plan will continue in 1976.

INTERNATIONAL

Three tests of the Emergency Broadcast System (EBS) were conducted in 1975. These tests simulated the activation and termination of the EBS for program feed to the national radio networks and affiliated broadcast stations. Though successfully executed, the tests pinpointed the need for some changes in the system configuration. These changes will require revision of the OTP Emergency Broadcast Procedures Manual and certain Federal Communications Commission (FCC) rules and standard operating procedures. At the close of 1975, actions were underway in the National Industrial Advisory Committee and the FCC to coordinate the necessary changes. OTP will follow this effort closely in 1976 to assure acceptable resolution of any remaining problems. Testing of the EBS will continue in 1976.

In another area, OTP worked with the FCC to ensure that its Circular on restoration priorities of intercity private lines of the Federal Government and the FCC rules pertaining to intercity private lines in the private sector are in harmony. Existing differences were resolved in 1975 and revised OTP procedures on this subject will be published in 1976. The new procedures will establish a common priority system for emergency restoration of intercity private line service for both the Government and the private sector.

As part of its responsibilities for emergency preparedness, OTP continued in 1975 to participate in NATO communication planning activities. OTP provides the U.S. civil representative to NATO's Civil Communications Planning Committee and to the NATO Joint Communications-Electronics Committee.

F. NEW SERVICES DEVELOPMENT

In 1975, OTP continued two efforts which focus on specific services being developed to support Federal programs. The first effort relates to the application of current communication satellite technology; the second is targeted to the application

of communication technologies for remote interaction of two or more parties, often called "teleconferencing."

1. COMMUNICATIONS SATELLITE TECHNOLOGY PROGRAM

In the last half of 1974, OTP encouraged the development of a commercial alternative as follow-on to the ATS-6, the NASA-developed communication satellite which until mid-1975 supported several Federally-sponsored Health-Education Telecommunications experiments in remote regions of the United States. OTP takes the position that if a commercial follow-on to the NASA program can be initiated, much of the burden for developing the market and establishing an operational system for communications satellite applications can be shifted from the Government to the private sector. Since no single public service group is large enough, however, to immediately underwrite such an enterprise, OTP and the Department of Health, Education and Welfare worked together to foster the establishment of a consortium of public service users who in concert could acquire high-powered satellite services. A private satellite user consortium was established in December 1974.

This organization was formally incorporated in early 1975 as the Public Service Satellite Consortium. At present its funding comes partly in the form of a grant from HEW and NASA and partly from membership dues which have been collected from the forty or so organizations that are members. The major current focus of the PSSC is a requirements analysis aimed at developing a coherent plan for consolidating these requirements into an aggregate demand large enough to justify the needed satellite service or system.

OTP has also taken steps to form an interagency group to identify potential Federal users of satellite services and to identify possible sources of Federal support for public service satellite applications. OTP will serve as liaison between the consortium and interested Federal agencies.

This Interagency Committee on Communication Satellite Applications was formed early in 1975 and has met several times in an attempt to identify Federal requirements that would benefit from the PSSC-type of satellite service. The Committee has also served as a forum for discussion of related communications satellite issues of importance to the Federal agencies involved.

2. TELECONFERENCING

In recent years, the interrelationships of communications and transportation systems have attracted a growing body of speculation and research. As a result of the energy shortage and budget restrictions, the Federal Government has become interested in teleconferencing systems as one possible method for the conservation of energy through reductions in personnel travel. Many Federal agencies have undertaken or are considering teleconferencing research projects in furtherance of this objective.

In 1974, OTP commissioned a comprehensive study on teleconferencing. The study sought to: (1) inventory what Federal agencies are doing in the area of teleconferencing; (2) explain the state-of-the-art and analyze middle-term technological options; (3) develop an analytical framework for evaluating existing or planned activities; (4) assess existing systems; and (5) explore policy options available to OTP for future coordination of the Federal Government's programs in this area.

Based on the preliminary results of this study, OTP commissioned a follow-on effort in 1975 to conduct studies and analyses in support of the development and implementation of a coordinated Federal teleconferencing program. One task of that work is to evaluate the GSA and NASA teleconferencing experimentation in operational systems, and a second task was to investigate existing or potential near-term commercial teleconferencing services availability. OTP will disseminate the results of the study to Government agencies in the first half of 1976.

INTERNATIONAL COMMUNICATIONS

A. INTERNATIONAL FACILITIES AND PROGRAMS

1. INDUSTRY STUDY

The international communications industry has been the subject of several reviews over the years by both Executive branch agencies and Congressional committees. Existing organizational arrangements, based on type of service and type of communications technology, are largely the result of statutory policies and ad hoc regulatory decisions that have evolved over time.

In order to provide an orderly framework for future development of the industry, and as a first step in this process, OTP issued in 1973 a broad statement of objectives and policies to guide industry and Government activities in international communications. Essentially, this policy framework stressed reliance on the private sector for the provision of international telecommunications while moving to assure that negotiations between industry and international entities result in maximum benefit to both the industry and the consumer. In 1975, OTP intensified its efforts in this area through the commission of several independent studies designed to develop possible alternatives to existing industry structure/regulatory practices. Substantive parts of this work have been completed and will provide a departure point for the formulation of legislative and/or regulatory recommendations for change.

2. COMSAT LEGISLATION REVIEW

OTP prepared draft legislation to amend the Communications Satellite Act of 1962 and submit-

ted its bill to Congress in the Spring of 1974. The amendments were intended to update the Act to reflect developments which have occurred since the original legislation was enacted. The amendments do not change the basic policy premises underlying the original legislation.

The 1962 Act called for the creation of a commercial communications satellite system as part of an improved global communications network and created the Communications Satellite Corporation (COMSAT) as the chosen instrument of the United States for accomplishing the purposes of the Act. In 1962, numerous technical, operational and organizational uncertainties surrounded the establishment of COMSAT as the designated entity of the United States in the global system. These uncertainties resulted in the inclusion in the Act of several provisions which normally would not be associated with a private communications common carrier enterprise and which addressed COMSAT's ownership and the conduct of its affairs. Since COMSAT has now emerged as a relatively mature commercial common carrier, OTP believes it is appropriate to remove a number of the special provisions contained in the 1962 Act and in 1975 submitted legislation to Congress to effect this.

Essentially, the bill now pending in the Senate would accomplish the following:

- (1) Eliminate the requirement that COMSAT incorporate in the District of Columbia;
- (2) Repeal the provision calling for Presidentially-appointed and common carrier-elected directors;
- (3) Eliminate the special class of common carrier stock;
- (4) Reduce permissible common carrier shareholdings to five percent;
- (5) Permit COMSAT to issue par value stock; and
- (6) Repeal the requirement for COMSAT to obtain FCC approval prior to obtaining additional capital.

Hearings in the Senate on this legislation were scheduled for late 1975 but have been deferred at the request of the Office of Telecommunications Policy because of the similarity of certain provisions of S.1693 to the recently drafted maritime communications legislation (INMARSAT) which the OTP has forwarded to the Office of Management and Budget for review and comment.

3. INTERNATIONAL COMMUNICATIONS SATELLITES FOR MOBILE COMMUNICATIONS

a. Aeronautical Satellite Experiment

OTP issued policy guidelines for the development of a national program on satellite communications for international civil aviation operations in early 1971. After three years of international negotiation by the Department of Transportation, the Federal Aviation Administration (DOT/FAA), and the Department of State, a Memorandum of Understanding (MOU) was signed in 1974 by the DOT/FAA, the European Space Research Organization (now the European Space Agency), and the government of Canada concerning a joint program to test the use of satellites for improving air traffic control. The AEROSAT program is an experimental one designed to explore ways of using satellites to improve the cost effectiveness of oceanic enroute services, including the possibility of combining or reducing air traffic control facilities.

Consistent with the policy guidelines of the joint European/Canadian/U.S. aeronautical satellite program (AEROSAT), COMSAT General is the U.S. industrial partner and the FAA is its only customer for use of the satellite. The space segment will be jointly owned by the European Space Agency and COMSAT General, each having 47 percent, and Canada having 6 percent.

During 1975, the AEROSAT Council met four times. The issuance of a request for proposals for the principal development contract on the program

was delayed until early 1976 because of funding difficulties related to escalating costs. By the end of 1975, OTP, DOT/FAA, and DOS successfully resolved the program cost and funding problems.

b. Maritime Satellites

INMARSAT. Beginning in 1972, an international Panel of Experts (POE) from 20 major countries began considering, under the auspices of the Intergovernmental Maritime Consultative Organization (IMCO), a specialized organ of the United Nations, the possibility of establishing an international global maritime satellite communications system. The system would provide satellite communications as well as safety and radio determination services on a global basis to ships at sea.

In the Fall of 1974, the IMCO POE completed its work and wrote a report of its findings which included, inter alia, a recommendation that a new Intergovernmental Maritime Satellite Organization (INMARSAT) be created. The United States had participated in the work of the IMCO POE, but had reserved its position with respect to the Panel's report. The USG requested that a note of its reservations be included in the Panel's report; this note expressed certain reservations about the desirability of creating such an organization, particularly the necessity to do so at the time.

From January to March 1975, OTP initiated a policy of reexamining the U.S. position on this matter and played a key role in providing a forum for discussions among interested government agencies and sectors of industry regarding the desirability of U.S. participation in the proposed INMARSAT organization in preparation for an IMCO conference scheduled for April.

In April 1975, an International Conference on the Establishment of an International Maritime Satellite System was held in London, England, under the auspices of IMCO. During the Conference, the U.S. delegation established certain conditions which would have to be met prior to any U.S. agreement to membership in the proposed organization. These conditions included such requirements as a two-part agreement specifically

delineating the rights and responsibilities of designated entities and governments, the requirement that the Council be the supreme organization for practical purposes, and generally that procurement policy be competitive.

In light of the general agreement obtained on these pre-conditions, it is fair to conclude that the Conference was very successful from the point of view of the United States. International talks are continuing on the structure of the proposed organization, and OTP participated in three Intersessional Working Group Meetings in preparation for the next plenary meeting to be held in London during February of 1976. As part of its active role in the formulation of a maritime satellite policy, the Office has prepared legislation to be submitted to Congress in the near future on the nature of U.S. private sector participation in the proposed intergovernmental organization.

MARISAT. OTP continues its policy interest in the development of a maritime satellite system (MARISAT) by U.S. international common carriers, designed to meet U.S. Navy requirements between 1976 and 1979. The MARISAT program, which has a five-year design lifetime, will also provide limited commercial service for maritime users during the first three years of use. Later, when Navy use is terminated, the satellite will be capable of providing additional commercial maritime service. The first MARISAT satellite is scheduled for launch in February of 1976.

4. NORTH ATLANTIC FACILITIES PLANNING

The development of an improved process for planning and authorizing the construction of new international communications facilities is a major continuing OTP policy concern. At the invitation of European telecommunications authorities, representatives from the Federal Communications Commission and OTP met in Paris, France, in June 1975 on the first working-level session to review problem areas and exchange ideas on the whole

range of telecommunication facility planning in the North Atlantic Basin. The meeting provided an opportunity for both the Europeans and the U.S. representatives, including the U.S. carriers, to elaborate and clarify present policies and principles on the planning, development and use of international transmission facilities. OTP, together with the FCC will host a second meeting in Washington during March of 1976.

Related to its participation in the aforementioned discussions, OTP continues as an active participant in the Government's effort to develop a framework in which U.S. international communication entities and foreign counterparts can make long-range plans for facility requirements with greater assurance that regulatory authorities will grant timely approval for facilities and programs when appropriate. In December of 1975, OTP forwarded a definitive recommendation to the FCC suggesting that arbitrary allocation formulas be eliminated as a regulatory device to govern the relative amount of international traffic to be carried by cables and by satellites.

In the judgement of OTP, elimination of the proportional fill formulas would enhance natural competitive pressures between the media, contribute to an improvement in foreign telecommunications relationships, eliminate undue Government intrusion into the day-to-day business judgments of the private carriers, and create a climate leading to greater service and technological benefits for the public. The Federal Communications Commission would retain its certification authority under Section 214 of the Communications Act of 1934 to authorize construction or extension of transmission facilities.

5. PACIFIC BASIN INITIATIVES

Based on informal bilateral discussions during 1975, OTP developed a proposal for a Pacific Telecommunications Planning Conference to be held annually, in which nations in the Pacific Ocean Basin would meet to exchange views and information on telecommunications problems and to work

toward harmonization of telecommunications facilities, services and policies in that region of the world. In spite of the growing sophistication of telecommunications in the area and the growing importance of the Pacific as a trade area, there is today no international forum adequate to meet the needs of the Pacific nations for regular exchanges of data and views in the telecommunications field. The conference would be informal in nature and would be designed to encompass a wide variety of issues ranging from facilities or circuit activation discussions such as those that have occurred in the Atlantic region, to the consideration of broad social concerns such as the impact of telecommunications on individual privacy. The conference could also serve as an instrument for exploring the convening of more formalized conferences of a permanent nature. The conference is not designed to issue directives of any kind, but rather to provide a focal point and opportunity for multilateral consideration of the many complex issues posed by the rapid technological advances in telecommunications and their critical importance to modern society. Pre-conference planning and intragovernmental coordination will be conducted during early 1976 with the first conference meeting tentatively scheduled for the Fall.

6. INTERNATIONAL TRADE IN TELECOMMUNICATIONS

In August of 1975, OTP formed an Interagency Committee on International Telecommunications Trade in order to explore certain policy issues which had been brought before the House Subcommittee on Communications during hearings chaired by Congressman Torbert MacDonald in July. The Task Force members included the Department of Commerce, Department of State, Treasury Department, the Special Representative for Trade Negotiations, and observers from the Federal Communications Commission and the Office of Management and Budget.

Responding to an allegation that the United States was running a negative balance of trade in telecommunications, the committee met twice in

1975 and came to the conclusion that a negative balance did exist if electronics test sets and other consumer home electronics equipments were included within the broad area of telecommunications equipments. If the analysis were confined to only mainline common carrier communications equipment, a positive balance existed.

Notwithstanding the conclusion that there is no negative balance in the common carrier telecommunications sector, it appears that substantial work can and should be done to assure that U.S. industry is not precluded from participating fully in the world market for telecommunications equipment as broadly defined—that is to say, a market which includes common carrier equipment, home electronics and computers and other electronic equipments.

In pursuance of this objective, the Task Force has now isolated ten broad areas of concern and tasked various agencies with the responsibility for developing constructive recommendations for U.S. initiatives which will lead to the enhancement of our competitive position in the area of international trade involving communications electronics. The first draft reports will be submitted for consideration by the Task Force in April of 1976.

B. INTERNATIONAL ORGANIZATION ACTIVITIES

1. UNITED NATIONS

The principal issue of OTP concern related to communications matters before the United Nations has been the use of direct broadcast satellites. The United Nations has served as the forum for debate on the issue of Direct Broadcast Satellites since 1972 when 102 nations voted for a Soviet Union-sponsored resolution by which the General Assembly considered it necessary to elaborate principles governing the use by nations of direct broadcast satellites with a view toward concluding an international convention.

The United States voted against this resolution as not necessary, pointing out that there are international legal instruments which impact on the question of direct broadcast satellites already; for example, the United Nations Charter, the Outer Space Treaty, applicable provisions of the International Telecommunication Union Convention and Radio Regulations, certain relevant principles expressed in the Universal Declaration of Human Rights, and various Resolutions of the General Assembly. Moreover, the United States has consistently supported the concept of free flow of information in the numerous discussions on the subject of DBS.

During February and March 1975, the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space met for its fourteenth session to discuss, inter alia, the elaboration of principles on direct television broadcasting via satellite. Fourteen topics were derived as a basis for drafting. Of the fourteen topics, only three resulted in a draft principle agreed to by all members of the Subcommittee. There was, however, no consensus on the remaining eleven topics and, in a number of instances, the differences were fundamental. The issue which continues to attract the most controversy and in which there remains minimal consensus is that of prior consent, that is, the concept that no nation should be allowed to engage in direct television satellite broadcasting without prior approval of the nation which may be the intentional or unintentional recipient.

In June of 1975, the Committee on the Peaceful Uses of Outer Space met in New York to examine the reports of its Technical and Legal Subcommittees. Referring to the report of the Legal Subcommittee on Direct Television Broadcasting, the Committee expressed satisfaction with the set of principles drafted by the Subcommittee and determined that further discussions should be undertaken. The next session of the Legal Subcommittee is scheduled for Geneva in 1976.

OTP, along with other interested U.S. agencies, participated in the deliberations of both the Legal Subcommittee and the Outer Space Committee during 1975. It will continue its contribution to the formulation and presentation of U.S. policy views on

direct television satellite broadcasting during the coming year.

2. INTELSAT

In 1975 the International Telecommunications Satellite Organization (INTELSAT) entered its third year of operations under the Definitive Agreements which came into force February 12, 1973. Enactment of the Definitive Agreements of INTELSAT had marked the end of a decade of development of this commercial organization. A cooperative international undertaking to establish and operate a global commercial communications satellite system, INTELSAT has now grown from 14 original Signatories to more than 90 member nations. The Definitive Agreements also marked a new role for COMSAT as the U.S. representative in INTELSAT. Under the revised rules, COMSAT no longer holds a controlling vote in the governing body and limits its role as Management Services Contractor of INTELSAT to technical and operational management of the satellite system.

In order to meet growing traffic requirements INTELSAT began deployment and operational use of new higher capacity INTELSAT IV-A satellites. The first of a series of six IV-A satellites was launched in October 1975 and successfully placed into synchronous orbit in the Atlantic Ocean Region. The IV-A satellites are an extension of the INTELSAT IV satellites and have a capacity approximately two-thirds greater than the IV series. In contrast to the IV which has 12 transponders, each IV-A has 20 transponders. The IV-A satellites achieve greater communications capacity through the use of advanced satellite design techniques employing frequency reuse through beam separation.

3. CITEL

International communications within the American hemisphere are growing in volume and importance. In recognition of the contribution that

modern communications makes to the affairs of Latin American countries, the Organization of American States (OAS) has established a regional telecommunications body, the Inter-American Telecommunications Conference (CITEL). The OAS elevated CITEL to conference status in 1971 with the objective of making it an effective organization for promoting the development of telecommunications within Latin America. CITEL provides a useful vehicle for the exchange of views on telecommunications matters of mutual concern to OAS member nations. OTP provided a delegate to the annual CITEL meeting which was held in Rio de Janeiro, Brazil, in November 1975. The Conference was attended by 13 member Administrations of the OAS, and one non-member Administration. The U.S. introduced resolutions, which were subsequently adopted calling for coordination of "Region 2" views regarding the ITU sponsored 1977 Broadcasting Satellite and Aeronautical Mobile Radio Conference and the 1979 General World Radio Administrative Conference. In late 1975 OTP also developed plans for bilateral meetings with communications authorities in Brazil, Columbia and Venezuela to be held in February 1976.

4. INTERNATIONAL TELECOMMUNICATION UNION

The International Telecommunication Union (ITU), a specialized agency of the United Nations with 148 member Administrations, provides a forum for international cooperation for the improvement and rational use of telecommunications among member nations.

a. ITU Convention and Telegraph and Telephone Regulations

In late 1975, OTP testified before the Senate Committee on Foreign Relations regarding the ra-

tification of the International Telecommunication Union Convention of 1973, Malaga-Torremolinos, Spain; the Maritime Mobile Radio Regulations, Geneva, 1974; and the Telegraph and Telephone Regulations, Geneva, 1974. The Senate subsequently ratified the Convention and the Regulations by unanimous vote.

b. Reorganization and Recodifying the International Radio Regulations

Over the years, the International Radio Regulations have grown into an unwieldy thousand-page book badly in need of reorganization and recodification. In 1974, the ITU announced plans to completely overhaul the Regulations in time for the 1979 World General Administrative Radio Conference. A special group of experts will be convened by the ITU in early 1976 to do the actual work of reorganizing and recodifying the text of the Regulations. In July 1974, OTP designated a team of U.S. experts to start developing U.S. proposals for the 1976 meeting. Under the chairmanship of the OTP, the group completed a rearrangement of the Regulations and met informally in November 1975 with representatives of France, the United Kingdom, and Norway to resolve any major issues. The rearrangement proposal by the United States was generally accepted.

c. International Consultative Committee on Telegraph and Telephone

OTP maintains general oversight of the activities of the Study Groups of the International Consultative Committee on Telegraph and Telephone (CCITT) and participates in appropriate CCITT activities. OTP has participated in the 1975 Geneva Meeting of the World Plan Committee, and the Regional Plan Committees which are carried out under the auspices of the CCITT. In October 1975, OTP instructed the FCC and industry to develop appropriate policy guidance relating to the limits of U.S. Government financial responsibility in the

maritime communications field, including the accounting provisions pertaining thereto.

d. Maritime World Administrative Radio Conference/1974

The ITU Maritime World Administrative Radio Conference (MWARC) was held in Geneva, April 22–June 7, 1974. The purpose of the Conference was to revise and update the International Radio Regulation applicable to the maritime mobile service. Delegations from 104 countries and from 10 international organizations were in attendance. The MWARC considered approximately 2,500 proposals.

Except for adoption of a Radio Telephone Allotment Plan and related procedures which are incompatible with U.S. operational interests, the outcome of the Maritime WARC was consistent with U.S. proposals and interests. In the U.S. view, the Allotment Plan was determined on the basis of political considerations rather than as a result of sound technical and operational considerations. The MWARC followed voting patterns in this matter which had emerged at the 1973 ITU Plenipotentiary Conference. As a result, the United States entered a reservation on this issue in the form of a protocol to the Final Acts to protect its maritime radio telephone interests.

Significant accomplishments resulting from the MWARC related to maritime radio-telegraphy (e.g., direct printing and digital selective calling systems), maritime distress and safety communications and calling procedures were adopted for worldwide use and provisions were made for the orderly introduction of maritime satellite operations. The Final Acts of the Maritime WARC have been ratified by the Senate and went into effect on January 11, 1976. The MWARC also elected a new five-member International Frequency Registration Board (IFRB).

e. Broadcasting Satellite Conference/1977

In the latter part of 1974, the Department of

State requested OTP to furnish comments on the date, duration, and agenda for an ITU World Administrative Radio Conference to plan for the Broadcasting Satellite Service (11.7–12.2 GHz in Regions 2 and 3—the Americas and Asia; and 11.7–12.5 GHz in Region 1—Europe and Africa). The Administrative Council of the ITU has agreed that the length of the Conference will be four weeks beginning mid-January 1977. The agenda will include the necessity for developing sharing criteria for the respective radio services involved (fixed, mobile, broadcasting, and fixed satellite); procedures to govern the use of these bands by the Broadcasting Satellite Service and other involved radio services; and the possibility of planning the bands in accordance with Resolution No. SPA2-2 of the ITU 1971 WARC, which coordinates the orbital positioning for satellites. In the meantime, a working group established by OTP is continuing to develop U.S. proposals and position papers for use at the Broadcasting Satellite Conference. The United States is concerned that this conference, in order to satisfy its unique requirements, may establish a precedent by attempting to plan the allotment of geosynchronous orbit positions to nations or groups of nations. Such a precedent could generate serious difficulty at the General WARC 1979 with respect to other satellite services.

f. Aeronautical Mobile Conference/1977

The Administrative Council of the ITU meeting in June 1975 agreed that a World Administrative Radio Conference should be held in March 1977 to revise the high frequency plan contained in Appendix 27 of the Radio Regulations based on the introduction of single side-band operations. This plan dominates the world air route high-frequency communications systems. Additionally, the Conference will be considering expansion of these routes, e.g., expansion into the Peoples Republic of China. This conference will also review the recommendations for reorganization of the Radio Regulations, referred to in b. above. Anticipating this Conference, the OTP in 1973 established a group to prepare the

U.S. position. That group, chaired by the FAA, has nearly completed its work and is now undertaking extensive coordination through the International Civil Aeronautics Organization (ICAO). The economics associated with the conversion from double to single side-band will present technical and operational problems and will necessitate a comprehensive transition plan.

**g. World General Administrative
Radio Conference/1979**

In 1974, the ITU reaffirmed its intention to convene a World General Administrative Radio Conference in 1979 to review and update the entire International Radio Regulations. These Regulations establish the basic technical rules, operating procedures, and radio frequency allocations (division

of frequency spectrum by radio services) essential to the smooth flow of the world's telecommunications. In the United States, the Regulations have treaty status, requiring Senate ratification. The Regulations which result from the 1979 Conference will set the direction for telecommunications until the year 2000. Therefore, although still three years away, the magnitude and importance of this Conference necessitate extensive preparatory work and a long lead time. OTP, in conjunction with the FCC and the Department of State, has organized a large-scale preparatory effort. The preparation is being conducted through interagency committees and working groups comprised of personnel skilled in the various facets of frequency management and spectrum allocation. It is anticipated that the first report of national requirements will be published in mid-1976.

CHAPTER IV.

SPECTRUM MANAGEMENT

A. BACKGROUND

Regulation of the Government's use of the frequency spectrum is among the principal functions assigned specifically to the President by the Communications Act of 1934. Presidential duties in this regard have been assigned to the Director of the Office of Telecommunications Policy by Reorganization Plan No. 1 of 1970 and Executive Order 11556. This spectrum management function, because of its great importance to national and international radio applications and national security, is a primary mission of OTP.

What is the radio spectrum and why is its effective management important nationally? The radio spectrum, in non-technical terms, is a valuable, highly contested and non-expandable natural resource which is a necessary medium for the transmissions of all spectrum dependent communications electronic equipment. Like certain other resources—air and water—it is susceptible to over-subscription and pollution, and is dependent upon careful management for its efficient utilization.

Until recently, advances in technology have prevented serious spectrum overcrowding and interference. This situation has reversed, however, and technology is now creating demands for spectrum space faster than it is finding methods to conserve it. Thus, careful management and regulation of this increasingly congested resource is mandatory.

Because of the limited nature of the spectrum and the intense competition for its use, it is regulated both nationally and internationally. International regulation of this radio resource stems from the activities of the International Telecommunication Union (ITU), composed of 148 member nations.

National regulation of spectrum use stems from the Communications Act of 1934 which established the Federal Communications Commission (FCC) as the regulatory entity in the non-Government sector, and gave to the President the responsibility of fre-

quency assignments for Government activities. As mentioned above, this Presidential responsibility was delegated to OTP in 1970.

This twin management of national use of the radio spectrum is accomplished on a day-to-day basis through close contact by OTP with FCC and Federal agency staffs, and on a more formal basis through the Interdepartment Radio Advisory Committee (IRAC) and its associated subcommittees—Spectrum Planning Subcommittee (SPS), Frequency Assignment Subcommittee (FAS), and Technical Subcommittee (TSC).

B. POLICY DEVELOPMENT

The major continuing activity of OTP in the spectrum management field includes the development of policies and the implementation of programs which ensure that all legitimate Government spectrum needs can be met. Directly impacting on this effort is the day-to-day requirement for OTP, with the support of the Department of Commerce, to operationally manage an increasing demand for limited spectrum space. This constant pressure for more spectrum use, reflected in requests of four to six thousand frequency assignment actions monthly, continues to drive spectrum policy initiatives by OTP. Activities during 1975 designed to deal with this problem included:

- Continued efforts, in coordination with the FCC, to increase Government/non-Government sharing of spectrum resources including initiation of the development of alternate allocation tables to meet foreseeable national requirements to the year 2000.

- Special analyses to assess and remedy spectrum congestion in critical spectrum regions, particularly in major Federal Government radar and radio navi-

gation bands, each involving many major communications-electronics systems.

- Expanded and improved procedures contained in OTP Circular 11 requiring early compatibility analysis of telecommunications systems to include a "try-before-buy" concept, involving the testing of a pilot system in its real radio environment before large scale purchases.

- Experiments to evaluate demand forecast techniques for determining long-range spectrum requirements, and in cooperation with OMB, continued efforts to provide a more comprehensive review of agency and department budget items requiring spectrum support, with the aim of ensuring spectrum availability for major telecommunications systems prior to providing budgetary support.

- Continued development of an environmental impact concept regarding the use of the radio spectrum, and the maintenance of a leadership role in the multi-agency program of research designed to assess the potential effects of nonionizing electromagnetic radiations on man and his environment.

- Participation in a number of international meetings and conferences primarily in preparation for the ITU 1979 General World Administrative Radio Conference.

C. OPERATIONAL MANAGEMENT

In the operational area, efforts were undertaken during 1975 to improve existing spectrum use and continue efficient allocation and assignment of spectrum space to Federal users through:

- An analysis of data obtained in selected geographic areas within the U.S., with a van-mounted spectrum measurement facility, to determine the extent and character of spectrum use by Government radar and land mobile stations in several frequency bands.

- The collection and analysis of data concerning on-the-air use of frequencies by Government radio stations in bands below 420 MHz; and on-site in-

spection of fourteen major U.S. Government radio facilities to ascertain compliance with authorized use.

- The continuation of an ongoing five-year review of frequency assignments to all Federal Government radio stations, to ensure continued need.

- The implementation of technical criteria, guidance, and methodologies for improved use of the radio spectrum including such measures as the development and promulgation of improved technical standards for Federal Government microwave systems, and the continued identification and initiation of remedial actions for correcting deficiencies in radiowave propagation data needed for satellites being designed for use in the 100-300,000 MHz range during the 1980-2000 time frame.

- Initial implementation of a five-year plan for abatement of man-made radio noise pollution, including provision of guidance and assistance to the Office of Telecommunications and other Government agencies with respect to their electromagnetic compatibility programs; development and implementation of sharing criteria for aeronautical and space radio services in frequency bands adjacent to those allocated to the Radio Astronomy Service; and the development of better tolerance and spurious emission standards for Federal radio stations.

D. PERSONNEL RESOURCES

In September 1974 the General Accounting Office (GAO) report (B159895) on management and use of radio frequency spectrum questioned the adequacy of spectrum management personnel resources. Motivated, in part by that report, but with an eye toward the 1979 ITU General World Administrative Radio Conference, OTP directed the IRAC to undertake a study of the frequency management manpower situation.

The IRAC manpower study, conducted with the full participation of the Civil Service Commission,

revealed that, of the 35 senior government frequency managers, all but 15 are expected to retire by January 1, 1979. Normally, replacements could be anticipated from the middle grade (GS 13-14) group of employees; however, over 40% of this group is also expected to retire in the same time frame.

In an effort to counter this situation, OTP with the endorsement of both the Civil Service Commission and the Office of Management and Budget, issued Circular 14 on August 21, 1975. That Circular established a comprehensive career development program for spectrum management. The departments and agencies of the Federal Government were urged by Circular No. 14 to participate in the program.

Subsequently a GAO report of October 21, 1975, entitled "Further Opportunities to Improve Radio Spectrum Management in the Federal Sector" attributed certain deficiencies in the technical areas of frequency management to an erosion in both numbers and competency of frequency management personnel. The GAO recommended that OTP and OMB, in consultation with all agencies and departments, determine and support the level of frequency management personnel and funding needed for most effective management of the spectrum.

While recognizing the rigorous fiscal and manpower constraints throughout the Government, OTP emphasized to all agencies that the evidence of failure in spectrum management is often subtle and that the satisfaction of operational frequency requirements, rapid resolution of interference problems, and planning for compatible operation of new systems are essential to the full realization of investments in electronic hardware and agency mission accomplishment. Management of the spectrum increases in complexity as both the population of electronics devices grows and as the technology becomes more sophisticated. In the competition for spectrum space, the organization or nation which undertakes a positive investment in competent frequency management staffs will reap benefits which will undoubtedly be at the expense of those who fail to do so.

In furtherance of the OTP Spectrum Manage-

ment Career Development Program, all agencies and departments have advised OTP of current and projected professional manpower levels of frequency management personnel for Fiscal Years 1977 through 1979.

E. ELECTROMAGNETIC COMPATIBILITY ANALYSIS

In late 1972 OTP developed and promulgated a set of management procedures (OTP Circular 11) which requires all Government agencies to submit their frequency plans well in advance of procuring equipment. The objective of Circular 11 is to assure spectrum availability for telecommunications systems prior to the commitment of public funds. (The Federal Government spends approximately \$10 billion per year for communication-electronic items.) During 1975, Federal agencies gained considerable experience in the application of this new management procedure and the benefits of the program have become apparent.

In June 1974 OMB Circular A-11, which provides guidance to Federal budget planners, was modified so that "consultation with the Office of Telecommunications Policy is required when (budgetary) estimates involve development or procurement of major communication-electronic systems." Over the course of the past three years, OTP has completed a detailed technical review of 84 proposals for various types of communication-electronic systems which are dependent upon use of the spectrum.

One example of how this new review process has been put to use is the Government's present and planned use of the 7/8 GHz portion of the radio spectrum, where existing investment is estimated at about \$350 million, with a potential additional investment over the next five years of \$500 million. This portion of the spectrum is currently utilized extensively for transportable microwave systems for the military, for fixed microwave systems of the FAA, and for other Government agencies. It is also being employed by the Department of Defense for

the Defense Satellite Communications System, and in the future, DOD use of this frequency band will be expanded considerably. Meteorological satellites of the Department of Commerce and earth resource satellites of the Department of Interior/NASA also are planned at 7/8 GHz.

Under OTP guidance, detailed engineering analyses of this spectrum area were initiated in 1973 and were completed in 1974 by the Department of Commerce, Office of Telecommunications (DOC/OT). The analyses indicated that unless extreme care was taken in the design and development of future systems and in the engineering of frequency assignments for current and proposed devices, harmful interference with consequent unsatisfactory results would be experienced, as well as possible loss of investment and even loss of life and property. As a result of the studies, OTP forwarded to the appropriate Federal agencies guidelines for electromagnetic compatibility which were tailored to assist the agencies with their particular problems. The Department of Defense (DOD), in coordination with OTP and other concerned agencies, conducted a series of electromagnetic compatibility tests during 1975, to determine how certain DOD systems could be operated in the 7/8 GHz band. These tests, which are estimated to cost \$1 million, confirmed the DOC/OT analyses performed for OTP.

In its initial application of its systems review procedure, OTP has given priority to the study of the electromagnetic compatibility of satellite and earth stations to each other and to other terrestrial stations. Since space systems are worldwide and once launched cannot be modified to eliminate interference, frequency engineering must be accurate and thorough before launch. In 1975 this procedure was expanded to include all major systems using frequencies above 420 MHz.

F. SIDE EFFECTS PROGRAM

OTP's efforts in the "side effects" area concern unintended effects on man and his environment

from the purposeful use of nonionizing electromagnetic radiations such as are associated with the use of telecommunications devices (e.e., radio-waves). This includes both biological and non-biological effects, e.g., on electronic systems, devices, components and materials.

Questions have been raised about potentially harmful effects on biological systems. In the interest of ensuring the compatibility of man's use of electromagnetic spectrum with his health and well-being, OTP continues to oversee a cooperative multi-agency program to assess the biological effects of nonionizing electromagnetic radiation, which it recommended in 1972. In this program, OTP coordinates the activities of the Federal agencies with responsibilities in this area (e.g., HEW, EPA, DOD, etc.). This effort involves surveillance, testing and research to determine the potential hazards to man and his environment from these radiations.

OTP placed primary emphasis on the development of procedures to assure coordination and interaction among agencies in their research and has initiated ongoing efforts to analyze programs which deal with specific program areas in order to identify shortcomings and to develop guidelines for priorities and future direction. As a continuation of these efforts, OTP sponsored a series of workshops and seminars reviewing, with the assistance of the ERMAC and participating agencies, current research efforts in selected program areas (e.g., environmental measurements and associated techniques and instrumentation; genetic/hereditary and developmental research; and nervous system and behavioral studies).

The third annual OTP report on the environmental effects of nonionizing electromagnetic radiation was released in April 1975. The fourth report will be issued in early 1976.

G. ADVISORY ORGANIZATIONS

Three advisory organizations assist OTP in conducting spectrum management activities:

EXECUTIVE ORDER 11858

• The Interdepartment Radio Advisory Committee (IRAC) composed of representatives of 18 Government agencies having major communication-electronic operations, plus a liaison representative from the Federal Communications Commission. The Committee met 23 times in 1975 and developed recommendations to OTP on numerous policy issues related to spectrum management. The associated subcommittees (Frequency Assignment, Spectrum Planning, and Technical) provide extensive assistance and support.

• The Frequency Management Advisory Council comprised of recognized authorities from industry, universities, and research organizations. The Council met five times in 1975 to review Government spectrum-related activities and to provide recom-

mendations to OTP. It completed a major study on the relationships of the U.S. with ITU. Certain results of this study have been the basis for major policy statements in the context of international policy relationships.

• The Electromagnetic Radiation Management Advisory Council comprised of experts in the fields of physical and biological sciences, engineering and medicine. This body met three times in 1975 and, with OTP, hosted workshop/seminars in specific research areas to review Government activities regarding the possible biological effects of nonionizing (radio) radiations. It also provided recommendations and suggested courses of action to OTP in its role as Government-wide program coordinator in this field.

EXECUTIVE ORDER 11556

ASSIGNING TELECOMMUNICATIONS FUNCTIONS

By virtue of the authority vested in me by section 301 of title 3 of the United States Code, and as President of the United States, and in consonance with the intention expressed in my message to the Congress transmitting Reorganization Plan No. 1 of 1970, it is hereby ordered as follows:

SECTION 1. Amended and superseded orders. Executive Orders Nos. 10705 of April 17, 1957, 11051 of September 27, 1962, 11191 of January 4, 1965, and 11490 of October 28, 1969, and the President's Memorandum of August 21, 1963, headed "Establishment of the National Communications System" (28 F.R. 9413) are amended as provided herein. Executive Orders Nos. 10695-A of January 16, 1957, 10995 of February 16, 1962, and 11084 of February 15, 1963, to the extent not heretofore made inapplicable, are hereby revoked.

SEC. 2. General functions. Subject to the authority and control of the President, the Director of the Office of Telecommunications Policy (hereinafter referred to as the Director) shall:

(a) Serve as the President's principal advisor on telecommunications.

(b) Develop and set forth plans, policies and programs with respect to telecommunications that will promote the public interest, support national security, sustain and contribute to the full development of the economy and world trade, strengthen the position and serve the best interests of the United States in negotiations with foreign nations, and promote effective and innovative use of telecommunications technology, resources, and services. Agencies shall consult with the Director to insure that their conduct of telecommunications activities is consistent with the Director's policies and standards.

(c) Assure that the executive branch views are effectively presented to the Congress and the Federal Communications Commission on telecommunications policy matters.

(d) Coordinate those interdepartmental and national activities which are conducted in preparation for U.S. participation in international telecommunications conferences and negotiations, and pro-

vide to the Secretary of State advice and assistance with respect to telecommunications in support of the Secretary's responsibilities for the conduct of foreign affairs.

(e) Coordinate the telecommunications activities of the executive branch and formulate policies and standards therefor, including but not limited to considerations of interoperability, privacy, security, spectrum use and emergency readiness.

(f) Evaluate by appropriate means, including suitable tests, the capability of existing and planned telecommunications systems to meet national security and emergency preparedness requirements, and report the results and any recommended remedial actions to the President and the National Security Council.

(g) Review telecommunications research and development, system improvement and expansion programs, and programs for the testing, operation, and use of telecommunications systems by Federal agencies. Identify competing, overlapping, duplicative or inefficient programs, and make recommendations to appropriate agency officials and to the Director of the Office of Management and Budget concerning the scope and funding of telecommunications programs.

(h) Coordinate the development of policy, plans, programs, and standards for the mobilization and use of the Nation's telecommunications resources in any emergency, and be prepared to administer such resources in any emergency under the overall policy direction and planning assumptions of the Director of the Office of Emergency Preparedness.

(i) Develop, in cooperation with the Federal Communications Commission, a comprehensive long-range plan for improved management of all electromagnetic spectrum resources.

(j) Conduct and coordinate economic, technical, and systems analyses of telecommunications policies, activities, and opportunities in support of assigned responsibilities.

(k) Conduct studies and analyses to evaluate the impact of the convergence of computer and communications technologies, and recommend needed

actions to the President and to the departments and agencies.

(l) Coordinate Federal assistance to State and local governments in the telecommunications area.

(m) Contract for studies and reports related to any aspect of his responsibilities.

SEC. 3. Frequency assignments. The functions transferred to the Director by section 1 of Reorganization Plan No. 1 of 1970 include the functions of amending, modifying, and revoking frequency assignments for radio stations belonging to and operated by the United States, or to classes thereof, which have heretofore been made or which may be made hereafter.

SEC. 4. War powers. Executive Order No. 10705 of April 17, 1957, headed "Delegating Certain Authority of the President Relating to Radio Stations and Communications", as amended, is further amended by:

(a) Substituting for subsection (a) of section 1 the following: "(a) Subject to the provisions of this order, the authority vested in the President by subsections 606(a), (c), and (d) of the Communications Act of 1934, as amended (47 U.S.C. 606(a), (c) and (d)), is delegated to the Director of the Office of Telecommunications Policy (hereinafter referred to as the Director). That authority shall be exercised under the overall policy direction of the Director of the Office of Emergency Preparedness."

(b) Substituting for the text "subsections 305(a) and 606(a)" in subsection (b) of section 1 the following: "subsection 606(a)".

SEC. 5. Foreign government radio stations. The authority to authorize a foreign government to construct and operate a radio station at the seat of government vested in the President by subsection 305(d) of the Communications Act of 1934, as amended (47 U.S.C. 305(d)), is hereby delegated to the Director. Authorization for the construction and operation of a radio station pursuant to this subsection and the assignment of a frequency for its use shall be made only upon recommendation of the Secretary of State and after consultation with the Attorney General and the Chairman of the Federal Communications Commission.

SEC. 6. Office of Emergency Preparedness.

(a) Executive Order No. 11051 of September 27, 1962, headed "Prescribing Responsibilities of the Office of Emergency Planning in the Executive Office of the President", as amended, is further amended by:

(1) Deleting subsection 301(4) and renumbering subsection 301(5) as subsection 301(4).

(2) Substituting for section 306 the following:

"SEC. 306. Emergency telecommunication. The Director shall be responsible for providing overall policy guidance to the Director of the Office of Telecommunications Policy in planning for the mobilization of the Nation's telecommunications resources in time of national emergency."

(3) Deleting section 406.

SEC. 7. Emergency preparedness. Executive Order No. 11490 of October 28, 1969, headed "Assigning emergency preparedness functions to Federal departments and agencies," as amended, is hereby further amended (1) by substituting "Policy (35 F.R. 6421)" for "Management (OEP)" in section 401(27), and (2) by substituting the number of this order for "10995" in section 1802 and in section 2002(3).

SEC. 8. National Communications System. The President's Memorandum of August 21, 1963, headed "Establishment of the National Communications System" (28 F.R. 9413), is amended by:

(a) Substituting the following for the first paragraph after the heading "Executive Office Responsibilities":

"The Director of the Office of Telecommunications Policy shall be responsible for policy direction of the development and operation of the National Communications System and shall:"

(b) Substituting the term "Director of the Office of Telecommunications Policy" for the term "Special Assistant to the President for Telecommunications" wherever it appears in said memorandum.

SEC. 9. Communications Satellite Act of 1962. Executive Order No. 11191 of January 4, 1965, headed "Providing for the Carrying Out of Certain Provisions of the Communications Satellite Act of 1962", is amended by:

(a) Substituting the following for subsection (c) of section 1:

“(c) The term ‘the Director’ means the Director of the Office of Telecommunications Policy.”, and

(b) Substituting the following for the catchline of section 2: “Director of the Office of Telecommunications Policy.”

SEC. 10. Advisory committees. As may be permitted by law, the Director shall establish such interagency advisory committees and working groups composed of representatives of interested agencies and consult with such departments and agencies as may be necessary for the most effective performance of his functions. To the extent he deems it necessary to continue the Interdependent Radio Advisory Committee, that Committee shall serve in an advisory capacity to the Director. As may be permitted, the Director also shall establish one or more telecommunications advisory committees composed of experts in the telecommunications area outside the Government.

SEC. 11. Rules and regulations. The Director shall issue such rules and regulations as may be necessary to carry out the duties and responsibilities delegated to or vested in him by this order.

SEC. 12. Agency assistance. All executive departments and agencies of the Federal Government are authorized and directed to cooperate with the Director and to furnish him such information, support and assistance, not inconsistent with law, as he may require in the performance of his duties.

SEC. 13. Functions of the Secretary of Commerce. The Secretary of Commerce shall support the Director in the performance of his functions, shall be a primary source of technical research and analysis and, operating under the policy guidance and direction of the Director, shall:

(a) Perform analysis, engineering and administrative functions, including the maintenance of necessary files and data bases, responsive to the needs of the Director in the performance of his responsibilities for the management of the radio spectrum.

(b) Conduct technical and economical research upon request to provide information and alternatives required by the Director.

(c) Conduct research and analysis on radio propagation, radio systems characteristics, and op-

erating techniques affecting the utilization of the radio spectrum in coordination with specialized, related research and analysis performed by other Federal Agencies in their areas of responsibility.

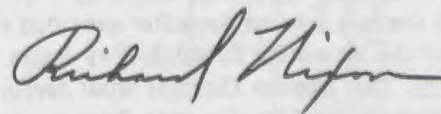
(d) Conduct research and analysis in the general field of telecommunications sciences in support of other Government agencies as required and in response to specific requests from the Director.

(e) Conduct such other activities as may be required by the Director to support him in the performance of his functions.

SEC. 14. Retention of existing authority.

(a) Nothing contained in this order shall be deemed to impair any existing authority or jurisdiction of the Federal Communications Commission. In carrying out his functions under this order, the Director shall coordinate his activities as appropriate with the Federal Communications Commission and make appropriate recommendations to it as the regulator of the private sector.

(b) Except as specifically provided herein, nothing in this order shall be deemed to derogate from any existing assignment of functions to any other department or agency or officer thereof made by statute, Executive order, or other Presidential directives.



The White House
September 4, 1970.

REORGANIZATION PLAN NO. 1 OF 1970

Prepared by the President and Transmitted to the Senate and the House of Representatives in Congress Assembled, February 9, 1970, Pursuant to the Provisions of Chapter 9 of Title 5 of the United States Code.¹

¹ Effective April 20, 1970, under the provisions of 5 U.S. C. 906.

OFFICE OF TELECOMMUNICATIONS POLICY

SECTION 1. Transfer of functions. The functions relating to assigning frequencies to radio stations belonging to and operated by the United States, or to classes thereof, conferred upon the President by the provisions of section 305(a) of the Communications Act of 1934, 47 U.S.C. 305(a), are hereby transferred to the Director of the Office of Telecommunications Policy hereinafter provided for.

SEC. 2. Establishment of Office. There is hereby established in the Executive Office of the President the Office of Telecommunications Policy, hereinafter referred to as the Office.

SEC. 3. Director and deputy. (a) There shall be at the head of the Office the Director of the Office of Telecommunications Policy, hereinafter referred to as the Director. The Director shall be appointed by the President by and with the advice and consent of the Senate and shall be compensated at the rate now or hereafter provided for Level III of the Executive Schedule Pay Rates (5 U.S.C. 5314).

(b) There shall be in the Office a Deputy Director of the Office of Telecommunications Policy who shall be appointed by the President by and with the advice and consent of the Senate and shall be compensated at the rate now or hereafter provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315). The Deputy Director shall perform such functions as the Director may from time to time prescribe and, unless the President shall designate another person to so act, shall act as Director during the absence or disability of the Director or in the event of vacancy in the office of Director.

(c) No person shall while holding office as Director or Deputy Director engage in any other business, vocation, or employment.

SEC. 4. Performance of functions of Director. (a) The Director may appoint employees necessary for the work of the Office under the classified civil service and fix their compensation in accordance with the classification laws.

(b) The Director may from time to time make such provisions as he shall deem appropriate

authorizing the performance of any function transferred to him hereunder by any other officer, or by any organizational entity or employee, of the Office.

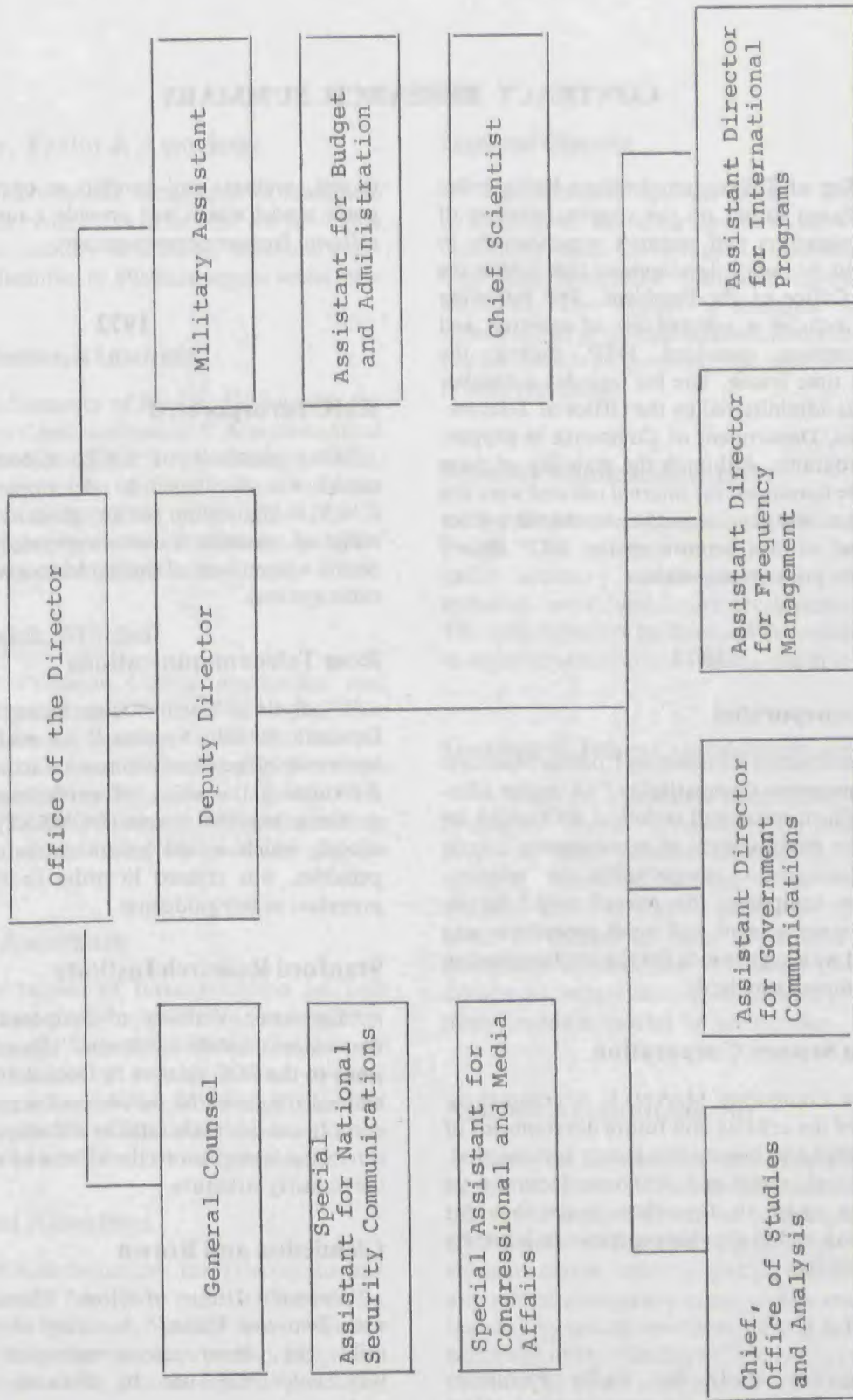
SEC. 5. Abolition of office. The office of Assistant Director of the Office of Emergency Preparedness held by the Director of Telecommunications Management under Executive Order 10995 of February 16, 1962, as amended, is abolished. The Director of the Office of Emergency Preparedness shall make such provisions as he may deem to be necessary with respect to winding up any outstanding affairs of the office abolished by the foregoing provisions of this section.

SEC. 6. Incidental transfers. (a) So much of the personnel, property, records, and unexpended balances of appropriations, allocations, and other funds employed, held, or used by, or available or to be made available to, the Office of Emergency Preparedness in connection with functions affected by the provisions of this reorganization plan as the Director of the Bureau of the Budget shall determine shall be transferred to the Office of Telecommunications Policy at such time or times as he shall direct.

(b) Such further measures and dispositions as the Director of the Bureau of the Budget shall deem to be necessary in order to effectuate the transfers provided for in subsection (a) of this section shall be carried out in such manner as he shall direct and by such agencies as he shall designate.

SEC. 7. Interim Director. The President may authorize any person who immediately prior to the effective date of this reorganization plan holds a position in the Executive Office of the President to act as Director of the Office of Telecommunications Policy until the office of Director is for the first time filled pursuant to the provisions of section 3 of this reorganization plan or by recess appointment, as the case may be. The President may authorize any person who serves in an acting capacity under the foregoing provisions of this section to receive the compensation attached to the office of Director. Such compensation, if authorized, shall be in lieu of, but not in addition to, other compensation from the United States to which such person may be entitled.

OFFICE OF TELECOMMUNICATIONS POLICY
ORGANIZATIONAL DIAGRAM



CONTRACT RESEARCH SUMMARY

The Office of Telecommunications Policy relies to a significant extent on the support services of outside contractors and research organizations in carrying out its policy development role within the Executive Office of the President. The following summary includes a selected list of research and support services provided OTP during the 1971-1975 time frame. The list includes a number of contracts administered by the Office of Telecommunications, Department of Commerce in support of OTP programs. Although the majority of these studies were developed for internal use and were not distributed to the general public, interested parties may review various reports at the OTP library facility upon prior arrangement.

1971

Versar Incorporated

"An Investigation Concerning Concise Measures of Electromagnetic Compatibility." A report identifying problem areas and technical difficulties inherent in the establishment of measurement criteria for electromagnetic compatibility in telecommunications equipment. An overall model for interference measurement and input procedures was formulated with suggestions for the implementation of EMC industry standards.

Quantum Science Corporation

"Remote Computing Markets." A comprehensive study of the existing and future development of both dedicated and remote computing systems. Relevant technical, social and economic factors were reviewed in order to formulate projections for future growth and to provide assistance in initiating policy guidelines.

Georgia Tech

"Development Study for Radio Frequency Management." An extensive programming effort

to test, evaluate and develop an operational computer model which will provide a means for more efficient frequency management.

1972

RMC Incorporated

"Cost Analysis of CATV Components." A model was developed to determine an optimal CATV configuration for any given system. A wide range of parameters was encompassed in order to permit adaptations of the model to a wide variety of cable systems.

Ross Telecommunications

"Analysis of Earth Station Siting for Proposed Domestic Satellite Systems." An evaluation of interference effects and economic factors relevant to determining the siting of earth stations for the domestic satellite system (DOMSAT). A decision model, which would permit minimum economic penalties, was created in order to formulate appropriate policy guidelines.

Stanford Research Institute

"Economic Viability of Proposed U.S. Communications Satellite Systems." Based on submissions to the FCC relative to Docket 16495, SRI examined the potential outcome of a policy of open entry to the domestic satellite industry. Special consideration was given to the effects of regulation on the industry structure.

Clendedon and Brown

"Potential Utility of Closed Circuit Television with Two-way Voice." A survey of the potential utility of closed circuit television with two-way voice for use by Federal departments and agencies.

Marklarkey, Taylor & Associates

"Pilot Projects for the Broadband Communications." A pilot program to determine the feasibility and economic viability of utilizing wideband communications facilities to alleviate urgent social problems.

Stanford Research Institute

"Optimum Sequence of Facility Deployment for Point-to-Point Communications." A mathematical model for evaluating on a cost-effective basis, various alternatives for the deployment of communications facilities. This model will assist in assuring maximum growth and efficient operation of point-to-point communications systems.

Peat, Marwick, Mitchell

"Study of Common Carrier Accounting and Depreciation Practice and Policy, Vol. I & II." This study constitutes an examination of the Uniform System of Accounts and depreciation policies and practices as applied to the telephone industry. This analysis provides a basis upon which the effects of regulation of the telephone industry may be evaluated.

Dittberner Associates

"Economic Impact of Interconnection on Toll Separations and Settlements." An investigation into the economic impact of interconnection of various customer-owned and maintained devices, on existing common carriers. A methodology for measuring the specific effects of interconnection on toll separations and settlements was developed.

Jack Faucett Associates

"Improved Rate Structures for Telecommunications." Results of this study indicate that present pricing policies limit net benefits from telecommunications. Steps toward improved pricing have been suggested which would benefit producers and consumers.

General Electric

"Teleprocessing Systems Study." Development of a computer modeling system which will assist in measuring cost/performance characteristics of large-scale integrated computer communications networks. The system is designed to identify economies of scale characteristics and to determine the future market potential (of such networks) for private enterprise.

Systems Applications, Inc.

"Land Mobile Communications and Public Policy." An in-depth survey of the land mobile radio industry which encompassed relevant technical, social, and future developmental factors. The study provides background information needed to make meaningful policy decisions in this area.

Gautney & Jones Communications, Inc.

"A Study of Alternative Methods of Emergency Broadcast System Activation/Termination." A review of three possible systems; dedicated data systems; television vertical data transmission systems; and FM station subcarrier systems that could be utilized in times of national crisis for emergency broadcasting. Technical obstacles and drawbacks were discussed along with probable implementation schedules for each system.

Systems Applications, Inc.

"Study of Competitive and Monopoly Markets in the Domestic Telecommunications Services Industry." Principal objectives of this study include: (1) Analysis of economic performance of existing common carrier industry, and (2) identification and analysis of prospective areas of new entry into the industry by special-service suppliers. An assessment was made of the viability of free market entry in the presence of direct competition from existing common carriers.

CONTRACT RESEARCH SYNOPSIS

MITRE Corporation

"Telecommunications Options for Government Use." An evaluation of existing communications technologies to determine what services could be utilized by the Government, as a whole and OTP, in particular, to improve productivity and increase efficiency in day-to-day office procedures.

Teleconsult Incorporated

"Summary of articles and background information relative to national and international telecommunications activities and policies in South America."

Charles Rivers Associates

Cable TV Demand Study

Transcom

Communications Network Awareness Study

Denver Research Institute

TV Technology Review

ARF Products

Emergency Warning Receiver Costs

Signatron

Evaluation on National Telecommunications Systems Efficiency

Franklin Institute

Develop 911 Handbook

1973

Colorado Seminary

"Broadband Communications in Rural Areas." A hybrid system was hypothesized to suggest how

broadband communications in rural areas can be economically achieved through selective and integrated application of several television distribution technologies.

University of Rochester

"Spectrum Allocation in the 2700-2900 MHz Band." Inefficient allocation of spectrum in the 2700-2900 MHz prompted review of past allocation from 1956 to present. New criteria for spectrum allocation in this band was established permitting more efficient usage.

Marshall Jamison

"Satellite Educational System Costs." An investigation of the feasibility and cost-effectiveness of utilizing satellite technology to distribute educational and medical information in three developing countries.

Massachusetts Institute of Technology

"Implications of Low-Cost International Non-Voice Communications." Two central hypotheses in the Datanet Project have received confirmation by study participants. Recommendations include the long-term evolution of a global low cost data and text communication system which could be facilitated by three modest U.S. policy measures.

Systems Applications, Inc.

"The Domestic Telecommunications Industry: Economic Behavior, Competition and Public Policy." This report provides a comprehensive review of the current state of the telecommunications industry with particular emphasis on the effects of regulation, on competition in common carrier industries. Potential adverse effects of regulation in the form of diminished competition among new communication services were examined.

MITRE Corporation

"Cable TV Financial Performance Model: Model Description and Detailed Flow Diagram." A cable television financial model was created to determine the economic ramifications of various policy alternatives. The model may be used to determine the effects of various policy measures on an individual system, a multiple system operator and the entire cable industry.

Leon Hurd

"Characteristics of Computer Information Systems: A Theoretical Construct and Case Studies." An analysis of several Government information dissemination systems indicated a general relation between data base composition information dissemination and agency operational attributes. Based on the guidelines developed in this case study, the potential operational effectiveness of various information systems can be estimated.

Associated Public-Safety Communications Officers

"An Aural Brevity Code for Public Safety Communications." This study technically analyzes usefulness of an aural brevity code to assure more accurate transmission of public safety information. A revised ten signal code was recommended as a basic national standard along with requisite hardware specifications for implementation.

Telecom Engineering Incorporated

"A Cable Communications Handbook for Local Government Officials." Based on preliminary work performed by OTP/PSD a cable handbook was compiled to guide local officials in making legal, economic and regulatory decisions regarding new and existing cable systems.

International Association of Chiefs of Police

"Implementing Regional Public Safety Communications Systems: Problems, Policies and Designs." Advances in communications technology has had a significant impact on public safety communications. This study evaluated the implications and potential effectiveness of regional situated command control facilities for integrated communications networks.

Systems Applications, Inc.

"The Use of Demand Forecasting in Spectrum Management." Demand forecasting techniques have been applied in estimating industry growth and service demands in a variety of sectors. This contract involved the successful utilization of this technique to the spectrum area resulting in improved management efforts.

Frost & Sullivan

"Telecommunication Industry Studies." A series of studies covering a wide range of topics which assess the current state-of-the-art and market potentials within the telecommunications industry.

1974

Cosmos Engineering

"A Broadband Communications System Demonstration Concept." A technical examination of two broadband communication systems; one, a small system of 10,000 subscribers; the second, a large system of 50,000 subscribers. The study provides a detailed description of the systems configurations and their technical capabilities. This report was done to assist in preparing an experimental two-way cable system.

Temple, Barker, & Sloan

"Study of Broadband Communications Network Demonstration Program. (Two-way Cable)." Focusing on two-way cable, TBS, formulated a proposed demonstration program utilizing broadband technologies. Previous experiments in this area were reviewed and interest in joint participation by other government agencies was determined.

Computer Science Corporation

"Radio Navigation Systems." An investigation into possible redundancy in the National Radio Navigation System leading to recommendations which would reduce Government expenditures and increase spectrum utilization. 3 volumes.

Stanford Research Institute

"Assessment for the Demand for Pay Television Under Current and Alternative Regulations." Current market status of pay cable TV and subscription TV was assessed. Data from existing systems was utilized to forecast future market developments. The potential impact of pay cable and subscription TV on free television markets was identified and quantified.

Colorado Seminary

"Broadband Communications in Rural Areas: National Cost Estimate and Case Studies." Using the systems described in a previous study, actual capital and operating cost estimates for integrated rural communication systems were determined.

Richard L. Deal & Associates

"Analysis of the New Equipment Project." The study provides an understanding of the technical, economic and administrative factors which must be considered whenever a department or agency in the Government proposes to use telecommunications facilities to operate on-line, real time ADP systems.

Opinion Research Corporation

Home Warning System Development.

Signatron

Evaluation of National Communication System Efficiency.

MITRE Corporation

CATV Financial Model Development.

Blanche Consultants

Satellite Traffic Forecasting Model.

Underseas Cable Engineers, Inc.

Preparation of a Submarine Cable Compendium.

System Planning Corporation

Cross-Subsidization Model Development.

Underseas Cable Engineers, Inc.

A compendium of non-U.S. Telecommunications Entities and Capabilities.

1975

Cable Sat Research

"Federal Teleconferencing Experiments." A review of past Federal teleconferencing experiments and an assessment for its future utility as a means of limiting travel and improving communications.

MITRE Corporation

"Data Transfer Study." Devise an experimental system to permit free form entry of data at one location and through utilization of computer switching capabilities, extract data at a remote location in a variety of reformatted modes.

David Middleton

"Communications Performance Characteristics in a Use Environment." Determine what methodology currently exists for predicting the performance of electromagnetic communication systems under manmade and natural environments. Recommendations for improved or alternative methods shall be made.

Richard Gabel

"Analysis of Existing and Alternative Arrangements for the U.S. International Record Communications Industry Including an Evaluation of their Impact on Overall Industry Performance." There have been no previous evaluations of the International Record Carriers (IRC) from a regulatory standpoint. This study includes a historical review of the industry, existing regulations, and recommendations for future policy concerns. Particular attention was given to new emerging industries which threaten established IRC's.

Transcom, Inc.

"An Analysis of Existing and Alternative Roles for the Communications Satellite Corporation Within the U.S. Overseas Telecommunications Industry." A historical study of Comsat's role and objectives was undertaken in order to illuminate its current structure and relationship with other market entities. Utilizing this assessment, five alternative policy options were developed which could form the basis for the long term development of Comsat.

Dr. Guy Black

"Monopoly and Antitrust Aspects of the U.S. International Telecommunications Industry." An assessment of the past and present structure of the U.S. international telecommunications industry. The study sought to isolate internal economies of scale and other characteristics of natural monopolies. Given a definition of the current industry

structure, recommendations for specific initiatives could be made to assume beneficial regulatory policies.

Professor Kent Greenawalt, Columbia Law School

"Legal Protections of Privacy." An evaluation of the existing statutory protections related to individual privacy with recommendations for strengthening these protections.

State University of New York At Stony Brook

"Value Choices in Electronic Funds Transfer Policy." Analysis of potential impact of electronic funds transfer systems (EFTS) upon individual privacy, personal autonomy, and freedom.

Cablesat Research

"Federal Teleconferencing." A previous study conducted under OTP contract indicated positive economic benefits would be accrued through the implementation of a Federal Teleconferencing Program. This contract will undertake to initiate such a program and evaluate its effectiveness.

Systems Application, Inc.

"Long Term Frequency Use Planning." An effort to refine and test existing methods for estimating frequency requirements on a long term basis.

Systems Application, Inc.

"Impact of Certain Aspects of Common Carrier Deregulation." An investigation into the economic impact of interconnection of customer-owned devices on jurisdictional based separation and rate structures.

Mead Technology Labs

"Biomedical Data Base." Maintenance and update procedures of a computerized data base, encompassing all available literature on the biological effects of radiation. The data base permits full text searching and retrieval and is widely used by other Government agencies.

Arthur D. Little, Inc.

"Competitive Procurement of Telecommunications." Focusing on competition in the acquisition of telecommunications equipment by the Federal Government, this study will review actual operating procedures and further evaluate what changes should be made to encourage increased competition.

Satellite Systems, Inc.

"Preliminary Feasibility Study Including a Discussion of a Combined Aerosat-Inmarsat Satellite." The first in a series of communication satellite studies, these findings reveal that combining Aerosat and Marisat functions is feasible and offers certain economical operations otherwise impossible. However, formidable issues concerning institutional and political problems must be overcome. Resolution of these issues will be the object of future investigations.

Richard Gabel

"Study of Telephone Separations Procedures." A study of telephone separation procedures incorporating a historical and analytical narration of their evolution. Alternatives to current problems inherent in these procedures will be devised based upon this review.

Aerospace Corporation

"Long Term Impact of Technological Innovation on Spectrum Requirements." A determination of a methodology to evaluate the impact of

technological innovations on the overall usage of the radio spectrum.

Information Consultants

"Federal Telecommunications System Data Base." Involves the design and implementation of a data base which will compile an inventory of all past and existing Federal telecommunications systems.

Underseas Cable Engineers, Inc.

Submarine Cable: Preparation of an illustrated introduction to submarine cable history and technology.

Quantum Science Corporation

Quantum Science Data Survey: Study dedicated information systems (1974-1980) utilized by U.S. companies for domestic and international service.

Massachusetts Institute of Technology

Data Communications: Study implications of technology and costs of international data communications with emphasis on worldwide packet switched systems.

Arthur D. Little, Inc.

Satellite Small Earth Terminals: Estimate U.S. domestic market, competitive technologies, and leading U.S. suppliers relating to satellite communications.

Dittberner Associates

U.S. Domestic and Foreign Trade: Study of private automatic brand exchange (PABX) markets.

Transcom

Industry Study: Analysis of present and alternative regulatory methodologies in overseas telecommunications.

1976

Temple University

Averch-Johnson/Economies of Scale: Show the effects of competition in the provision of intercity private line service as they impact on scalar economies.

Systems Planning Corporation

Cross-Subsidization: Identify a series of issues bearing on cross-subsidization using the Consumers Surplus Model.

University of Houston

An economic comparison of one-way paging and full two-way radio service.

Arthur D. Little, Inc.

Radio Paging: Study concerning the market structure of the U.S. radio paging business, Phases I and II.

Denver Research Institute

"Ancillary Signals for Television, Innovations and Implications."

Signatron

National Environmental Communications Committee (NECOM): A study on sensor communications.

ITS/Berry

Technological Tradeoffs in One-Way Paging Systems: Technical considerations in the determination of better ways for utilization of the LMR bands.

David Middleton

"Evaluation of Electromagnetic Emission from Communication Systems." An expansion of a previous contract to refine measurement techniques utilized in determining electromagnetic emissions from communication systems.

Advance Technology Systems

"Study of International Maritime Satellite Systems." The functions of the Maritime Communication System may be duplicated under the current INMARSAT program. Conflicts between the two systems will be reviewed and recommendations for their resolution proposed.

University of Baltimore/Mr. T. Barnett

"Research on Privacy Issues." Determination of what means, if any, exist by which local law enforcement officials may obtain background information on individuals within existing privacy guidelines. This study is being conducted in cooperation with DCCRP.

Oklahoma University

"Demand Analysis of International Telecommunications Services." Analysis of the demand for telecommunication services, specifically in the form of telex, telephone, telegraph (wireline technologies) in 30 countries.

Columbia University

"Executive Branch Authorities in International Telecommunications." In view of the numerous policy issues emerging in the area of international telecommunications, this study will undertake to delineate the existing statutory and administrative authority which influences policy in this area.

Maximillian Polk

"Navigation Systems Study." A two-part effort: First, an engineering analysis of the potential usage of a common wave-form in the design of navigation systems. Second, investigation into the past and future applications of navigation satellites.

Versar, Inc.

"Subsurface Transmission Systems Development." An attempt to apply the recently developed exact solution to Maxwell's equation to a pulsed, spherical, symetric, horizontal earth ionospheric model. It is anticipated that this adaptation of Maxwell's equation will assist in the creation of a new subsurface land transmission mode for communication systems now using large radio frequency space.

Arthur D. Little, Inc.

"Assessment of Long Term Telecommunications Policy Issues." Provides analytical and research support for a long-term investigation into policy issues in the telecommunications field.

Virginia Research Institute

"Telecommunications Policy Agenda—

Methodology Development." Approach paper outlining a methodology to be used in the preparation of a National Telecommunications Agenda for Action.

McKinsey & Company

"Executive Telecommunications Functions." An investigation into the current responsibilities and functions which influence telecommunications policy in the Executive Branch of the Government.

Battelle Institute

"Development of a Biological Side Effects Information System." Construction of a comprehensive information system in support of OTP's efforts to coordinate research on the biological effects of nonionizing radiation.

Computer Science Corporation

"Navigation Systems Analysis and Planning." Utilizing research data from a prior study, develop implementation plans for improved spectrum allocations through mergers and consolidation of existing navigation systems.

OTP CHRONOLOGY INDEX

The following index of OTP policy statements represents a general overview of those areas in which the Office has taken a position on a specific issue or provided an input to the existing dialogue on a given subject. The list is by no means conclusive and is intended only as a general guide to the scope of OTP activity over the five years of its existence.

1971

January 7, 1971 **Policy On
Aeronautical
Satellite
Communications**

OTP develops Administration policy concerning the use of satellite telecommunications for international civil aviation operations. It is the Government's policy to promote the use of the UHF frequency band near 1600 MHz for aeronautical satellite communications. The Department of Transportation is designated as the lead management agency for policy implementation.

May 21, 1971 **International Cable
Satellite Policy
Recommendations**

OTP furnishes FCC with the Administration's views on the policy that should guide regulation concerning U.S. carrier investment in new international cable and satellite transmission facilities. The policy recommendations envision that new facilities should be approved only where necessary to meet valid growth requirements, and only upon the condition that they will result in the lowest additional cost for comparable circuit capacity, reliability, and quality. The recommendations also note that public policy does not require a particular ratio between satellite and undersea cable circuit capacity.

October 28, 1971 **Open Entry for
Domestic Satellites**

OTP reiterates the January 19, 1970, Administration policy that domestic satellite communications be allowed to develop under a basic policy of open entry. Under this policy, any financially qualified entity which seeks to establish a domestic satellite system including common carriers would be authorized to do so subject only to antitrust considerations and essential technical coordination. Questions of technical and economic feasibility have been examined: those relating to spectrum and orbit utilization and the existence of economies of scale or other natural monopoly conditions, and several legal and procedural issues. In no area does OTP find evidence which would negate the Administration's previous policy recommendation.

November 15, 1971 **Views On FCC
Cable Television
Proposals**

The Administration's views on FCC proposals concerning cable television are as follows: (1) it is highly desirable that the "freeze" on cable television in the major markets be eliminated; (2) those matters pertaining to cable retransmission of broadcast television signals are best resolved by an administrative agency (the FCC); and (3) the implementation of the balance of the proposals should not be allowed to preclude Congressional review of the fundamental policy questions which the Government Committee is considering (these include the division of Federal and State authority over broadband cable services).

1972

April 4, 1972 **Changes in Emergency
Broadcast System**

The changes in EBS are the result of an intensive review of the system which was undertaken by OTP

at the request of the White House following a test failure on February 20, 1971, and are designed to restore public confidence in the operation of the system. The Emergency Broadcast System will be used *only* to permit the President to address the American people in extreme emergencies on short notice. After the President has spoken, State and local governments may be able to use their portions of the network to broadcast urgent information affecting the local populace. EBS will no longer be used as a backup system for warning the nation in case of enemy attack. The primary warning system to alert the public in case of a national emergency is now and will continue to be the National Warning System.

November 24, 1972

Spectrum Policy Development and Procurement of Communication-Electronic Systems

OTP, in coordination with OMB, issued OTP Circular No. 11, which established the policy that Executive agencies ensure that no funds are obligated for either the development or procurement of communication-electronics systems requiring the use of the frequency spectrum until the availability of appropriate spectrum support is assured.

As an initial step toward implementing this policy, specific procedures for obtaining spectrum support were applied to all satellite systems and to major terrestrial systems sharing the same frequency spectrum. The Spectrum Planning Subcommittee (SPS) of the Interdepartment Radio Advisory Committee was tasked to provide spectrum support recommendations to the OTP concerning all systems falling within these procedures. The Office of Telecommunications, DOC, was tasked to assist the SPS in the technical analyses required to develop such recommendations.

1973

February 26, 1973

Policy Objectives Paper on International Industry Structure

Broadly stated, our policy should be to create conditions allowing ample competition among U.S. international entities, to reduce the need for detailed regulatory intervention in industry decision-making, to simplify relationships with foreign entities, and to promote U.S. national interests. Specific proposals are: (1) there should be no forced merger of international record carriers or of international transmission facilities; (2) Federal regulation of carriers owning international transmission facilities should encourage efficient utilization of both cable and satellite technology without heavily detailed intrusion into the investment and operating decisions of the carriers; (3) international communications services other than public telephone service should be provided on a competitive basis with only such regulatory oversight as is necessary to protect from potentially anticompetitive practices; (4) the Communications Satellite Act of 1962 should be reviewed to determine what changes are needed to reflect permanent INTELSAT agreements, the maturity of COMSAT as a commercial common carrier, and the emergence of new satellite systems; and (5) there should be a thorough review of the existing authority and procedures of the Executive Branch recognizing its responsibility for cable landing licenses and satellite approvals in order to permit international common carriers to do the advance planning and make necessary commitments with foreign partners.

March 21, 1973

Nationwide Adoption of 911 Emergency Number

Local authorities are encouraged to develop and improve emergency communications by establish-

ing the "911" emergency telephone service throughout the United States. The implementation of the 911 service is essentially a local and state concern, and Federal regulations or legislation in this area are not needed. However, it is important that the same number be used nationwide. To assist in establishing the 911 service, a Federal information center has been established in the Office of Telecommunications, Department of Commerce, Washington, D.C., to provide information to State, local, and municipal governments.

August 17, 1973 **Use of 900 MHz
Band for Land
Mobile Radio
Communication**

OTP recommends an approach to maximize competition and minimize regulation in the mobile communications industry. The new portion of the radio spectrum available for mobile services would be allocated in blocks of sufficient size to encourage industry investment in new technologies and services; however, in order to preserve flexibility and to avoid initial over-commitment to any particular service or technology, OTP recommends that a substantial portion of the available spectrum be held in reserve to be allocated at a later time as warranted by consumer demand. One portion of the spectrum (approximately 40 MHz) is recommended for allocation of all mobile radio services on a competitive, non-rate regulated basis. This approach would create an environment which would accommodate numerous competitive suppliers and would obviate the need for rate regulation. It would also encourage the development of new services and technologies. Another portion of the spectrum (approximately 14 MHz) would be allocated to telephone common carriers for the provision of rate-regulated mobile telephone service and ancillary dispatch services as an extension of their regular telephone services. OTP recommends that procedures be adopted to permit the operating rights for a licensed mobile service to be transferred on a relatively *pro forma* basis in order to allow market mechanisms to provide added

flexibility in spectrum utilization. OTP also suggests that the FCC consider adopting a license fee schedule to reflect the scarcity value of spectrum.

October 1973 **Proposal for
Additional VHF
Television Allocation**

A preliminary analysis has been undertaken by OTP as to the technical suitability of existing VHF television assignment criteria. Findings are that: (1) the existing separation criteria are conservative and that there is sufficient evidence to indicate that a substantial number of additional VHF television broadcasting stations could be inserted into the major 100 markets in the continental United States without affecting those already operating and in accordance with current FCC rules; (2) techniques exist which would facilitate additional drop-ins such as reduction of present distance separation criteria, use of directional antennas, increased use of precise offset frequency control, and increased consideration of the advantages offered by terrain shielding, and possible simultaneous use of horizontal and vertical antenna polarization; and (3) as a result of the analysis, it appears feasible to introduce as many as 30 additional VHF television stations within the top 100 markets.

November 19, 1973 **Legislation
Proposed for
Modifying
Communication
and Satellite Act
of 1962**

The primary aim of the legislative proposal is to eliminate certain unnecessary statutory restrictions affecting COMSAT and to permit Executive Branch oversight with regard to the creation and implementation of additional communications satellite systems in which the U.S. Government participates pursuant to formal arrangements with foreign countries.

1974

**January 16, 1974 Cabinet
Committee
Cable Report
Submitted to
The President**

The goal of the Cabinet Committee is to insure that cable television develops as a medium of communications, open and available to all Americans, free of both excessive concentrations of private power and governmental regulation. The Committee concludes that there is a need for new policy direction for cable that enhances the opportunities presented by cable's abundance of channels and restores the primacy of the First Amendment and the competitive marketplace to cable regulation. The recommended new policy is based on the principle of separating the cable system owner's control over the medium of communications from control over the messages distributed over the medium. In recognizing that the full separation policy should be applied only when the cable industry is more developed and mature, the Committee recommends a transition period during which the proposed new cable policies gradually would be implemented. OTP submitted draft legislation regarding cable TV to the Office of Management and Budget in June 1974.

**April 30, 1974 Criticism of Proposed
Legislation Requiring
All Radios To Have
Both AM and FM
Reception**

OTP recommends against the enactment of Senate Bill 584 which would require that radios be capable of receiving both amplitude modulated (AM) and frequency modulated (FM) broadcast. Enactment of this bill would foreclose consumer choice through Government regulation. It would require the radio-buying public (particularly car radio purchasers) to buy FM capability that they would not

otherwise be willing to pay for. Such a step is not desirable at this time, nor is it required to promote the continuing growth of FM broadcasting.

**April 30, 1974 Curtailment of
Fednet Government
Data Network
Procurement**

OTP objects to GSA plans for an in-house government-designed and -operated data communications network. Further, OTP recommends that at least the communications portion of the present solicitation should be reoriented toward procurement of commercial services. Further, serious consideration should be given to the advantages of obtaining the data processing service on a similar basis. OTP raises questions about privacy in such a government-owned network of computers with large capacity and with widespread remote access.

**July 15, 1974 Procurement of
Government
Telecommunications
From the Private
Sector**

Reliance should be placed on the private sector in providing telecommunication services for the government's own use. Any proposal which puts the government in a provider role should be adopted only if commercial service is (1) not available to the user during the time needed, (2) not adequate from either a technical or operational standpoint, or (3) significantly more costly. To be "considerably more costly," the savings must exceed 10% of the cost of the commercial service. If the proposed approach involves heavy investment, rapid obsolescence, or uncertain requirements, the minimum savings should be increased to reflect these factors. All functions normally associated with providing telecommunications services should be performed by the private sector. These functions include design, engineering, system management and operation, maintenance, and logistical support.

July 16, 1974**Legislation for Long-Range Funding of Public Broadcasting Submitted**

OTP submitted legislation which provides for a full five-year appropriation for the Corporation for Public Broadcasting rather than the usual annual appropriation. This long-range funding is to provide the needed insulation of public television from Federal control over programming and program content. Innovative finance mechanisms are not alone sufficient to assure a free and independent public broadcasting system but, to achieve this goal, the local educational stations must have a voice and role in the decisions regarding public broadcast programs and operations. The legislation proposed would accomplish this by requiring that a substantial portion of the Federal appropriation be distributed directly to the local stations for use at their discretion.

August 1974**International Aeronautical Satellite Agreement Negotiated (AEROSAT)**

Pursuant to OTP's 1971 Aeronautical Satellite Policy, FAA, ESRO, and Canada conclude a Memorandum of Understanding to conduct an experimental aeronautical communications program—AEROSAT—for improved air traffic control and enroute communications service. The experiment will be carried out in the Atlantic Ocean region, and the first of two satellites is scheduled for launch in 1978.

October 22, 1974**OTP Recommends Against Extending Message-Switching Capability in Crime Information****Communications Systems**

OTP expresses concern about the potential impact of the FBI decision to add message-switching capability to the National Crime Information Center. The concern centers about the rights of individuals, particularly the right of privacy.

November 22, 1974**International Maritime Satellite Communications Policy (INMARSAT)**

OTP initiates major review of U.S. policy relating to U.S. participation in a new global international organization to provide satellite communications to ships at sea. Effort culminates in policy decision for active U.S. participation in international conferences during 1975, looking toward the creation of an International Maritime Satellite Organization (INMARSAT).

1975**January 13, 1975****VHF Weather Warning System for National Emergency Home Warning**

The National Weather Service VHF/FM Forecasting and Warning System is designated as the sole Government operating radio system for communicating attack or disaster warnings directly to the public in their homes. It was established in November of 1971 that the acquisition and use of any home warning receiver should be a voluntary decision by each citizen. At that time, it was also established that the Federal Government would be committed to pursue a program to establish a rapid, reliable warning capability and bring the cost of the

warning receiver within the reach of every American citizen. These policies are reaffirmed. Further, other systems under consideration or experimentation by the Federal Government should no longer be considered candidates for these functions. The National Weather Service System incorporates a special tone alert signal permitting home radio receivers to be activated automatically if desired by the owner.

February 19, 1975 **Consolidation of
Government
Navigation
Systems**

In continuance of its efforts in this area, OTP commissioned a study of the entire range of navigation services and systems currently supported by the Government. The results of the study performed by the Computer Science Corporation were released in February 1975. Essentially, the study revealed that over 75 separate and distinct navigation systems were currently in operation or in the planning stages. It further suggested that this number could be reduced to a range of between 12 and 35 systems over a period of twenty years with savings accruing to the Government in the vicinity of 40 percent.

February 25, 1975 **Opportunity
for Resale
and Shared
Use of Common
Carrier Services**

To the extent that present tariff restrictions prohibit or severely limit resale or shared use—more generally, brokerage—of common carrier circuits, significant public benefits are denied. Removal of these restrictions would promote the development of innovative and diversified communications services closely tailored to the need of individual users and would tend to equalize communications costs between large and small users. It would promote the more efficient utilization of common carriers and certain carrier facilities and help to eliminate price

inequities within common carrier tariff structures. Further, given the economic and functional characteristics of these intermediary activities, there is simply no need to employ the regulatory tools provided by Title II of the Communications Act. To do so would be to repeat the mistakes made in the regulatory treatment of brokerage in certain other regulated industries. At a time when computer and communications technologies are converging to make possible new and dynamic services, it would be most unfortunate to inhibit innovation through the imposition of unnecessary regulatory constraints. It would be far better for the FCC to stay its regulatory hand and permit the forces of competition and the marketplace to determine how, when and at what prices these services will be made available.

April 18, 1975 **Spectrum Policy—
Development and
Procurement of
Communication-
Electronic Systems**

OTP is expanding the procedure for obtaining frequency spectrum for communication-electronic systems. This revision of OTP Circular No. 11 (see item at November 24, 1972) brought under the scope of system review procedures all major terrestrial communication-electronic systems to be operated in the frequency spectrum above 420 MHz. This revision also recognized the possible need for and the evaluation of electromagnetic compatibility testing of new systems, i.e., try-before-buy.

April 24, 1975 **Providing the
Opportunity for
Interconnection to the
Common Carrier
Communications
System**

OTP reiterates its basic policy that competition, the cornerstone of our free enterprise system, tends by its very nature to promote innovative services

and to lower prices for consumers. In responding to Federal Communications Commission Docket 20003, OTP takes as the central concern of this proceeding: (a) possible impact of competition in the terminal equipment and private line markets on the local exchange rates for basic telephone service; and (b) the adjustments to traditional cost allocation and pricing practices that may be necessary or appropriate to minimize any adverse effects on residential ratepayers. Available evidence indicates that the impact to date on residential local exchange ratepayers has been negligible and, as to the future, OTP finds no reliable evidentiary foundation for the assessment of severe negative impact thus far postulated.

August 21, 1975

**Career
Development
Program for
Spectrum
Management**

Recognizing the need to ensure that trained experienced personnel continue to be available within the Federal Government, OTP issued OTP Circular No. 14 which implements a Government-wide career development program for spectrum management. OTP is responsible for the overall direction and implementation of this program in coordination with the Civil Service Commission and the Office of Management and Budget. The Office of Telecommunications, DOC, assists the OTP in planning, training, and support activities necessary to ensure effective career management for spectrum managers.

August 22, 1975

**Interagency
Committee on
International
Telecommunications
Trade**

OTP establishes an Interagency Committee on

International Telecommunications Trade. The purpose of the Committee is to examine the U.S. posture in telecommunications trade so as to ensure that everything feasible is being done to maintain and enhance U.S. leadership in world telecommunications markets.

September 1975

**Privacy Issues Are
Subject of Two
OTP Studies**

OTP makes public the results of two studies concerned with privacy issues. The first, entitled "Legal Protections of Privacy," evaluates the existing statutory protections for individual privacy and develops suggestions for the strengthening of these protections. The second study was developed in response to OTP's growing concern with the Federal Government's involvement in Electronic Funds Transfer systems and applications. Entitled "Value Choices in Electronic Funds Transfer Policy," the study is an examination of the social implications of EFT, and is particularly innovative in its treatment of the non-economic effects of EFT, particularly those involving individual privacy.

November 10, 1975

**Detailed Regula-
tory Reform Pro-
gram to Integrate
Competition Into
Common Carrier
Communications**

OTP testifies before Congress detailing a four-year, 8-point program of common carrier regulatory reform. The program includes changes in separations procedures, cost allocation principles, and accounting systems that can be accomplished in the main by procedural changes rather than legislative action.

OTP PROGRAM PLANNING SUMMARY, 1976-1977

The following summary includes those broad areas of policy development that will be pursued by the Office of Telecommunications Policy during the coming year. In many instances, these activities are logical progressions of programs currently underway. Although this summary reflects current OTP thinking, it is of course subject to change consistent with any overriding priorities which may arise.

I. SPECTRUM MANAGEMENT

- Develop, in coordination with the FCC, a long-term policy for the equitable sharing of spectrum use between private and public users.
- Determine long-term national spectrum demands including an assessment of the impact of new technologies on spectrum use.
- Continue preparation of the U.S. position for participation in the 1977 World Administrative Radio Conference (WARC) on Aeronautical Services.
- Continue planning efforts incidental to U.S. participation in the 1979 WARC including assessment of U.S. and world spectrum needs through the year 2000.
- Improve Federal Government management of available frequency spectrum through expanded research in the area of electromagnetic compatibility of existing and planned systems and the actual operation of such systems in a heavily subscribed spectral environment.
- Continue to coordinate major Government programs related to the potential harmful side effects of nonionizing radiation (radiowaves).

II. POLICY DEVELOPMENT AND COORDINATION

A. Government

- Formulate new policies related to the competitive acquisition of telecommunications services by the Federal Government.
- Continue the development of policy options related to Electronic Funds Transfer insofar as the Federal Government is involved.

- Continue efforts to expand and coordinate the Federal Government's use of new and innovative telecommunications systems.

- Assess the cumulative effect of the convergence of computer and communication technologies on the Federal Government's role as both user and dispenser of information.

- Formalize the process of Federal/state cooperation on telecommunications matters.

- Improve the security of U.S. domestic communication systems and improve the emergency readiness of such systems.

- In coordination with the Department of Transportation Navigation Work Group begin work leading to the consolidation of navigation programs and the development of a time-phased navigation system planning model.

B. International Telecommunications

- Develop policy alternatives related to the reform of the existing industry structure in international telecommunications.

- Develop institutional, technical and operational plans for the creation of a joint aeronautical/maritime satellite communications system, including the preparation of legislation to establish a designated entity to represent the U.S. in such a system.

- Consult with foreign nations and appropriate U.S. agencies to improve planning for the development and utilization of international telecommunications facilities in the North Atlantic Region.

- Continue to participate in Government activities related to the development of a U.S. policy position on the use of Direct Broadcast Satellites.

- Continue major initiatives with foreign telecommunications administrations to improve and enhance the exchange of perspectives on a variety of telecommunications matters, commencing with the sponsoring of a major Pacific Basin Planning Conference in 1976.

- Coordinate the activities of the Interagency Committee on International Telecommunications Trade pursuant to the forwarding of comments and recommendations to the Congress.

C. Domestic Policy

- Continue a major program of research related to a reappraisal of existing regulatory concepts in the communications common carrier industry.
 - Recommend appropriate modifications to the existing Uniform System of Accounts used by common carriers.
 - Recommend alternatives to rate base rate-of-return regulation to promote improved efficiencies in monopoly service telecommunications markets.
- Study the impact of new technologies, such as fiber optics and direct broadcast satellites, on current local-distribution industry structures including the broadcast, telephone, and cable television industries.
 - Identify means of using new technology to enhance rural telecommunications services.
 - Conduct an analysis of major study results in the mobile communications field and prepare appropriate recommendations to the FCC.

