Federal Communications Commission

29th Annual Report

For the Fiscal Year 1963

With summary and notation of
subsequent important developments

UNITED STATES GOVERNMENT PRINTING OFFICE • WASHINGTON • 1963

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C., 20402 – Price 50 cents

COMMISSIONERS

Members of the Federal Communications Commission

(As of June 30, 1963)

E. WILLIAM HENRY, *Chairman*
(Term expires June 30, 1969)

ROSEL H. HYDE
(Term expires June 30, 1966)

ROBERT T. BARTLEY
(Term expires June 30, 1965)

ROBERT E. LEE
(Term expires June 30, 1967)

FREDERICK W. FORD
(Term expires June 30, 1964)

KENNETH A. COX
(Term expires June 30, 1970)

LEE LOEVINGER
(Term expires June 30, 1968)

A list of present and past Commissioners appears on page IV.

LETTER OF TRANSMITTAL

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D.C., 20554

To the Congress of the United States:

Transmitted herewith is the 29th Annual Report of the Federal Communications Commission.

The report furnishes information required by section 4(k) of the Communications Act of 1934, as amended, with respect to the fiscal year 1963 and notes subsequent important happenings up to the time of going to press.

This updating is essential for more current appraisal of the rapid developments in space and national defense communication; progress in assisting UHF television generally and educational TV in particular; problems of AM broadcast congestion and growing pains of FM; continued stress by the Commission on public-service obligations of broadcasters; unceasing growth and attendant complications in the many nonbroadcast radio services; automation and other modernization of telegraph and telephone facilities; and the never-ending search for additional space and frequency-usage economies to accommodate new and expanding radio services.

Particular mention is made of the Commission's reorganization and other steps taken to improve and expedite its procedures; and, pursuant to general Federal directive, its establishment of fees for the filing of most types of applications.

Respectfully,

E. WILLIAM HENRY, *Chairman.*

PAST AND PRESENT COMMISSIONERS

Commissioners	*Politics*	*State*	*Terms of service*
*Eugene O. Sykes	Dem.	Miss.	July 11, 1934–Apr. 5, 1939
Chairman			July 11, 1934–Mar. 8, 1935
*Thad H. Brown	Rep.	Ohio	July 11, 1934–June 30, 1940
Paul A. Walker	Dem.	Okla.	July 11, 1934–June 30, 1953
Acting Chairman			Nov. 3, 1947–Dec. 28, 1947
Chairman			Feb. 28, 1952–Apr. 17, 1953
*Norman S. Case	Rep.	R.I.	July 11, 1934–June 30, 1945
Irvin Stewart	*Dem.*	Tex.	July 11, 1934–June 30, 1937
*George Henry Payne	Rep.	N.Y.	July 11, 1934–June 30, 1943
*Hampson Gary	Dem.	Tex.	July 11, 1934–Jan. 1, 1935
*Anning S. Prall	Dem.	N.Y.	Jan. 17, 1935–July 23, 1937
Chairman			Mar. 9, 1935–July 23, 1937
T. A. M. Craven	Dem.	D.C.	Aug. 25, 1937–June 30, 1944
*Frank R. McNinch	Dem.	N.C.	Oct. 1, 1937–Aug. 31, 1939
Chairman			Oct. 1, 1937–Aug. 31, 1939
*Frederick I. Thompson	Dem.	Ala.	Apr. 13, 1939–June 30, 1941
James Lawrence Fly	Dem.	Tex.	Sept. 1, 1939–Nov. 13, 1944
Chairman			Sept. 1, 1939–Nov. 13, 1944
*Ray C. Wakefield	Rep.	Calif.	Mar. 22, 1941–June 30, 1947
Clifford J. Durr	Dem.	Ala.	Nov. 1, 1941–June 30, 1948
Ewell K. Jett	Ind.	Md.	Feb. 15, 1944–Dec. 31, 1947
Interim Chairman			Nov. 16, 1944–Dec. 20, 1944
Paul A. Porter	Dem.	Ky.	Dec. 21, 1944–Feb. 25, 1946
Chairman			Dec. 21, 1944–Feb. 25, 1946
Charles R. Denny	Dem.	D.C.	Mar. 30, 1945–Oct. 31, 1947
Acting Chairman			Feb. 26, 1946–Dec. 3, 1946
Chairman			Dec. 4, 1946–Oct. 31, 1947
*William H. Wills	Rep.	Vt.	July 23, 1945–Mar. 6, 1946
Rosel H. Hyde	Rep.	Idaho	Apr. 17, 1946–
Chairman			Apr. 18, 1953–Apr. 18, 1954
Acting Chairman			Apr. 19, 1954–Oct. 3, 1954
Edward M. Webster	Ind.	D.C.	Apr. 10, 1947–June 30, 1956
Robert F. Jones	Rep.	Ohio	Sept. 5, 1947–Sept. 19, 1952
*Wayne Coy	Dem.	Ind.	Dec. 29, 1947–Feb. 21, 1952
Chairman			Dec. 29, 1947–Feb. 21, 1952
George E. Sterling	Rep.	Maine	Jan. 2, 1948–Sept. 30, 1954
*Frieda B. Hennock	Dem.	N.Y.	July 6, 1948–June 30, 1955
Robert T. Bartley	Dem.	Tex.	Mar. 6, 1952–
Eugene H. Merrill	Dem.	Utah	Oct. 14, 1952–Apr. 14, 1953
John C. Doerfer	Rep.	Wis.	Apr. 15, 1953–Mar. 10, 1960
Chairman			July 1, 1957–Mar. 10, 1960
Robert E. Lee	Rep.	Ill.	Oct. 6, 1953–
George C. McConnaughey	Rep.	Ohio	Oct. 4, 1954–June 30, 1957
Chairman			Oct. 4, 1954–June 30, 1957
*Richard A. Mack	Dem.	Fla.	July 7, 1955–Mar. 3, 1958
T. A. M. Craven	Dem.	Va.	July 2, 1956–Mar. 25, 1963
Frederick W. Ford	Rep.	W. Va.	Aug. 29, 1957–
Chairman			Mar. 15, 1960–Mar. 2, 1961
John S. Cross	Dem.	Ark.	May 23, 1958–Sept. 30, 1962
Charles H. King	Rep.	Mich.	July 19, 1960–Mar. 2, 1961
Newton N. Minow	Dem.	Ill.	Mar. 2, 1961–June 1, 1963
Chairman			Mar. 2, 1961–June 1, 1963
E. William Henry	Dem.	Tenn.	Oct. 2, 1962–
Chairman			*June* 2, 1963–
Kenneth A. Cox	Dem.	Wash.	Mar. 26, 1963–
Lee Loevinger	Dem.	Minn.	June 11, 1963–

*Deceased.

Table of Contents

BROADCAST SERVICES—Continued

SAFETY AND SPECIAL RADIO SERVICES 90

BROADCAST SERVICES—Continued

SAFETY AND SPECIAL RADIO SERVICES—Continued

COMMON CARRIER SERVICES ... 106

COMMON CARRIER SERVICES—Continued

FIELD ENGINEERING—Continued

Report Summary

GENERAL

With about 4 million non-Government transmitters operating on the land, on the water, and in the air, the United States is increasing steadily its world leadership in civilian radio usage.

Further, its pioneering in testing space communication holds promise of a third dimension for international telecommunication. Public interest in the broadcast aspect of space relay was attested by reports that 122 million persons in this Nation watched or listened to Major Cooper's earth-girdling feat in May of 1963.

Though astronauts have revised Jules Verne's "Around the World in 80 Days" to that many minutes, global radio communication is already extensive and almost instantaneous. The telegraph links us with practically every city and town on the globe and telephone calls can be made to about 175 foreign countries. The telephone cable system is being extended across the Pacific and to Latin American points, and its ties with Europe are being augmented.

More than 1.1 million FCC licensees now operate radio facilities in 60 classes of services. In addition, there are nearly 3.2 million authorizations to individuals to man the multitude of fixed, mobile, and portable transmitters involved.

Today's widespread and varied usage of radio extends from contributing to the national defense and safeguarding life and property in time of peace to serving other public, commercial, and individual needs. Radio provides ships and planes with safety and navigational aids. It is employed for police and fire protection, highway maintenance, forest conservation, and other State, county, and municipal operations. Radio serves land transportation by directing the movement of trains, buses, trucks, and taxicabs. Industry utilizes radio in the manufacturing processes and to speed the delivery of goods. Telephone and telegraph companies are depending more and more on radio for carrying public and business correspondence. Radio brings broadcast programs into the home. It furnishes a testing ground for new equipment and techniques. Personalized use of radio is reflected in the amateur and citizens radio services.

Following are some highlights of these and other communications matters discussed in the Commission's accompanying report.

NATIONAL DEFENSE

The year was marked by termination (effective August 5, 1963) of the CONELRAD program as no longer required by the military and by a resulting strengthening of the Emergency Broadcast System. The latter's basic purpose is to alert and inform the public in time of attack or other national emergency but, meanwhile, it serves a peacetime function in warning the public of serious storm and other weather threats.

At the present time, the system's participants are AM broadcast stations, but means are being worked out to add FM and TV stations. Already, State FM defense networks—some of them linked—are performing a supplemental service. Emergency broadcast is no longer limited to two AM channels (640 and 1240 kc); stations in the system are able to broadcast essential messages on their regular frequencies. Official access to the emergency system is now provided in all States.

A Presidential Executive order of 1963 delegated additional preparedness duties to the Commission. In substance, it requires the FCC to prepare plans and programs that will ready the communication services under its jurisdiction to deal with various emergencies which might be faced in a national crisis.

In its defense activities the Commission is assisted by a national, 9 regional, 50 State, and numerous local industry advisory committees, as well as by an FCC unit of the National Defense Executive Reserve.

SPACE COMMUNICATION

The Communications Satellite Act of 1962 provides that communications common carriers authorized by the FCC may own, in the aggregate, not more than half of the stock of the Communications Satellite Corporation, which will own and operate the U.S. portion of the eventual satellite communications system. Regulations to carry out this provision were adopted by the Commission. At the fiscal yearend it had approved 91 applications for such authorizations.

Also pursuant to the Satellite Act, the FCC must approve all issuance of stock by the corporation, except the initial issue; also its borrowing. The Commission authorized corporation borrowing for interim financing.

In further conformity with the satellite statute, the Commission proposed rules to insure competition in the procurement by the corporation and participating common carriers of equipment and services for the system, including opportunity for small business to participate.

The Commission is moving to discharge additional responsibilities with respect to authorizations for domestic satellite terminal stations, equitable access to the system by authorized carriers, and establishment of accounting regulations.

Because of its global nature, satellite communication requires international agreement on the frequencies to be used, location of ground stations, etc. The Commission set forth U.S. proposals for consideration at a 1963 Geneva conference. Meanwhile, ground stations have been or are being established in England, France, Germany, Italy, Brazil, Japan, and Canada.

Experiments with pioneer communication satellites such as "Telstar," "Relay" and "Syncom" are being continued to determine the type of system to be adopted for regular commercial service.

BROADCAST

Enforcement

The Commission continued its effort to make broadcasters more conscious of their responsibilities and to enforce their compliance with its rules and regulations. During the fiscal year, it revoked or denied renewals of licenses of 13 stations; 25 others were in revocation or renewal proceedings; 20 more were subject to monetary forfeitures; and 12 were given short-term licenses.

It had no serious problems in enforcing the political broadcast requirements but there was a sharp increase in questions concerning treatment of controversial issues and editorializing.

General Broadcast Matters

The Commission released a staff report on "Television Network Program Procurement" and, in cooperation with the Federal Trade Commission, warned broadcasters about improper use of audience ratings.

In the matter of advertising, the Commission initiated an inquiry into loud commercials, proposed rules to limit commercial continuity, and notified stations that combination advertising rates pose serious questions.

It revised the sponsorship identification rules to curb "plugola" and "payola" practices; changed (but later stayed) rules relating to AM and FM commercial station operator requirements; and authorized use of automatic logging devices.

It proposed rules to deal with serious overlap of service by commonly owned AM, FM, and TV stations; to prevent broadcast of horseracing information which might be used for illegal gambling purposes; and to clarify rules governing station operation in local public emergencies.

TV Broadcast

UHF promotion.—Pursuant to a 1962 law enacted at its request, the Commission directed that TV receivers manufactured and shipped in interstate commerce after April 30, 1964, be capable of receiving

UHF in addition to VHF channels. This is expected to spur the development of UHF service.

To further aid UHF, the Commission organized a representative "Committee for the Full Development of UHF Broadcasting" and looked to conferences with the TV networks in an effort to make programs available to UHF stations in intermixed markets. It also relaxed certain technical requirements so as to reduce the cost of operating UHF stations.

In view of the new all-channel requirement, the Commission terminated the last of its deintermixture proceedings (involving eight communities) and scheduled oral argument on petitions for reconsideration of its denial of VHF drop-ins in seven cities.

Subscription TV.—A second pay-TV trial was authorized—to KCTO, channel 2, Denver, Colo. (The first toll-TV grantee, WHCT, channel 18, Hartford, Conn., continues to operate.)

TV translators.—Limitations were placed on using TV translators to extend the service areas of regular TV stations. These facilities pick up the programs of outside TV stations and rebroadcast them locally.

CATV systems.—To protect local TV stations from the impact of community antenna (CATV) systems, the Commission proposed conditioning grants of microwave facilities for relaying TV signals to CATV systems. Its denial of an application for microwave facilities involving such impact was upheld in court. The Commission met with representatives of the CATV industry in an effort to reach accord on contemplated legislation to govern, to some degree, CATV operation (which, not being transmitted on the air, the FCC does not license).

TV option time.—The Commission determined that option time is not essential to TV networking and, accordingly, prohibited the practice.

CBS TV affiliates compensation plan.—The Commission denied reconsideration of a previous ruling that a CBS–TV network compensation plan violates the rules by hindering affiliates from taking programs from other networks, from independent program producers, or from presenting locally produced programs.

Educational TV.—The Commission is cooperating with the Department of Health, Education, and Welfare in connection with the latter's authority to make matching grants for the construction of new noncommercial educational TV stations. The Commission established a new auxiliary service to enable ETV stations to use certain nonbroadcast frequencies to simultaneously transmit different programs for reconversion by sets in local school systems. Test of air-

borne educational TV transmission to schools and colleges in Indiana resulted in its proponents petitioning for regular operation. The number of TV channels reserved for noncommercial ETV operation increased to 331, or 89 more than set aside originally.

Tall TV towers.—The Commission authorized a new world's tallest manmade structure—a 2,062-foot antenna for KEND–TV, Fargo, N. Dak. TV transmitting towers exceeding 1,000 feet above ground now total 130.

FM Broadcast

FM rules revised.—The Commission revised its FM broadcast rules to keep pace with this revitalized service. The new rules create three classes of commercial stations based on power, divide the country into three zones, establish mileage separations, and provide a table of FM channel assignments similar to the one in TV. The 80 commercial FM channels are allocated to over 2,800 communities in order to assure FM's orderly expansion. These actions permitted lifting the "freeze" on FM applications which was imposed while the rulemaking was in progress.

AM Broadcast

New AM rules proposed.—In AM, too, it was necessary to put a partial "freeze" on applications for new or changed facilities while studying AM's growth problems and needed changes in the system of making station assignments. The objectives of this proceeding are to protect the service areas of existing stations, provide a first service to as many places as possible, equitably distribute the remaining AM assignments, and look toward an eventual integrated AM–FM service (i.e., elimination of FM stations which are only adjuncts of the same owner's AM stations in the same communities). When rules are adopted, the current "freeze" can be lifted.

Clear channels.—The Commission affirmed a 1961 decision to permit an additional station on each of 13 of the 25 clear channels and reserved consideration on the question of higher power for stations on the remaining clear channels.

Pre-sunrise operation.—Rules were proposed which would permit daytime-only regional stations in communities without an unlimited-time station to begin operation at 6 a.m. or local sunrise, whichever is earlier, on a regular basis.

International Broadcast

Preparatory to proposing revised rules for international broadcast stations licensed by it, the Commission "froze" applications for such new stations or for additional broadcast hours of the three existing stations.

710-451—64——2

SAFETY AND SPECIAL RADIO SERVICES

The mushrooming of radio usage in the 40 categories of safety and special services is accompanied by a corresponding growth of enforcement problems which the Commission's new authority to impose small fines for repeated and willful violations is expected to remedy to some extent.

Violations are especially rampant in the citizens service which increased by 140,000 during the year. Not only is it the Commission's largest single service but it now operates over 1.4 million transmitters, which is more than one-third of the total for all the safety and special services. This presents a baffling policing problem, especially since many of the citizen licensees are not familiar with radio operation or are disinclined to obey the rules. Consequently, the Commission has proposed to tighten the requirements.

Considerable interest was evinced in the use of microwave frequencies in the business service to relay TV programs to CATV systems. The Commission proposed certain conditions, meanwhile "freezing" applications by those who do not agree to accept them.

A new class of station, called aeronautical multicom, was established to permit communication with aircraft for a variety of activities not covered previously in the aviation radio services.

Additional frequencies were allocated the local government service, and more are proposed for it as well as other public safety services. The Commission also provided for the use of automatic alarm signaling in the police, fire, and local government services.

A pending proceeding proposes operation of certain transmitters (mainly mobile) by unlicensed operators. Such transmitters are low power, short range, and simple to operate.

Another proposal would allow railroad microwave frequencies to be used by telegraph common carriers for the transmission of public messages in areas where other public telegraph service is not available.

The immensity of safety and special radio operations is indicated by the following yearend statistics:

Class	Authorizations	Transmitters
Citizens	446,590	1,442,932
Industrial	107,796	1,023,639
Public safety	43,168	490,877
Land transportation	14,089	388,283
Amateurs	270,838	279,878
Aviation	106,202	169,822
Marine	143,227	165,487
Total	1,131,910	3,961,018

The amateur figures include disaster and emergency services in which they participate.

COMMON CARRIER

Telephone

One of the year's major accomplishments was adoption of the "after 9" plan which enables 3-minute interstate long-distance calls to be made after 9 p.m. and before 4:30 a.m. for a dollar or less, depending upon distance. At the same time, rates for person-to-person calls up to 800 miles were increased 5 and 10 cents because such calls have not borne their proportionate share of the cost of that service.

The adoption of separation procedures in 1962 resulted in a shift of approximately $46 million from intrastate to interstate accounting. In consequence, States were able to reduce intrastate telephone rates by about $43 million on an annual basis.

The Commission denied requests that it amend its accounting rules with respect to charitable and educational contributions by carriers. These contributions are not prohibited, but cannot be charged to operating expenses.

Final decision in the private-line case (which is now in court) required the Bell System and Western Union to generally raise private-line teletypewriter rates and to lower rates for voice channels.

An initial decision in the WADS (wide-area data service) proceeding held certain aspects of the tariff discriminatory but afforded opportunity for submission of a new tariff reflecting modifications suggested by the Commission. At the same time, the Commission instituted an investigation into the lawfulness of teletypewriter exchange service (TWX) rates and consolidated it with the WADS proceeding.

Initial decisions were pending in the TELPAK (bulk voice, teletypewriter, data, etc.) and WATS (wide-area telephone service) proceedings.

The Commission terminated a proceeding involving a proposal that present developmental public air-ground radiotelephone operation be made a regular service. It concluded that the system as proposed would not provide sufficient channels to meet ultimate requirements.

At the close of calendar 1962, the telephone industry (Bell System and more than 2,800 independents) were serving over 80 million telephones, of which Bell owns about 85 percent. Direct-distance dialing was available to 36 million customers. Bell's average speed of completing long-distance calls was reduced to 53 seconds. The Bell System had more than 30.3 million message-circuit miles of microwave relay facilities, over 18.3 million in coaxial cable, and only 4.4 million remainng in other cable or open wire.

Telegraph

Western Union passed the midpoint in the largest construction and expansion program in its history.

It is completing a transcontinental microwave system which will provide more than 50 million additional telegraph channel-miles with a capacity of 2.4 million words a minute.

It completed and placed in operation an automatic digital network, with a capacity of 100 million words daily, to serve over 300 military installations.

It also inaugurated a nationwide nuclear-bomb alarm system for the Air Force. About 300 devices installed around 99 target areas are designed to instantly trigger an alarm and automatically pinpoint the location of any bomb hit on illuminated display maps at key centers.

Telex service (a teleprinter service similar to Bell's TWX) was expanded to 100 cities. A new service called Tel(T)ex permits Telex subscribers to send messages to nonsubscribers in 60 cities in this country and Canada.

Earlier in the year message telegraph rates over tielines were changed to increase annual revenue by $3 million and charges for additional words in telegrams and day and night letters were increased to add $2.3 million, and subsequent rates for messages and certain other services were upped about 10 percent to produce $16.5 million more.

Largely because of the continuing decline in telegraph message volume (due to telephone and airmail competition), Western Union filed 959 applications to discontinue or reduce service, mostly at railroad or other agency offices in small communities. Most of these were granted on showing that substitute service would be available. It has more than 16,300 company- or agency-operated offices.

A Commission investigation regarding the future of the only nationwide public message telegraph system is in progress.

International

With the opening of a new submarine telephone cable to Jamaica and thence to the Panama Canal Zone, the oversea telephone cable network continues to expand. A third transatlantic telephone cable was scheduled to start operation in the fall of 1963. The Commission has authorized a telephone cable between the Panama Canal Zone and Colombia, also a second cable between California and Hawaii to connect with the previously authorized transpacific cable to link Hawaii and Japan. Telephone cables are planned between Florida and the Virgin Islands, and between Guam and the Philippines.

International telegraph carriers continue to lease channels in telephone cables in increasing numbers, including All America Cables & Radio, Inc., which discontinued its own telegraph cables extending from the mainland United States to the Caribbean area.

The Commission interposed no objection to a supplemental agreement between Western Union and American Securities Corp. which resulted in divestment of the former's transatlantic telegraph cables to the latter.

Although international communications are handled in mounting volume over the augmented telephone cable systems, the high-frequency bands allocated for international radio communication continue to be congested and troubled by sunspot conditions. Progress is being made on an international basis to eliminate inactive radio circuits in order to provide more room for users.

FIELD ENGINEERING

With 18 monitoring stations, the Commission patrols the radio lanes for illegal operations or technical violators, furnishes bearings on ships and planes in distress, and determines areas where interference emanates. Its 24 district field engineering offices—plus 4 suboffices, 2 marine offices, and 3 TV mobile units—inspect all classes of radio stations, including those on ships; investigate unlicensed operation of transmitting equipment and interference to radio reception; and examine applicants for commercial and amateur operator licenses.

Besides faulty transmitting and receiving apparatus, interference comes from many other sources, including noncommunication devices. Since this can imperil communication for safety purposes as well as disrupt other services, the FCC field engineers have an increasing problem. More than 800 local and regional groups of interests concerned, which the FCC organized, help resolve routine cases at the grassroots level.

During the year, 530 unlicensed transmitters were discovered. Nearly two-thirds of these were illegal citizens radios. The remainder were on small boats, private aircraft, and apparatus used by juveniles trying to operate "broadcast stations," etc.

The FCC monitoring network responded to 428 calls for assistance in search and rescue activities involving lost or disabled ships and aircraft.

The field engineering staff also processes proposed or modified transmitter towers to insure compliance with aviation safety requirements. Nearly 21,300 were processed during the year.

It continued to furnish special technical assistance, on a contract basis, to various Federal agencies. These services include field strength recording, monitoring, and tracking radio-equipped weather balloons and weather-detection buoys.

RESEARCH

The Commission concluded its New York study of UHF television coverage of a canyon-type metropolitan area. Data were obtained from more than 3,800 locations within 25 miles of the Empire State Building where a transmitter operated on channel 31. Comparison was made with VHF station transmissions on channels 2 and 7. The Commission issued three technical reports on the subpect. They showed, in substance, that with outdoor antennas there was very little difference in overall picture quality; with indoor antennas channel 31 gave acceptable service to slightly fewer locations; behind obstructions the UHF signal was slightly less but still acceptable. The test station was subsequently donated to New York City for its broadcast purposes.

Studies of VHF and UHF propagation continued. Knowledge of the propagation characteristics of radio waves is essential in determining their useful service areas and interference possibilities as a basis for developing technical rules for operation of the various services.

To guard against interference before it starts, the Commission type accepts or type approves certain equipment prior to its manufacture. Though manufacturers of other apparatus have been cooperative generally, further legislative authority seems necessary to enable the Commission to deal with devices not now under its jurisdiction.

FREQUENCY ALLOCATION

The Commission made several changes in national frequency allocations, some to satisfy the ever-increasing demands of radio users and others to conform with international radio regulations. Particular study is being made of the needs of the land mobile services, including a petition to reallocate UHF TV channels 14 and 15 to those services.

In addition to frequencies for space communication, the Geneva 1963 conference was scheduled to consider exclusive allocations for radio astronomy on a world basis.

The Commission participated in 26 international telecommunications conferences during the year, besides preparing for 39 future sessions.

During the year it prepared 38 separate reference lists of non-Government domestic frequency assignments. In cooperation with other nations, it reports frequency assignments and occupancy data. It also reported 4,800 technical infractions by foreign stations and handled 318 cases of intereference involving its licensees and foreign stations.

COMMISSION

To comply with Government policy of charging for certain Federal services, the Commission adopted a schedule of fees for the filing of applications in most of its licensing activities, which was scheduled to become effective January 1, 1964. The fees range from $2 to $100. Income from these fees will go to the U.S. Treasury.

The Commission accomplished most of its staff reorganization. This included establishment of a Review Board to relieve the Commissioners of handling many adjudicatory cases and appeals from interlocutory rulings, also the creation of a new post of Executive Director to supervise, coordinate, and expedite staff functioning.

During the year, E. William Henry became a Commissioner and, later, was designated by the President to succeed Newton N. Minow, resigned, as Chairman. The resulting Commission vacancy was subsequently filled by Lee Loevinger.

The Commission had a fiscal 1963 appropriation of slightly less than $15 million and operated with a regular personnel of less than 1,400 persons.

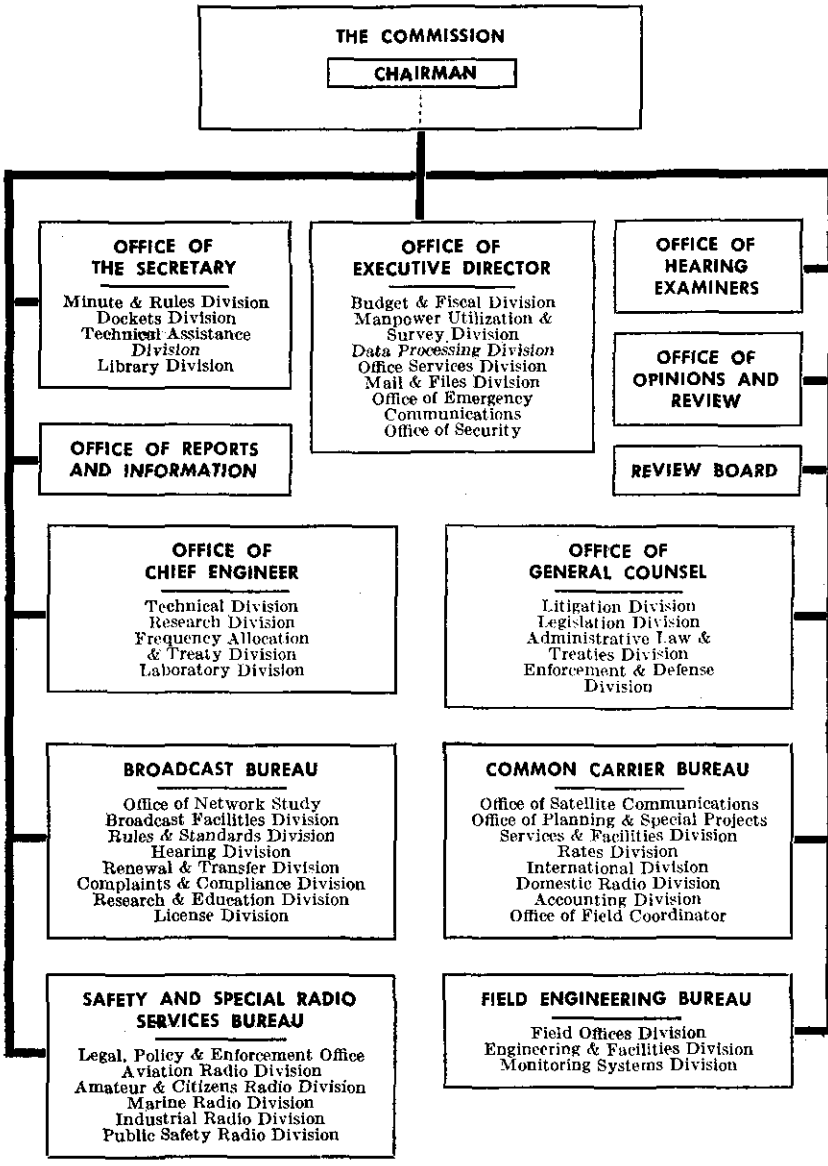
The first phase of the Commission's electronic data processing is expected to be operative in early 1964.

The Commission was a party to 75 Federal court cases. The Supreme Court denied four petitions for certiorari. Appeals courts upheld the Commission in 20 cases and reversed it in 6 others, and dismissed 10 cases, also a petition for mandamus.

Seventy-seven bills affecting the Commission were introduced in Congress during the fiscal year.

FEDERAL COMMUNICATIONS COMMISSION

Organization Chart as of June 30, 1963



Commission

REGULATION

The Federal Communications Commission was created by Congress in 1934 to centralize Federal regulation of wire and radio communication previously handled by various Government agencies.

The Communications Act of 1934, as amended, gives the Commission jurisdiction over interstate and international telephone and telegraph services, all domestic non-Government radio operations, promotion of wire and radio communication to safeguard life and property and otherwise serve the public, and utilization of communication facilities to aid the national defense program.

In general, the Commission allocates bands of radio frequencies to different services; assigns specific frequencies within those bands to individual radio stations; authorizes station power and identifying calls; licenses radio stations and the operators of transmitters; and regulates long-distance common-carrier telephone and telegraph services, whether by wire, cable or radio, including satellite space communication.

In addition to broadcasting programs and carrying public correspondence, radio also aids police, fire, and other public protection; safeguards transportation of people and products on land, water, and in the air; plays an important role in industrial and other business activities; serves individual convenience; and encourages research and development of communication equipment and techniques.

REORGANIZATION

As of August 1, 1962, the Commission established a Review Board to handle many adjudicatory cases and appeals from interlocutory rulings of examiners that formerly had to be acted upon by the Commissioners. This is pursuant to the FCC Reorganization Act of 1961, which permits delegating additional authority to the staff in order to give the Commissioners more time for major planning and policy consideration, also to speed up the adjudicatory process.

An organization and management survey of the Commission was conducted for the Bureau of the Budget by Booz-Allen & Hamilton, management consultants. It was made public April 24, 1962. The

Commission adopted in substance or in part those recommendations which, in its judgment, gave promise of achieving greater administrative efficiency and economy.

Chief among these was the creation, on November 28, 1962, of the post of Executive Director who, under the Chairman, supervises, coordinates and expedites overall staff activities. The new office absorbed and reorganized units of the former Office of Administration, besides assuming additional functions.

Other organizational changes premised on the survey report were:

Reorganization of the Safety and Special Radio Services Bureau on September 5 included transfer of the amateur and citizens radio services to a single division, shift of the land transportation radio services to the Industrial Radio Division and consolidating law and enforcement functions into a Legal, Policy, and Enforcement Office.

On September 18, the Technical Research Division of the Office of Chief Engineer was split into separate Technical and Research Divisions.

In the Office of General Counsel, rulemaking and rule coordination functions were, on October 10, reassigned to the Administrative Law and Treaties Division and, because of increased national defense activities, the former Regulatory Division was renamed the Enforcement and Defense Division.

Organizational changes in the Common Carrier Bureau, announced October 25, included establishment of a new Accounting Division and an Office of Planning and Special Projects, also abolishment of the Telephone and Telegraph Divisions with their work placed under a Rates Division and a Services and Facilities Division.

On January 9, 1963, the Field Engineering and Monitoring Bureau was renamed the Field Engineering Bureau and its then four divisions reorganized into three divisions.

On May 8, 1963, the Mail and Files Division and the International Settlements Division were transferred from the Office of the Secretary to the Office of Executive Director.

The Commission is continuing its study of other recommendations contained in the report.

As a result of a Civil Service Commission report evaluating FCC personnel management, a Manpower Utilization and Survey Division was established on December 17, 1962, within the Office of Executive Director, assuming functions formerly lodged in the Organization and Methods Division and the Personnel Division; the latter two divisions were abolished.

In order to carry out the Commission's responsibilities under the Communications Satellite Act of 1962, the Commission on September

18 of that year established within the Common Carrier Bureau an Office of Satellite Communications which is responsible for administration and implementation of provisions of that statute applicable to the FCC. (See also "Space Communication" chapter.)

On May 22, 1963, the Commission created an Office of Emergency Communications to discharge certain national defense functions assigned the FCC by Executive Order 11092. (See also "National Defense" chapter.)

The revised organizational structure of the Commission is shown in the chart accompanying this chapter.

COMMISSIONERS

Seven members comprise the Commission. They are appointed by the President subject to Senate confirmation. The President designates one of their number to serve as Chairman.

Not more than four Commissioners can be members of the same political party. The normal term of a Commissioner is 7 years. The Commissioners function as a body in making policy determinations. Certain responsibilities are delegated to Commissioners as individuals, panels, or committees. These include defense, telephone, telegraph, and other industry relationship matters.

The following changes occurred in Commission membership during the fiscal year:

Nominated by President Kennedy on August 30, 1962, and confirmed by the Senate on September 28 thereafter, E. William Henry took office on October 2 for a regular term. He succeeded John S. Cross, whose term expired June 30, 1962.

On March 26, 1963, Kenneth A. Cox, who had been Chief of the Commission's Broadcast Bureau, became a Commissioner. He was nominated by the President on January 15, 1963, and confirmed by the Senate on March 15. He filled out the unexpired term of T. A. M. Craven, who reached retirement age, which expired June 30, 1963, and will serve a regular term thereafter.

On May 14, 1963, President Kennedy accepted the resignation of Newton N. Minow from the Commission, effective June 1 thereafter, and designated Commissioner Henry to succeed Minow as Chairman, and Lee Loevinger, then Assistant Attorney General, as a Commissioner to fill out Minow's unexpired term. Chairman Henry took office on June 2 and Commissioner Loevinger, after being confirmed by the Senate on June 6, was sworn in on June 11.

A list of present and former Commissioners appears on page IV of this report.

PERSONNEL

The Commission ended the fiscal year with 1,515 employees on its rolls. Included were 85 employed for the summer months only and 53 performing work for other agencies on a reimbursable basis. The actual average employment for the entire year for staff engaged in "regular" Commission activities was 1,381.6. This represents an increase of 42.1 over 1962. The average employment for the various organization units was as follows:

	Washington	Field	Total
Commissioners' Offices	46.8	0	46.8
Review Board	19.7	0	19.7
Office of Opinions and Review	19.0	0	19.0
Office of Hearing Examiners	34.3	0	34.3
Office of Reports and Information	5.0	0	5.0
Office of Executive Director	144.4	1.0	145.4
Office of Secretary	34.7	0	34.7
Office of General Counsel	43.8	0	43.8
Office of Chief Engineer	68.7	14.9	83.6
Common Carrier Bureau	125.9	23.2	149.1
Safety and Special Radio Services Bureau	138.8	26.0	164.8
Broadcast Bureau	251.0	0	251.0
Field Engineering Bureau	56.9	327.5	384.4
Total	1,003.9	377.7	1,381.6

APPROPRIATIONS AND EXPENDITURES

The Commission's appropriation for fiscal 1963 was $14,950,550. This was an increase of $2,425,550 over 1962 principally to cover the cost of the 1963 pay act and the purchase of a computer costing over $1 million.

Personnel compensation plus personnel benefits accounted for 81 percent of the 1963 budget. A breakdown follows:

Personnel compensation	$11,336,534
Personnel benefits	843,407
Travel	232,851
Transportation of things	42,768
Rents, communication, and utility services	450,379
Printing and reproduction	115,948
Other services	496,526
Supplies and materials	183,981
Equipment	1,225,431
Land and structures	19,085
Total amount obligated	14,946,910

The source of these funds and the authority for expenditures thereunder is Public Law 87-741, 87th Congress. Expenditure details and their justification are set forth at length in the FCC budget presentation to Congress.

EMPLOYEE AWARDS PROGRAM

Length-of-service emblems were presented to 171 Commission employees at the annual awards ceremony. Eighty-eight employees were awarded a total of $18,910 in recognition of superior job performance. Payments totaling $390 were made for 14 employee suggestions to improve work procedures, and 9 letters of appreciation were issued for other employee suggestions adopted.

ELECTRONIC DATA PROCESSING SYSTEM

Owing to circumstances beyond the control of the Commission, the target date for the completed installation of an electronic data processing system was delayed about 4 months and is now expected in January of 1964.

Initally, the system will perform various engineering computations and maintain and retrieve broadcast ownership data for existing and pending facilities. Also, certain Safety and Special Radio Services applications will be processed electronically. Inherent in the system will be its ability to furnish all field offices and monitoring stations with current and complete licensee data.

When the computer system is completely installed, it will not only expedite the processing of applications and provide accurate up-to-date data on all licensees but it will have the necessary reserve capabilities to absorb increased workloads in the Commission.

APPLICATION FILING FEES

In compliance with Government policy to charge for certain Federal services, the Commission on May 6, 1963, adopted a schedule of fees for filing applications in most of its licensing activities, to become effective January 1, 1964. The fees, as revised, range from a minimum of $2 to a maximum of $100, with the anticipated $3,735,000 annual income going to the U.S. Treasury. By service, the fees are as follows:

Broadcast Services	*AM*	*FM*	*TV*	*Translator*	*Auxiliary*
Application for construction permit for new station or major change.	$50	$50	$100	$30	$30
Application for renewal or assignment of license or transfer of control, exclusive of FCC Form 316 Applications (where more than one broadcast station license is involved, the application must be accompanied by the total amount of the fees prescribed for each license so involved.	$50	$50	$100	$30	$30

Broadcast Services—Continued	AM	FM	TV	Translator	Auxiliary
Application filed on FCC Form 316 (where more than one broadcast station license is involved, the application must be accompanied by the total amount of the fees prescribed for each license so involved).	$30	$30	$30	(1)	(1)
Application for change of call letters for broadcast station.	$20 in all services.				
All other applications in the Broadcast Services (excluding television translator applications not specified above).	$30 for each application.				

[1] No fee.

Fees are not required in the case of applications filed by tax-exempt organizations for the operation of stations providing noncommercial educational broadcast services, whether or not such stations operate on frequencies allocated for noncommercial educational use.

Common Carrier Services

Applications for initial construction permit (no additional fee will be charged for application for license to cover. An application for authority to change location of a fixed station will be treated as an application for initial construction permit):	
Domestic Public Land Mobile Radio Service:	
Base station (includes associated mobile stations)	$100
Dispatch station, control station, or repeater station	25
Individual user mobile station	5
Point-to-Point Microwave Radio Service	30
Rural Radio Service:	
Central office station, interoffice station, or rural subscriber station	10
Rural subscriber station at temporary-fixed locations	10
Individual subscriber station	5
Local Television Transmission Service	50
International Fixed Public Radiocommunication Services:	
International fixed public station:	
New station	100
Additional transmitter	100
Replacement of transmitter	50
International control station:	
New station	30
Additional transmitter	30
Replacement of transmitter	10
Other common-carrier services	10
Applications to make modifications or to supplement facilities at existing sites in the Point-to-Point Microwave Radio Service	30
Applciations for license for operation of a station at temporary-fixed locations in the Point-to-Point Microwave Radio Service	30

Common Carrier Services—Continued

Applications for modification of construction permit at an existing station location in the Local Television Transmission Service	50
Applications for license for operation of an STL station at temporary-fixed locations in the Local Television Transmission Service	50
Applications for license for operation of mobile television pickup station in the Local Television Transmission Service	50
Application for renewal of license:	
Domestic Public Land Mobile Radio Service:	
Base station (includes associated mobile stations)	25
Dispatch station, control station, or repeater station	10
Individual user mobile station	5
Point-to-Point Microwave Radio Service	5
Local Television Transmission Service	5
Rural Radio Service, all stations	5
International Fixed Public Radiocommunication Services:	
International fixed public station	75
International control station	10
Other common-carrier services	5
All other common-carrier radio applications	10
Applications by communications common carriers for authorization to own stock in the Communications Satellite Corporation	10
Section 214 applications by telephone companies	50
Section 214 applications by telegraph companies	10
Cable landing license applications	100
Section 221 applications	50
Interlocking directorate applications	10
All other common-carrier nonradio applications	10

Safety and Special Radio Services

Applications in the Amateur Radio Service:	
For initial and renewed licenses	4
For modification of license	2
Request for special call sign	20
Applications in the Citizens Radio Service:	
For Class A station authorization	10
For all other classes of stations in the Citizens Radio Service	8
Applications for radio station authorizations for operational fixed microwave radio stations (no fee required for application for license to cover construction permit)	30
Applications for renewal only for which FCC Form 405A is prescribed	4
All other applications filed in the Safety and Special Radio Services	10

Fees are not required in the following instances:

(1) Applications filed in the Police, Fire, Forestry-Conservation, Highway Maintenance, Local Government, and State Guard Radio Services.

Safety and Special Radio Services—Continued

(2) Applications filed by governmental entities in any of the Safety and Special Radio Services.

(3) Applications filed by the following in the Special Emergency Radio Service: Hospitals, disaster relief organizations, beach patrols, and school buses, and nonprofit ambulance operators and rescue organizations.

(4) Applications filed in the Disaster Communications Service.

(5) Applications for ship inspections pursuant to the Great Lakes Agreement, the Safety of Life at Sea Convention, and Parts II and III, Title III, of the Communications Act of 1934, as amended.

(6) Applications for novice class license in the Amateur Radio Service, applications for amateur stations under military auspices, and applications filed in the Radio Amateur Civil Emergency Service (RACES).

(7) Operational fixed microwave applications filed for closed circuit educational television service.

(8) Applications for Civil Air Patrol stations, aeronautical radionavigation stations, and for aeronautical search and rescue stations.

Commercial Radio Operators

Applications for commercial operator examinations:	
1st class	$5
2d class	4
3d class	3
Applications for commercial operator licenses (includes renewals, endorsements, duplicates, etc.)	2
Applications for restricted radiotelephone permits	2

Fees are not required for applications in the Experimental Radio Services (other than Broadcast).

HEARING EXAMINERS

The Commission has 18 hearing examiners, one of whom serves as Chief Hearing Examiner. Their basic function is to preside at formal hearing proceedings and to prepare and issue initial decisions based upon evidence presented into the records of these proceedings.

During fiscal 1963, the hearing examiners, in connection with proceedings assigned to them, issued 1,164 orders and memorandum opinions and orders on interlocutory matters; conducted hearing conferences in 184 proceedings; held formal hearings in 166 proceedings; closed records in 149 proceedings; and issued 134 initial decisions involving 221 applications.

Under authority delegated to him by the Commission, the Chief Hearing Examiner issued 289 orders and memorandum opinions and orders upon interlocutory and other matters pertaining to adjudicatory proceedings. He made final disposition of 58 broadcast applications.

DOCKETS

Of the 229 broadcast applications designated for hearing during the fiscal year, 184 were for AM facilities. Hearing was ordered for 183 applications in the nonbroadcast services. Broadcast applications accounted for 319 of the 566 docket cases pending at the close of the year. The following docket statistics refer to individual applications in hearing status:

710-451—64——3

	Total pending July 1, 1962	Designated for hearing	Disposed of without hearing			Disposed of following hearing			Total pending June 30, 1963	Initial decisions issued	Applications covered by initial decisions
			Granted	Dismissed	Removed [1]	Granted	Denied	Dismissed			
Broadcast dockets:											
AM broadcast:											
New stations	182	116	6	57	6	59	19	5	146	60	103
Major changes	54	53		7	7	35	4		54	35	40
Subtotal	236	169	6	64	13	94	23	5	200	95	143
Assignments and transfers	2	4		3					3		1
Renewals	17	8			3	1	6		15	6	8
Licenses	4	1					1		4	1	2
All others	2	2		2					2	1	2
Total AM broadcast dockets	261	184	6	69	16	95	30	5	224	103	156
FM broadcast:											
New stations	21			1		4	2	1	13	3	5
Major changes	5					2			3		
Subtotal	26			1		6	2	1	16	3	5
Assignments and transfers		3					1		2		1
Renewals	3						1		2	1	1
Licenses											
All others		2		1			1			1	1
Total FM broadcast dockets	29	5		2		6	4	1	20	5	8
TV broadcast:											
New stations	63	14		6	1	8	9		53	6	16
Major changes	11	1		1			2	1	8	2	2
Subtotal	74	15		7	1	8	11	1	61	8	18

Assignments and transfers	1	5							6		1
Renewals	2	3	1						4		
Licenses	1								1		
All others	2	2					1		3		
Total TV broadcast dockets	80	25	1	7	1	8	12	1	75	8	19
UHF-VHF translators/boosters:											
New stations	8	6				3			11	1	5
Major changes											
Subtotal	8	6				3			11	1	5
Assignments and transfers											
Renewals											
Licenses											
All others											
Total dockets	8	6				3			11	1	5
Other broadcast services	17	9	4	1		1			20		
Total broadcast dockets	395	229	11	79	17	113	47	7	350	117	187
Other than broadcast dockets:											
Safety and special radio services [2]	46	126	14	73			4	1	80	4	4
Common-carrier services	68	41	8	9		13	16		63	12	16
Joint and general matters	39	16	12	9					34		
Total other than broadcast dockets	153	183	34	91		13	20	1	177	16	20
Petitions, cease-and-desist orders, rules, etc.	67	30	40	13		1	3	1	39	1	1
Total dockets	615	442	85	183	17	127	70	9	566	134	208

[1] Removed from hearing status and returned to processing lines.
[2] Statistics in this service cover revocation of license as well as applications.

AUTHORIZATIONS

Radio authorizations of all kinds totaled over 4.3 million at the close of the fiscal year, or nearly 600,000 more than at the same time in 1962. Comparative figures follow:

Class	June 30, 1962	June 30, 1963	Increase or (decrease)
Broadcast services	15,610	15,829	219
Safety and special radio services	936,380	1,131,910	195,530
Common carrier services	5,600	6,599	999
Experimental	757	730	(27)
Commercial radio operators	2,558,353	2,938,123	379,770
Amateur radio operators	230,459	247,603	17,144
Total	3,747,159	4,340,794	593,635

Since some radio stations use numerous transmitters, their collective authorizations represent about 4 million fixed, mobile, and portable transmitters.

APPLICATIONS

Nearly 840,000 applications of all kinds were received by the Commission during fiscal 1963. This was an increase of 95,700 for the year. Application figures for the 2 years follow:

Class	1962	1963	Increase or (decrease)
Broadcast services	15,560	14,519	(1,041)
Safety and special radio services	430,596	489,184	58,588
Common carrier services	7,504	8,040	536
Experimental	1,396	1,510	114
Commercial radio operators	288,411	325,923	37,512
Total	743,467	839,176	95,709

Applications for amateur radio operators are included in the total for the safety and special radio services.

The application figures do not include petitions and tariff filings.

CORRESPONDENCE

More than 4.6 million pieces of mail were received or dispatched by the Commission's Washington office during the year (exclusive of its Field Engineering Bureau). This was an increase of 1.1 million over the previous year's total. Of the 1963 figure, over 3 million were incoming and 1.6 million outgoing.

RELEASES AND PUBLICATIONS

The Commission issues public notices of its actions, the filing of certain types of applications, petitions for rulemaking, hearing calen-

dars, etc. It also releases documents covering its decisions and orders in formal proceedings.

The Commission does not maintain public mailing lists for its releases or printed publications. The latter are sold by the Government Printing Office. They include texts of the Commission's major decisions in weekly pamphlet form and copies of its rules and regulations, all sold on a subscription basis; also copies of the Communications Act with amendments, annual and other reports, statistics of communications common carriers, etc. A list of these printed publications will be furnished on request to the Commission.

In addition, all Commission hearing orders and rulemaking (both as proposed and as adopted) are given official publication in the Federal Register, which can likewise be purchased from the Government Printing Office.

The Commission's own offset reproduction work for release and internal use during the year required over 80,100 plates (master copies) and over 31.5 million prints which consumed nearly 24.4 million sheets of paper (about 4 million sheets more than in 1962).

TECHNICAL ASSISTANCE DIVISION

In cooperation with the Agency for International Development, the Department of State, and the International Telecommunication Union, the Commission continued with its participation in the foreign technical assistance program by extending study opportunity to telecommunications personnel from other countries. A total of 54 persons from 17 foreign countries were in training at one time or other during the fiscal year. The overall total of those thus trained under Commission auspices since inception of the program exceeds 500.

Contributors to this study and observation of communications systems in this country include broadcast, common carrier, and safety and special radio service licensees; equipment manufacturers and suppliers; scholastic institutions; and Federal, State, and local government agencies.

On-the-job training in radio frequency monitoring and direction finding is provided for periods of up to 4 months at the Commission's Laurel, Md., monitoring station.

Law and Enforcement

LEGISLATION

Major Legislative Activity

In that part of the second session of the 87th Congress which included the beginning of the fiscal year 1963 the Commission's major legislative activity centered on two items:

1. All-channel TV receivers;
2. Legislation to provide for the establishment, ownership, operation, and regulation of a commercial satellite communication system.

The all-channel receiver legislation, which authorizes the Commission to prescribe minimum performance capabilities for TV receivers to enable them to receive all TV channels, was signed into law by President Kennedy on July 10, 1962 (Public Law 87–529).

The Communications Satellite Act of 1962 (Public Law 87–624) became law on August 31, 1962. It authorized the creation of a private corporation for profit which is subject to Government regulation. Under it, the Commission is given important regulatory responsibilities. (See chapter on "Space Communication.")

Other Enacted Laws

In addition to the legislation mentioned, two other amendments to the Communications Act were enacted during that same period (namely, after July 1, 1962), also one other measure which affected the Commission. They are:

Public Law 87–795, signed by the President on October 11, 1962, amended section 305 of the Communications Act to empower the President to authorize a foreign government, on a reciprocal basis, to operate a radio station at, or adjacent to, the embassy or legation in Washington, D.C., for transmission of its messages to points outside the United States. Prior to this amendment, the Communications Act prohibited the granting of such authority to noncitizens and, as a result, the U.S. Government was unable to offer reciprocity when attempting to secure permission from foreign governments for the establishment by the United States of radio stations in foreign countries.

Public Law 87–811, signed by the President on October 15, 1962, amended section 362(b) of the Communications Act to permit the Commission to waive the annual inspection of radio equipment aboard U.S. ships for a period of 30 days. This provides needed flexibility in

the vessel inspection requirements to take care of situations such as have occurred where ship operators have suffered costly delays due to the late hour of arrival at the port, or the immediate unavailability of inspection personnel, or to a tight vessel schedule requiring prompt departure for another port.

Public Law 87-624, signed by the President on August 31, 1962, amended the Federal Property and Administrative Services Act to authorize donations of surplus property to educational radio and TV stations.

No legislation amending the Communications Act or affecting the Commission's functions was enacted during that part of fiscal 1963 during which the 88th Congress was in session; namely, January 9 to June 30, 1963.

FCC Legislative Program

Commission proposals to amend the Communications Act introduced in the 88th Congress and pending at the end of the fiscal year were:

An amendment to exempt from the conflict-of-interest provisions of section 4(*b*) persons serving in the FCC unit of the National Defense Executive Reserve who are not otherwise employed by the Commission (S. 1504, H.R. 6019).

An amendment to section 310(b) to give the Commission discretion to adopt new procedures to govern applications for the transfer or assignment of a construction permit or license for a broadcast station (H.R. 7477). (Commissioner Bartley submitted a separate proposal which was introduced as H.R. 7478.)

An amendment to section 309(e) to require that petitions for intervention be filed within 30 days after publication of the hearing issues (S. 1193, H.R. 5327).

An amendment to section 309(c)(2)(G) to give the Commission additional authority to grant special temporary authorizations for 60 days for certain nonbroadcast operations (S. 1006, H.R. 5550).

An amendment to section 203 to require a connecting carrier to file a tariff covering communications subject to the Commission's jurisdiction where there is no fully subject carrier obligated under the statute to file a tariff (S. 1503, H.R. 6018).

A Commission legislative proposal cleared by the Bureau of the Budget and awaiting submission to Congress at end of fiscal 1963 was:

An amendment to section 204 which would (*a*) extend from 3 to 9 months the period during which the Commission may suspend any new or revised charge, classification, regulation, or practice of a communications common carrier pending hearing and decision under section 204; and (*b*) place the burden of proof on the carrier to justify all new or revised charges.

Commission legislative proposals awaiting clearance by the Bureau of the Budget at end of the fiscal year were:

A new section to the Communications Act to give the Commission regulatory authority over the charges and other terms and conditions in arrangements between communications carriers for the interchange of their communications facilities or in arrangements between common carriers regarding the furnishing of facilities or services by one communications common carrier to another.

An amendment to section 303(q) to give the Commission jurisdiction to require the painting and illumination of abandoned radio towers and to require dismantlement when they constitute a menace to air navigation.

A new section to give the Commission authority to prescribe regulations for the manufacture, sale, and interstate shipment of devices which interfere with radio reception.

Other Bills Affecting the FCC

During that period of the 87th Congress covered by fiscal 1963, the Commission either testified or commented on 21 bills which affected its functions. In addition, 56 bills affecting the Commission were introducted in the 88th Congress up to July 1, 1963, on which the Commission was requested to comment.

Congressional Hearings

During the 1st session of the 88th Congress, up to July 1, 1963, the Commission appeared and testified before committees on such matters as:

Administration of the Communications Satellite Act;

The Commission's statutory responsibility in the field of common-carrier rate regulation and how it is discharged;

Concentration of ownership of mass media of communication;

Amendment of section 315 of the Communications Act to eliminate or suspend the requirement of equal opportunities for legally qualified candidates for public office;

Broadcast rating services and their effect on broadcast service;

Commission editorializing policy and consideration of an amendment to section 315 to insure fairness whenever broadcast licensees editorialize with respect to political candidates.

LITIGATION

The Commission was a party to a number of cases which enunciated principles of law having a significant impact upon its procedures and administration of the Communications Act. Jurisdiction over these cases was in the U.S. Court of Appeals for the District of Columbia Circuit.

Important Cases

The following cases were decided in important areas of Commission jurisdiction:

In *Blumenthal et al.* v. *Federal Communications Commission and United States of America*, — U.S. App. D.C. —, — F. 2d —, the court sustained the Commission's action in dismissing three applications for radio operator licenses, because of the applicants' refusal to furnish complete answers to the Commission's questions as to present and past membership in the Communist Party or in any organizations advocating the overthrow of the Government by force or violence. Two of the applicants had asserted the fifth-amendment privilege against self-incrimination in declining to answer as to past Communist Party membership. The court ruled that although the applicants were justified in relying on the fifth amendment in refusing to answer the question, the Commission could properly dismiss the applications as incomplete in significant respects. The court held that the Commission may properly refuse to proceed with an application which is incomplete with respect to relevant information which the Commission is authorized to seek. On June 3, 1963, the Supreme Court declined to review the appeals court decision, three justices dissenting.

In *Carter Mountain Transmission Corporation* v. *Federal Communications Commission*, — U.S. App. D.C. —, — F. 2d —, the court sustained the Commission's power to refuse to license common-carrier microwave facilities to carry TV signals to a community antenna system where the result would be the demise of a local TV station and the loss of its service to the public. The court rejected the contention that the Commission was limited to consideration of classic common-carrier criteria applicable in the field of transportation and that it could not properly consider the economic impact of a grant upon TV broadcast service. It held that, in determining whether the public interest would be served by the grant of a radio license for common carrier use, the Commission could properly consider the end use of the requested facilities and the competitive effect on existing local TV stations. The court also held that the Commission's action did not constitute an attempt to regulate the community antenna system, even though there might be an indirect effect on that system.

In *Fort Harrison Telecasting Corporation, et al.* v. *Federal Communications Commission and United States of America*, — U.S. App. D.C. —, — F. 2d —, the court upheld the Commission's rulemaking order "deintermixing" Springfield, Ill., by the substitution of additional UHF channels for VHF channel 2 and reallocating the deleted channel to St. Louis, Mo., and Terre Haute, Ind. The court held that the equal allocation of VHF channels among the States is not required so long as there is a fair allocation of all TV channels. The fact that new deintermixture proceedings are generally being held in abeyance pending results of the recently enacted all-channel legislation did not, in the court's opinion, make the action arbitrary.

A contention that channel 2 should have been allocated to Rolla-Salem rather than St. Louis was also rejected. The court expressed some concern because the Commission's decision was based in part upon the fact that the channel was then in temporary use at St. Louis. It never-

theless concluded that adequate grounds supported the Commission's decision. Finally, the court reversed the Commission's determination that it would not accept new applications for use of channel 2 at Terre Haute, but would restrict its consideration to the applicants in a pending comparative hearing. A 1957 order of the Commission making the same channel allocations had previously been vacated by the court, which had directed that a new proceeding be conducted to determine where and to whom channel 2 should be assigned. Upon this basis, the court stated that a new adjudicatory proceeding, as well as a new rulemaking proceeding, was required.

In *Interstate Broadcasting Company, Inc.* v. *Federal Communications Commission*, — U.S. App. D.C. —, — F. 2d —, station WQXR, New York City, objected to new AM broadcast station grants in West Hartford, Conn., and Patchogue, N.Y., upon the basis of expected interference. The court sustained the Commission's position that (1) the authorization of a new AM station which causes interference beyond an existing station's 0.5mv/m contour, but within its 0.1mv/m contour does not constitute a modification of license requiring a hearing under section 316 of the Communications Act; (2) the public-notice requirements of section 311(a) of the act added by Public Law 86–752, approved September 13, 1960, 74 Stat. 892, did not apply to proceedings in progress; and (3) oral argument satisfies the hearing requirements of section 309(c) (prior to its amendment in 1960, 74 Stat. 889) with respect to purely legal issues.

The court held further that the Commission's rules relating to protected contours embody a legislative judgment that new services which destroy an existing service beyond the protected contour are normally more in the public interest than the service they destroy, and that this judgment is a reasonable one. However, the court concluded that the Commission must give consideration to a protestant's allegations that its unique programing service justified protection of its service area from interference beyond the 0.5-mv/m contour, and that the Commission's failure to consider this factor required a remand of the proceedings. The court stated that the allegations may be rejected without an evidentiary hearing provided the Commission concludes upon an adequate basis that the facts alleged, even if true, are not sufficient to preclude the grant of the application for a new station.

Statistics

During the fiscal year, the Commission was a party to 75 appellate cases in the Federal courts. Fifty-two of these cases were instituted during that period, 2 on petition for writ of certiorari in the Supreme Court, 47 in the Court of Appeals for the District of Columbia Circuit, 1 in the Court of Appeals for the Second Circuit, 1 in the Court of Appeals for the Seventh Circuit, and 1 in the District Court for the Northern District of Ohio. The other 23 cases were pending at the beginning of the year.

The two petitions for certiorari filed during the fiscal year, and two pending at the beginning of the year, were denied by the Supreme Court. In the courts of appeals, the Commission was affirmed in 20

cases and reversed in 6; 10 cases were dismissed on jurisdictional grounds or remanded without decision on the merits; and a petition for mandamus was dismissed.

As of June 30, 1963, 32 cases were pending in the U.S. Court of Appeals for the District of Columbia Circuit. Of these, 13 have been heard and await decision. One case is pending in the Court of Appeals for the Second Circuit, and one in the District Court for the Northern District of Ohio.

A tabulation of the litigation for the fiscal year follows:

	Supreme Court	Court of Appeals for the District of Columbia Circuit			Other courts of appeals	District courts	Total
		402(a)	402(b)	402 (a) and (b)[1]			
Total	4	[2]8	45	14	3	1	75
Cases affirming the Commission		4	13	1	2		20
Cases reversing the Commission		1	5				6
Cases dismissed on jurisdictional grounds or by agreement, or remanded without decision		2	7	1			10
Petition for mandamus in Court of Appeals for the District of Columbia Circuit (dismissed)			1				1
Denial of certiorari	4						4
Cases pending June 30, 1963		1	19	12	1	1	34

[1] Cases under "402 (a) and (b)" were cases where the same party sought review of the same Commission order under both sections of the statute.
[2] 2 of these cases were transferred to the U.S. Court of Appeals for the District of Columbia Circuit from other circuits.

ENFORCEMENT

The Commission's enforcement program, initiated in 1959 and directed against persons operating industrial heating equipment in violation of part 18 of the FCC rules, was extremely effective during the fiscal year. Except for two instances, the voluntary compliance of violators was obtained. Another area of enforcement activity reduced to a low level concerns the unlicensed operation of low-power TV repeater stations in remote western areas. In fiscal 1962 there were 117 such cases outstanding; all except 1 have been terminated. The remaining case is before the U.S. District Court in Montana; injunctive relief is being sought to prevent continued unlicensed operation.

The U.S. District Court for the Southern District of California ordered enforcement of a Commission subpena in a matter concerning the investigation of the TV network industry. However, the Commission appealed certain of the procedural conditions of the court's order. The case was argued before the U.S. Court of Appeals for the Ninth Circuit on February 6, 1963. The court has not yet announced its decision.

The number of criminal cases pending in and referred to the Department of Justice in fiscal 1963 was 25, an increase of 8 over fiscal 1962. There were four convictions during fiscal 1963. Of the convictions, one was particularly noteworthy—*U.S.* v. *Roy W. Herbert, Fletcher R. Lawson and Lloyd Richardson*, Criminal No. 11435 (U.S. Dist. Ct. W.D. of Texas). The three defendants were found guilty of having violated section 325(b) of the Commissions Act regarding unauthorized transmission of programs for broadcast by foreign stations. This marked the first conviction for violation of that section.

National Defense

GENERAL

National defense responsibility for telecommunications is vested primarily in the President of the United States, pursuant to section 606 of the Communications Act of 1934, as amended. The President, in turn, has delegated many of these responsibilities by Executive order to certain Federal agencies, including the Commission.

The FCC's defense activities are under the direction of its Defense Commissioner (Robert T. Bartley) and two alternate Defense Commissioners (Robert E. Lee, first alternate, and Kenneth A. Cox, second alternate).

EXECUTIVE ORDER 11092

Perhaps the most significant development during fiscal 1963 was the signing by the President of Executive Order 11092 on February 26, 1963. That order assigns very broad telecommunications planning and preparedness responsibilities to the Commission. The planning is being conducted under the policy guidance of the Director of the Office of Emergency Planning who is the President's policy adviser and has responsibility for coordinating all emergency nonmilitary defense planning at the Federal level.

OFFICE OF EMERGENCY COMMUNICATIONS

In order to carry out these planning responsibilities more effectively, the Commission established, as of July 1, 1963, a new Office of Emergency Communications. That office prepares and recommends national emergency plans and develops preparedness programs covering provision of service by common carriers, broadcasting, and safety and special radio facilities, assignment of radio frequencies to Commission licensees under emergency conditions, and the protection, reduction of vulnerability, maintenance, and restoration of facilities operated by its licensees in an emergency. These plans and programs are designed to develop a state of readiness in those areas with respect to all conditions of national emergency, including attack upon the United States, and will take into account the possibility of Government preference or priority concerning common carriers, or of exclusive Government use or control of communications services or facilities, when authorized by law.

The FCC Office of Emergency Communications, in collaboration with bureau heads and staff officers, also prepares plans for assuring continuity of the Commission's functions in the event of disaster, including plans for emergency mobilization, relocation sites, protection of Commission personnel, property, and records, and arranges for participation in the National Defense Executive Reserve program.

The new office will operate with two divisions—an Emergency Communications Division and a Preparedness Plans Division. The first will perform preparedness duties concerning the broadcast and safety and special radio services, control electromagnetic radiation, protect communication facilities essential to the national defense, and engage in related research. The Preparedness Plans Division will be concerned with the emergency aspects of common-carrier services, radio-frequency assignment, resource data investigation and enforcement, damage assessment; also emergency mobilization of FCC personnel and other resources for assuring continuity of essential Commission functions in an emergency, protection of its personnel, records, etc.

This unified organization absorbed the Defense Coordination Division in the Office of the Executive Director and some of the personnel in the CONELRAD project in the Office of the Chief Engineer.

EMERGENCY BROADCAST SYSTEM

The Department of Defense notified the Commission in April of 1962 that, with certain limited exceptions, the CONELRAD (*CON*trol of *EL*ectromagnetic *RAD*iation) plan for using only 640 and 1240 kc for emergency broadcast is no longer deemed necessary to prevent the use of radio transmissions as navigational aids to an enemy. (CONELRAD was established in 1950 at the request of the military.) After receiving this notification, the Commission began planning with its National Industry Advisory Committee (NIAC) to revise the Emergency Broadcast System.

The resulting recommendations, based upon White House and Department of Defense (Office of Civil Defense) requirements, were approved by the Federal agencies concernd.

A revised plan for broadcast station operation during emergency conditions has been incorporated in the Commission's rules governing the Emergency Broadcast System, effective August 5, 1963, the termination date of the CONELRAD program.

The object of the Emergency Broadcast System is "to fulfill national security requirements while at the same time providing for transmission of vital information to the public." It provides official access to broadcast stations "during a war, threat of war, state of public peril or disaster, or other national emergency."

Among other things, it furnishes a nationwide broadcast capability for the President and other Federal officials to communicate with the general public immediately upon the receipt of an authenticated notification.

Immediately upon receipt of a national alert, all AM, FM, and TV stations holding national defense emergency authorizations will continue on the air on their regularly assigned frequencies. Other stations will discontinue normal program transmission and make certain prescribed announcements. Those not in the Emergency Broadcast System will advise listeners or viewers to tune in area AM stations in the system, then go silent.

AM, FM, and TV (aural) facilities with national defense emergency authorizations will then begin operating in the Emergency Broadcast System. Domestic international broadcast stations will transmit only Federal Government broadcasts or communications, going off the air at other times. All Emergency Broadcast System stations in a particular area will carry the same programs. There will be no broadcast of call letters during an emergency, though area identification will be given.

There is special provision for continuing emergency weather warnings. Upon notification by the U.S. Weather Bureau of a storm threat to life and property, all AM, FM, and TV stations may, at their option but only during their authorized hours of operation, transmit the emergency notification signal followed by the weather warning.

Provision is also made for participation by telephone companies, without charge, to connect an unaffiliated radio broadcast station with any network during an emergency action situation, if the station is in the system and has connecting facilities.

The emergency action notification involves the transmission of authenticated messages from the Federal Government to member stations by means of press teletype facilities of the Associated Press and United Press International, which are cooperating in this defense project.

By order of July 3, 1963, the Commission amended part 3 of its broadcast rules to substitute the new Emergency Broadcast System provisions for the outdated CONELRAD system.

The FCC has been cooperating with the Office of Civil Defense of the Department of Defense in the fallout shelter program. In addition to providing public fallout protection facilities, the Defense Department has also been providing limited funds to selected radio broadcast stations to be applied to the construction of fallout shelters to enable the stations to operate more effectively in the Emergency Broadcast System. Within the limits allowed by appropriations,

electric generators as well as simple radio equipment have been furnished by the Government on a loan basis to certain stations where necessary. Appropriate equipment loan agreements have been entered into between the Commission and licensees of the stations involved.

STATE DEFENSE NETWORKS (FM)

The individual State defense networks (FM) which are a part of the Emergency Broadcast System, may be extended by the interconnection of several States in area networks. For example, all the State defense networks from Maine to Florida have been utilized in establishing the Atlantic Seaboard Defense Network (FM).

These networks consist of emergency trunk circuits provided by off-the-air relay between FM broadcast stations in a contiguous area. By this means, the public can be provided with emergency communication when normal facilities are disrupted or destroyed.

INDUSTRY ADVISORY COMMITTEES

A National Industry Advisory Committee (NIAC), 9 Regional Industry Advisory Committees (RIAC), 50 State Industry Advisory Committees (SIAC), and numerous Local Industry Advisory Committees have been appointed by the Commission. These committees, through coordination and liaison, continually work on improvements to the Emergency Broadcast System and provide technical advice and recommendations to the Commission with regard to emergency communication.

OVERALL DEFENSE PROGRAM PARTICIPATION

FCC participation in the overall national emergency preparedness program is maintained through membership in the Interagency Emergency Planning Committee (IEPC) of the Office of Emergency Planning.

Files of essential documents are maintained at the emergency relocation sites and those are kept current by periodic review.

EMERGENCY RELOCATION SITE

Emergency communications capability at the agency emergency relocation site has been significantly improved during the year by the installation of remote transmitting and receiving antennas. The emergency mobile radio communications center can handle radioteletype, voice (FM), or Morse code modes of transmission, as required. A staff of trained communicators is available at the site and participates in regularly scheduled communications drills to maintain proficiency.

The FCC is one of several Federal agencies which have recently been added to the Office of Emergency Planning Defense Coordinating Network (DEFCORD), a system used to provide official guidance from the Director of OEP on the nature and scope of readiness actions required to be taken under DEFCONS and certain other warning conditions. Twenty-four-hour-a-day contact is maintained through the FCC Monitoring Systems Division.

FAMILY RENDEZVOUS POINTS

During the year, a second family rendezvous point was completed for the use of FCC employees and their families in the event of a national emergency. This second point is at Charlotte Hall Military Academy, Charlotte Hall, Md. Emergency communications equipment has been positioned there and tested regularly. Also, the emergency communications equipment at the family rendezvous point at Linton Hall, near Bristow, Va., was upgraded. Both of these points are able to establish emergency contact with other FCC offices, mobile units, headquarters, or emergency relocation sites as may be required.

FCC EXECUTIVE RESERVE UNIT

Members of the FCC unit of the National Defense Executive Reserve participated in the third annual training conference conducted by the Office of Emergency Planning. Additionally, "shirt-sleeve" training was conducted for the reservists in the work of the various bureaus and offices of the Commission to which they are assigned.

Executive reservists are kept informed of the various actions of the Commission relating to emergency preparedness planning.

NATIONAL RESOURCE EVALUATION CENTER

The FCC representative to the National Resource Evaluation Center provides daily liaison between the Commission, OEP, and 16 other agencies with representation at the national relocation headquarters. In this capacity, he supervises updating the communications categories in the NREC file of resource data used by the computers.

The NREC representative participates in all site drills and exercises and is on round-the-clock call for emergencies or exercises. In these exercises, the FCC representative is responsible for evaluating communications resources and reporting on the effects of "attacks" upon available facilities. To assist in demonstrations of simulated damage to these stations, slides have been pre-positioned showing existing

wire, broadcast and microwave networks. Attack patterns are superimposed upon these slides to display the potential effects.

CUBAN CRISIS

The automatic readiness action plan of the Commission was implemented during the Cuban crisis of the fall of 1962. A predesignated small number of the emergency cadre staff was dispatched immediately to a relocation site and remained on duty throughout the emergency.

Space Communication

GENERAL

As noted in its last two annual reports, the Commission has had a continuing interest in and concern with the development of a worldwide commercial communications system by means of satellites. During the past fiscal year, with the passage of the Communications Satellite Act of 1962, its duties and responsibilities with respect to the regulation of such a system have been clearly defined by Congress. This act became law on August 31, 1962.

The Commission has created an organizational setup and established policies and procedures which will assist it in carrying out these new and unprecedented duties. The President and Congress have indicated the importance they attach to the implementation on a sound basis at the earliest possible date of a global satellite communications system. The Commission shares this concern and considers that accomplishment of the objectives of the Satellite Act is one of its most important duties.

TECHNICAL DEVELOPMENTS

"Telstar I"

The launching on July 10, 1962, of "Telstar" by the National Aeronautics and Space Administration (NASA), working in cooperation with the American Telephone & Telegraph Co., was reviewed in the 1962 annual report of the Commission. This was the first experimental communications satellite incorporating an active repeater and resultant capability of relaying wide-band transmissions over transoceanic distances. Its maximum height of approximately 3,500 miles was adequate to permit direct communication at frequent intervals between ground terminals in Maine and Western Europe.

In addition to technical experiments which were run on a pass-by-pass basis, over 400 demonstrations were conducted. These included transatlantic TV relay; multiple simultaneous telephone calls; teletype, data, and facsimile transmissions; echo suppressor tests; electrocardiogram transmissions and time standardization synchronization tests.

Late in November of 1962, difficulties developed in the command circuit of "Telstar I" due to malfunction of one of the transistors and broadband transmission was not possible although the telemetry cir-

cuits continued to operate. The difficulty was diagnosed as surface effect of radiation and a special command signal was devised which permitted reactivation of the command circuit and broadband transmissions were resumed the first week in January 1963. However, after approximately 6 weeks, a further malfunction developed and continued efforts to correct the defect have been unsuccessful.

"Telstar II"

"Telstar II" was launched on May 7, 1963. While the communication capability of this experimental satellite is identical with that of its predecessor, knowledge of radiation effects obtained from "Telstar I" experimentation was used to incorporate design changes intended to minimize radiation damage to component parts, particularly in the decoder circuit where evacuated transistors are now used. The higher elliptical orbit was designed to take "Telstar II" out of high-intensity radiation regions for longer periods of time and, in addition, to provide an average of approximately 50 percent more mutual visibility per pass between the United States and Europe. An intensive program of experimentation and demonstration continued until July 17, 1963, when "Telstar II" ceased to function for then undetermined causes, but it later returned to full-time operation.

"Relay"

The first "Relay" communications satellite, built by the Radio Corp. of America, was launched by NASA on December 13, 1962. Although initially inoperative because of an overdrain on its power supply, methods were devised to restore functioning, and the altitude is sufficient to permit frequent periods of mutual visibility between the United States and ground terminals in Europe and South America. Like "Telstar," although of different design, "Relay" is a wide-band repeater satellite designed to test the feasibility of transoceanic telephone, telegraph, data, and TV transmissions. Since January 1963, TV and two-way telephone transmissions have been made via "Relay" between the United States and Europe practically on a daily basis with excellent results. Additionally, duplex telephone and data circuits have been established between the United States and Brazil.

"Telstar" and "Relay" Achievements

The "Telstar" and "Relay" experiments constitute a major step toward establishment of a worldwide communications satellite system. They have also demonstrated that communications ground stations with large-diameter, high-gain antennas operating in the microwave region of the radio spectrum are practicable and that antenna pointing data based upon orbital calculations are sufficiently precise to provide for early acquisition and tracking.

The potential capability of a satellite system was demonstrated in May 1963, when particularly favorable orbits of both "Telstar II" and "Relay" made it possible, for the first time, to relay a telecast of more than 1 hour duration to European ground terminals using these two satellites in tandem with but a 7-minute changeover period. Program material transmitted during this period related to the successful flight of Major Cooper and the *Faith 7* space capsule.

"Syncom"

While "Telstar" and "Relay" demonstrate the technical feasibility of medium-altitude active satellites, there is a universal interest in obtaining similar demonstrations of a satellite in synchronous orbit with the earth at about 22,000 miles.

The first series of "Syncom" satellites designed for such an orbit have a relatively limited communication capacity and are designed to follow an inclined orbit causing the satellite to oscillate above a fixed point on the earth. Subsequent designs contemplate incorporation of a higher telecommunications capability together with station-keeping equipment to maintain the satellite in the equatorial plane in synchronism with the earth's rotation.

"Syncom," built by the Hughes Aircraft Co., was launched by NASA on February 14, 1963, to test transmissions while in synchronous orbit. Although available information indicates that the satellite did, in fact, achieve the intended orbit, a malfunction occurred during injection into orbit which prevented operation of the communications equipment.

The second of the "Syncom" series was orbited by NASA on July 26, 1963. Intended to demonstrate the feasibility of communication at the synchronous altitude of 22,300 miles, this satellite and its associated complex control and communication equipment functioned perfectly. It is now positioned over the Equator at approximately 35° west longitude with a daily excursion north and south of that point of some 33° of latitude. The communication equipment is providing a telephone circuit capability between associated ground stations in the United States, Africa and South America.

International Cooperation

These experiments, pioneered by the coordinated efforts of the U.S. Government and private industry, received the cooperation of foreign governments. Communication between the United States and Europe via "Telstar" and "Relay" was made possible by the establishment in England and France of ground stations by the respective Governments of these countries. Other ground stations have been or are being established in Germany, Italy, Japan, Canada and Brazil.

The results not only have shown the feasibility of satellite communication but also, by bringing in the cooperative efforts of foreign

governments, have formed a pattern for like mutual endeavor in establishing a practical satellite system for global use.

Continued experiments will determine the type of system best suited for this purpose, with efforts concentrated on the achievement of higher reliability in the satellite electronic components.

ORGANIZATIONAL DEVELOPMENTS

Communications Satellite Corporation

The Communications Satellite Act provides that the U.S. portion of a global satellite system shall be owned and operated by a private corporation set up in accordance with that statute and subject to express Federal regulatory control.

The prescribed Communications Satellite Corporation was organized under the laws of the District of Columbia on February 1, 1963, by the incorporators who had been appointed by the President. There are presently 14 incorporators—2 of whom are officers of the corporation—who will serve as directors of the corporation until the initial issue of capital stock has been completed and the new stockholders have elected their directors. The Satellite Act provides that the incorporators will arrange for the initial stock offering and take such other actions as are necessary to establish the corporation.

As required by the Satellite Act, the articles of incorporation were submitted to the President, who approved them after consultation with those Federal agencies, including the Commission, who had been given specific responsibilities under that statute.

In order to permit the corporation to meet the District of Columbia requirements for paid-in capital, the Commission approved an application from the incorporators for the issuance of one share of stock at $100 a share to each of the incorporators. This issuance was not, of course, the initial issue contemplated by the Satellite Act, and the incorporators still have before them the task of completing arrangements for the initial stock issue in order to bring about the establishment of the corporation.

COMMISSION ACTIVITY

In September of 1962, the Commission established an Office of Satellite Communications to assist it in meeting its responsibilities under the Satellite Act. The office is attached to the Common Carrier Bureau and is staffed with legal, economic, and engineering personnel. Its activities are coordinated with the Offices of General Counsel and Chief Engineer.

The added responsibilities of the Commission under the Satellite Act were reviewed in the 1962 annual report. A brief summary of the Commission's actions to date in meeting these responsibilities follows:

Carriers Authorized To Own Stock

The Satellite Act provides that communications common carriers may own in the aggregate not more than 50 percent of the stock in the corporation, and only those communications common carriers authorized by the Commission may do so. On November 28, 1962, the Commission proposed rules and regulations to carry out this provision of the Satellite Act. After consideration of comments received from a number of communications common carriers, the Commission adopted appropriate rules and regulations effective as of December 31, 1962.

The rules set forth the procedures which must be followed by carriers making application for authorization to own stock in the corporation. They provide, among other things, that in the event there is an oversubscription by the carriers for the carrier portion of the stock in the corporation, the Commission may allocate such stock among the authorized carriers.

As of July 1, 1963, applications for such authorization had been received from 116 carriers, of which number the Commission approved 91. The remaining applications are being processed in accordance with the applicable rules and regulations.

Financing of the Corporation

It was necessary for the Communications Satellite Corporation to arrange for interim financing of its operations until such time as the initial issue of stock has been completed and the corporation established in the pattern prescribed by Congress.

Under the Satellite Act, the Commission must approve all issuance of stock, except the initial issue, and all borrowing of the corporation upon a finding that such issuance or borrowing is in the public interest and is consistent with the purposes of that law.

On February 26, 1963, the Commission approved an application by the corporation for authority to enter into a $5 million line-of-credit agreement with 10 banks and to borrow initially $500,000 under the agreement. Commission approval was conditioned on the requirement that any additional borrowing under the line of credit agreement can be made only upon specific authorization. The Commission also requires the corporation to report on its expenditures of all monies borrowed.

The Commission's Office of Satellite Communications is drafting proposed rules to govern future applications by the corporation for authorization to issue stock or borrow money.

Procurement Policies

The Satellite Act requires the Commission to insure effective competition in the procurement by the corporation and communications

common carriers of apparatus, equipment, and services required for the communications satellite system and for satellite terminal stations and to consult with the Small Business Administration and solicit its recommendations on measures and procedures to insure that small business is given an equitable opportunity to participate in the procurement program of the corporation.

The Commission has issued proposed rules and regulations which, when adopted, will establish procedures to carry out these requirements. In drafting the contemplated rules, the Commission consulted with the Small Business Administration and with other interested Government agencies.

The Commission has required that, pending the promulgation of these rules, the corporation and communications common carriers keep it informed of their procurement activities as they relate to the Satellite Act.

Through the adoption and enforcement of such rules, the Commission will meet its responsibilities of insuring effective competition and equitable opportunities for small business in such procurements.

Other Commission Responsibilities

The Commission is required to grant authorization for the construction and operation of satellite terminal stations, to insure equitable access to the system by authorized carriers, and to establish accounting regulations and systems which will insure that any economies made possible by the satellite system are reflected in rates charged the public for communication services.

The Commission is preparing studies analyzing the factors involved so as to be in a position to discharge these and other responsibilities placed on it by the Satellite Act.

Space Frequency Considerations

As early as 1957, the Commission recognized the need for international agreement on frequencies for satellite communication. The combined efforts of the FCC, other Government offices and the communications industry led to the adoption of U.S. proposals on that subject for the Ordinary Administrative Radio Conference of the International Telecommunication Union (ITU) at Geneva in 1959. Although too little was then known of the eventual operational frequency requirements for space satellite communication for the conference to attempt to provide for such future needs, certain frequency bands were allocated for space research and provision was made for an Extraordinary Administrative Radio Conference (EARC) to further consider space allocations. That conference was schedueld to convene at Geneva on October 7, 1963.

Since 1960, the Commission has been engaged in extensive preparatory work for the 1963 EARC on space allocations. This work has involved the coordinated, combined efforts of the FCC, the Director of Telecommunication Management (DTM) of the Office of Emergency Planning, the Government users of radio represented on the Interdepartment Radio Advisory Committee (IRAC), and the representations and advice of the communications industry.

In preparation for this conference, the Commission began an inquiry on May 18, 1960 (docket 13522), on the subject of frequency allocations for space communication, followed by a second notice of inquiry on May 17, 1961, in the same docket. After reviewing the comments received and after consultation with the DTM and the IRAC, the Commission recommended "preliminary views" to the Department of State. The latter concurred in this document and transmitted copies to all member countries of the ITU for comment. A third and final notice of inquiry was issued October 24, 1962, after which teams of U.S. experts in the space allocations field visited a number of countries to discuss the draft conference proposals. The U.S. proposals were transmitted to the Secretary General of the ITU on June 1, 1963, by the Department of State. On June 19, 1963, the Commission issued a report and order publishing the U.S. proposals to the conference. These proposals include U.S. views on the frequency bands which should be allocated internationally to the communication-satellite service. At the same time, the Commission terminated its inquiry into this subject (docket 13522). Since the agenda for the conference had been expanded to include allocations for radio astronomy, the U.S. proposals also included international allocations for that service. (See "Radio Astronomy" under the chapter "Frequency Allocation and Use.")

The Xth Plenary Assembly of the International Radio Consultative Committee (CCIR) of the ITU met at Geneva in January–February 1963 to consider, among other things, technical matters relating to space systems including preferred technical characteristics. The CCIR made substantial progress in this area and has laid a technical foundation for the work of the space conference.

Space frequency problems of a domestic nature continued to increase with the expansion of the U.S. space effort. There is continuing close cooperation between the FCC, NASA, and other agencies active in the space field, as well as with industry. The FCC has assisted in arrangements for providing frequencies to meet the frequency requirements of various U.S. space projects.

Relation With Other Agencies

In order to properly fulfill its satellite communications obligations, the Commission maintains close coordination with other Government agencies, including NASA and the Department of State, which also have responsibilities under the Satellite Act.

Reference has already been made to the Commission's solicitation of advice from the Small Business Administration in the drafting of proposed rules and regulations for procurement. The Commission will continue to work closely with the SBA in carrying out and enforcing the procurement rules. To this end a liaison arrangement between the FCC and the SBA has been established.

Broadcast Services

ENFORCEMENT

The public's growing awareness of the obligations of broadcast licensees led it to express its views to the Commission on this subject in increasing numbers during fiscal 1963. This, in turn, brought about a substantial increase in the number of investigations of broadcast operations and in the number of stations against which sanctions were imposed.

During the fiscal period, licenses of 5 stations were revoked and 8 others were in revocation proceedings; 8 stations were denied license renewals and 17 others were in renewal proceedings; monetary forfeitures were assessed against 20 stations, and 12 stations were given short-term licenses.

EXPRESSIONS OF PUBLIC OPINION

The Commission received more than 20,000 expressions of opinion on broadcasting or broadcast regulation in fiscal 1963 compared to approximately 12,000 the previous year.

Of the communications which complained about networks, licensees, or programs, objections to programing again constituted by far the largest single category—42 percent of the total. Next in volume (29 percent) were complaints about advertising, including overcommercialization, loud commercials, and false and misleading advertising. A large volume of mail was laudatory of stations and programs. Many such letters were prompted by the required pre-renewal announcements by licensees inviting public opinion on the service rendered by their stations. Others were prompted by direct pleas broadcast by certain performers and licensees for members of their audiences to send letters on their behalf.

COMPLIANCE

As the result of the complaints received during fiscal 1963, field investigations were conducted in 21 States involving 51 stations and 2 networks. Inquiry subjects included character qualifications of licensees, unauthorized transfer of control of stations, lotteries, double billing, rigged contests, "payola" and "plugola," horserace broadcasting believed to be used for illegal gambling, antitrust practices, violations of the fairness doctrine, and various technical violations.

SANCTIONS

Assisted by the information so obtained, the Commission continued its vigorous enforcement of the Communications Act and related FCC rules. An unprecedented number of sanctions were imposed upon broadcast licensees.

Revocation Proceedings

The Commission took final action to revoke five broadcast station licenses during the fiscal year:

KPSR–FM, Palm Springs, Calif.; unauthorized transfer of control (August 16, 1962);

KBOM, Bismarck-Mandan, N. Dak.; unauthorized transfer of control and other violations (December 17, 1962);

WLOV(FM), Cranston, R.I.; misrepresentation and technical violations (January 30, 1963);

KWK, St. Louis, Mo.; abuses in contests (May 27, 1963); reconsideration denied October 31, 1963, but allowed time for court appeal; and

WBMT, Black Mountain, N.C.; repeated violations (June 26, 1963).

Eight other stations were the subject of revocation proceedings:

WPFA, Pensacola, Fla.; falsification of logs, etc.; an initial decision of May 28, 1962, looked to revoking; awaiting final decision (see related WMOZ, Mobile, Ala., license-denial proceeding);

WIZR, Johnstown, N.Y.; character qualifications, hidden ownership, and misrepresentation; an initial decision of August 9, 1963, looked to revoking; awaiting final decision (see related WSPN, Saratoga Springs, N.Y., license denial proceeding);

WDOV and WDOV–FM, Dover, Del.; double billing, logging violations, and misrepresentation; paid a forfeiture of $5,000, December 12, 1962, in lieu of revocation proceeding;

WCLM(FM), Chicago, Ill.; horseracing and other violations; an initial decision of September 17, 1963, looked to revoking; awaiting final decision;

WALA and WALA–TV, Mobile, Ala.; violations of the act and the fairness doctrine; proceeding terminated September 11, 1963; and

WMPP, Chicago Heights, Ill.; unauthorized transfer and misrepresentation; short-term license granted October 3, 1962.

License Renewal Proceedings

The Commission refused license renewals to eight stations:

KRLA, Pasadena, Calif., for conducting "rigged" contests, altering program logs, etc. Decision to refuse renewal was reaffirmed July 18, 1962, and affirmed by U.S. court of appeals July 5, 1963; writ denied by Supreme Court on November 12, 1963;

WDKD, Kingstree, S.C., for vulgar and suggestive programs, misrepresentations, etc. This decision to deny license was reaffirmed January 3, 1963, but stayed on January 30 pending WDKD court appeal; and

Gila Broadcasting Co. stations WCKY, Coolidge; KCLF, Clifton; KGLU, Safford; KVNC, Winslow; and KZOW and KWJB-FM, Globe (all Arizona), for unauthorized transfer of control and technical violations; renewals denied December 10, 1962.

Seventeen other stations were involved in proceedings to determine whether their licenses should be renewed:

WGMA, Hollywood, Fla.; character qualifications of one of its principals involved in "fixed" network TV shows; an initial decision of May 1, 1963 looked to grant; awaiting final decision;

WMOZ, Mobile, Ala.; false program logs and misrepresentation; an initial decision of May 28, 1962, looked to deny; awaiting final decision (see related WPFA, Pensacola, Fla., revocation proceeding);

KMAC and KISS-FM, San Antonio, Tex.; misrepresentation; an initial decision of February 18, 1963, looked to grant; awaiting final decision;

WRCV and WRCV-TV, Philadelphia, Pa.; antitrust consideration; in hearing;

WSPN, Saratoga Springs, N.Y.; misrepresentation, etc.; an initial decision of August 9, 1963, looked to deny; awaiting final decision (see related WIZR, Johnstown, N.Y., revocation proceeding);

WXFM(FM), Elmwood Park, Ill.; unauthorized transfer, misrepresentation, etc.; an initial decision of August 20, 1963, looked to deny; awaiting final decision;

WWIZ, Lorain, Ohio, and WFAR, Farrell, Pa.; unauthorized transfer; an initial decision of March 6, 1963, looked to grant; awaiting final decision;

WNAC, Boston, Mass.; character qualifications; in hearing;

WHEY, Millington, Tenn., and WKBL, Covington, Tenn.; character qualifications and unauthorized transfer of WHEY; an initial decision of July 15, 1963, looked to deny; awaiting final decision;

WAXE, Vero Beach, Fla.; lack of licensee control and technical violations; license renewed August 2, 1963;

KSHO-TV, Las Vegas, Nev.; unauthorized transfer and undetermined ownership; in hearing;

KCHY, Cheyenne, Wyo.; character qualifications, etc.; in hearing; and

KDAC, Ft. Bragg, Calif.; character qualifications, etc.; in hearing.

Forfeiture Proceedings

Under a 1960 amendment to the Communications Act, broadcast stations which engage in certain violations that do not warrant revocation proceedings can be held liable for monetary forefeitures to be paid to the U.S. Treasury (not to the Commission).

During the fiscal year, notices of apparent liability were issued to 20 stations, as compared to 7 such notices during fiscal 1962. The notices issued during fiscal 1963 were:

WBNX, New York City, July 5, $10,000 for broadcasting commercials without identifying the sponsor, failure to file time broker contracts, etc.;

KELP, El Paso, Tex., July 25, $5,000 (later reduced to $1,000) for failure to identify sponsorship;

WCHI, Chillicothe, Ohio, July 25, $3,000 (later reduced to $2,000) for operator requirement and technical violations;

WCHO, Washington Court House, Ohio, July 25, $1,500 (later reduced to $500) for operator requirement violation;

WKOV, Wellston, Ohio, July 25, $2,000 (later reduced to $1,000) for operator requirement violation;

KISN, Vancouver, Wash., September 6, $2,000 for improper station identification;

WCCO–TV, KSTP–TV, WTCN–TV, and KMSP–TV, all Minneapolis, Minn., September 6, $500 each for failure to identify sponsorship;

WRVB–FM, Madison, Wis., October 11, $1,000 (later reduced to $500) for unauthorized transfer;

KVOC, Casper, Wyo., February 20, $1,500 for conducting equipment and program tests without authority;

KVOB, Bastrop, La., February 20, $1,000 for failure to identify sponsorship;

WCEF, Parkersburg, W. Va., March 27, $500 for operator requirement violation;

KLFY–TV, Lafayette, La., April 10, $1,000 for failure to identify sponsorship;

KPEL, Lafayette, La., April 10, $250 for failure to identify sponsorship;

KXKW, Lafayette, La., April 10, $250 for failure to identify sponsorship;

KRSD, Rapid City, S. Dak., April 23, $1,000 for operating new transmitter without authority;

WHAS–TV, Louisville, Ky., May 22, $1,000 for broadcasting political program without identifying the sponsor; and

WVAR, Richwood, W. Va., June 19, $3,500 for operator requirement violation.

Short-Term Licenses

The Commission continued to issue short-term licenses to stations with violation records indicating need for closer supervision. This authority, too, was provided by the 1960 amendments to the act.

During the fiscal year, the following 10 stations, because of various considerations, were given license renewals for shorter periods than the normal 3-year term:

WCHJ, Brookhaven, Miss.
WACR, Columbus, Miss.
WCGA, Calhoun, Ga.
WNAT, Natchez, Miss.
KCOG, Centerville, Iowa
WWL–TV, New Orleans, La.
WMIS, Natchez, Miss.
WDAS and WDAS–FM, Philadelphia, Pa.
WMPP, Chicago, Ill.

In addition, KTVU(TV), Oakland, Calif., and KEYC–TV, Mankato, Minn., were given original short-term licenses.

License Renewals Deferred

The Commission is required to make a finding that the public interest would be served in determining whether applications for license renewals should be granted. In so doing, it examines the legal, technical, financial, and other qualifications of the applicants. As a result of the Commission's 1960 statement of policy that broadcasters are required to make efforts to ascertain and fulfill the needs and desires of the people in the communities served by the stations, a large number of renewal applications were deferred pending resolution of this and other questions raised by an examination of station performance. As of June 30, 1963, the deferred AM, FM, and TV renewal applications totaled 476 as compared to 397 the previous year.

Public Response to Renewal Applications

The Communications Act and the Commission's rules require broadcast stations to publish notice of their applications for renewal of licenses to elicit public comment. During the past fiscal year, 2,197 letters were received in response to such publication (compared to 1,746 in 1962). Of this number, 1,509 were commendatory and 688 contained unfavorable comments.

POLITICAL BROADCASTS

In amending section 315(a) of the act, effective September 14, 1959, to exempt from the "equal opportunities" requirement appearances by legally qualified candidates on bona fide newscasts, news interviews, news documentaries, or on-the-spot coverage of news events, Congress requires the Commission to include in each annual report "a statement setting forth (1) the information and data used by it in determining questions arising from or connected with such amendment; and (2) such recommendations as it deems necessary in the public interest."

The Commission gives section 315 matters priority consideration. Immediately upon receipt, a complaint is acknowledged and the complainant informed that the Commission is communicating with the licensee. At the same time, the licensee is advised of the complaint and directed to reply within a given time. These Commission notices are by telegram, letter, or telephone depending on the immediacy of the election. When a determination is made, both the complainant and the licensee are similarly notified.

In deciding whether a particular "use" of a station's facilities by a candidate comes within the section 315 exemptions, the Commission seeks factual information bearing on the determinative factors. For example, in a typical case, the Commission inquired into the following

matters: Whether the candidate requesting "equal opportunities" was a "legally qualified candidate"; the format and content of the program on which he appeared; whether the program was "regularly scheduled" and, if so, the times of the day and week; when the program was first initiated and when a candidate first appeared on it; whether controversial issues were discussed and, if so, whether opportunity was afforded to present opposing viewpoints; the amount of free time received by the initial candidate; a copy of the script of the program in issue; and the basis for the station's denial of the request of the candidate requesting equal time.

The Commission has not experienced any serious problems in applying the 1959 amendments to section 315 in cases before it. Accordingly, it is not making any recommendations on the subject.

During fiscal 1963, several bills were introduced in Congress proposing to amend or suspend various provisions of section 315. These included proposals to exempt permanently the appearances of candidates for President and Vice President, also Members of Congress and Governors; to suspend section 315 for the President and Vice President in the 1964 election, also congressional and gubernatorial candidates in that election.

On October 3, 1962, the Commission issued a revised public notice on "Use of Broadcast Facilities by Candidates for Public Office." This is an updated compilation of the Commission's interpretative rulings under section 315 and related rules.

The following significant section 315 matters came before the Commission during the year:

On October 5, 1962, in response to a request from counsel for the Senate Commerce Committee, the Commission ruled that where a licensee and candidates agree to the broadcast of programs featuring a joint appearance of all candidates, such a broadcast would appear to comply with the licensee's obligation to afford equal opportunities. The Commission held, however, that where one of the candidates had not accepted the licensee's earlier offer to appear on the joint program but subsequently sought opportunities equal to those afforded to and accepted by his opponents, the licensee's prior offer did not modify his obligation under the act—that where the licensee permits one candidate to use its facilities, section 315 then requires the licensee to afford equal opportunities to all other candidates for that office.

The Commission stated that this obligation could not be avoided by the licensee's unilateral actions in picking a program format, specifying participants other than and in addition to the candidates, setting the length of the program, the time of broadcast, etc., and then offering the package to the candidates on a "take it or leave it" basis. Such an

offer would constitute censorship by the licensee over the material broadcast, prohibited by section 315, since it would, in effect, be dictating the program format to the candidate.

The Commission pointed out that it was aware of the fact that licensees must be able to plan their program schedules sufficiently in advance and must be able to give reasonable assurance that the planned programs will be broadcast substantially as scheduled. Thus, the Commission stated that it had always encouraged negotiations between licensees and candidates seeking time under section 315 looking toward a mutual disposition of requests and that, where agreement could not be effected, the licensee may implement his plans as to candidates who have agreed and, as to those who have not agreed, make available, upon request, comparable opportunities.

On October 29, 1962, the Commission denied petitions by Columbia Broadcasting System and National Broadcasting Co. for reconsideration of a prior ruling holding that broadcast coverage of the Nixon-Brown debate did not constitute "on-the-spot coverage of bona fide news events" within the meaning of section 315(a)(4). The Commission pointed out that Congress had specifically refused to exempt debates from the equal-opportunities provision and that if the sole test of the "on-the-spot coverage" exemption was simply whether or not the station's decision to broadcast the debate constitutes a news judgment, there would be no meaning to the other three exemptions in section 315(a) since these all involve bona fide news judgments by the broadcaster. The Commission concluded that a contrary view of section 315(a)(4) would be inconsistent with the legislative history and would subordinate substance to form; that the Commission was not questioning the licensee's news judgments but, rather, was emphasizing that this was not the sole criterion for determining whether the section had been properly invoked.

On October 29, 1962, in connection with a request from the Socialist Labor Party candidate for Governor of New York for equal time because of the appearances of the Conservative Party candidate for that office on station WMCA, the Commission held that a nightly news and discussion program consisting of a series of interviews with persons from all walks of life concerning newsworthy events and including newscasts did not constitute a "bona fide news interview" within the meaning of section 315(a)(2). It found that the host of the program was an independent contractor who exercised day-to-day control over the show subject to the station's overall control; that the host determined the amount of time allocated to interviews on the basis of the interest value of the guest. The Commission stated that this program was not of the type of programs cited by the Congress as "bona fide

news interviews." The station was advised that the complainant was entitled to equal opportunities, which were subsequently afforded.

Also in October of 1962, the Commission received a complaint from John Marshall Briley, Republican candidate for U.S. Senate from Ohio, alleging that several stations had rejected a video tape offered by him which used excerpts of the previously taped voice of Senator Lausche followed by Mr. Briley's comments. The stations stated that their rejections rested primarily upon section 325 of the act and section 3.655 of the rules relating to rebroadcasting. On November 2 thereafter, the Commission advised the complainant that, because of a tie vote, it was unable to resolve the unprecedented question of whether rebroadcasting consent under section 325 is required as claimed by the licensees. The Commission did note, however, that Briley had already been accorded the use of the facilities of those stations, though not for this particular type of program.

On December 19, 1962, in response to an inquiry from the National Association of Educational Broadcasters as to whether the carrying of political programs by educational TV stations would affect their tax-exempt status, the Commission obtained the views of the Internal Revenue Service and advised the NAEB that it would appear that noncommercial educational stations could not take sides in a political campaign or editorialize without jeopardizing their tax-exempt status. The Commission indicated, however, that if the noncommercial educational station presented political broadcasts "in a truly nonpartisan manner, acting 'entirely in the public interest' and without itself 'participating or intervening in a political campaign on behalf of a candidate for public office' * * * it would not run afoul of the cited tax provisions."

On April 10, 1963, the Commission ruled on a request by Thomas R. Fadell, candidate for mayor of Gary, Ind., for time equal to that afforded Judge A. Martin Katz, candidate for the same office, because of the latter's appearances over station WWCA on the "Gary County Court on the Air." This program was, in essence, a traffic court and its proceedings had been covered by the station as a public service for 14 years without change in format, and Judge Katz had appeared on it for the past 7½ years. It further appeared that all the mayoralty candidates had been given free time on the station during the campaign. The issue posed was whether the subject program came within the exemption of section 315(a)(4) as "on-the-spot coverage of bona fide news events." The Commission held that the broadcasts were news coverage of a governmental body and that the appearance of the candidate was "incidental to the on-the-spot coverage of bona fide news events" and not "for the purpose of advancing (his) candidacy."

The Commission received a complaint from the campaign headquarters for A. B. Chandler, a candidate for Governor of Kentucky, in which it was alleged that station WHAS–TV, Louisville, had broadcast a program entitled "The Chandler Years in Review" which criticized Chandler's prior governorship and which although, in fact, sponsored by Chandler's opponent, Edward T. Breathitt, was not so identified by the station as required by section 317 of the Communications Act and section 3.654 of the Commission's rules. After obtaining information from the station, the Commission on May 22, 1963, issued a notice of apparent forfeiture in the amount of $1,000 for an apparent willful violation. The Commission found that the program was announced as sponsored by the "Committee for Good Government" but written documents of the advertising agency for the "Committee for Good Government" indicated that the committee was, in fact, acting on behalf of Breathitt. The licensee filed a response to the liability notice which is under Commission consideration.

From January 1 to June 1, 1963, the Commission received 29 complaints relating to the "equal opportunities" provision of section 315. Of these, none related to either the office of Governor or U.S. Senator; 1 involved the office of U.S. Representative; and 12 related to other offices. Sixteen complaints were general, without reference to any specific candidate or office, and eight related to news-type programs.

During calendar year 1962, the Commission received 342 complaints relating to the "equal opportunities" provision. Of these, 69 involved the office of U.S. Senator; 66, that of U.S. Representative; 44, that of Governor; and 41, other offices. There were 122 general complaints, many of which concerned news-type programs.

The Commission on June 10, 1963, reported on its survey of political broadcast activities of stations and networks during 1962 in response to a request by a subcommittee of the Senate Commerce Committee. The survey detailed the extent to which broadcast licensees participated in the presentation of political broadcasts. One highlight was the fact that practically all TV and AM stations reported some political broadcasting and that fewer than 3 percent of 3,500 AM and 540 TV stations indicated no activities in this area. The survey also showed that slightly over half of the TV stations and about one-third of the AM stations gave sustaining time to candidates.

BROADCAST OF CONTROVERSIAL PUBLIC ISSUES

In its 1949 "Report on Editorializing by Broadcast Licensees," the Commission held that when a licensee permits the use of his facilities for discussion of controversial issues of public importance he is under an obligation to afford reasonable opportunity for the

broadcast of opposing viewpoints. This principle, sometimes referred to as the "fairness doctrine," became Commission policy and subsequently was reflected in the Communications Act.

Resultant complaints to the Commission allege such abuses as one-sided presentations of controversial subjects, distorted news, biased commentaries, political slanting, unfair editorializing, etc. Commission procedure includes an acknowledgment of the complaint and its transmittal to the station involved. The principal objective of the Commission in these matters is to remind licensees of their "fairness" obligations and to obtain compliance.

On April 17, 1962, a Senate Commerce Committee subcommittee issued a report on "Freedom of Communications." Among other things, it recommended that the Commission (*a*) promulgate definitive rules and make certain studies with respect to its "fairness doctrine"; (*b*) modify certain of its policies and adopt certain rules relating to section 315; (*c*) revise its internal procedures for handling equal-time and fairness complaints; and (*d*) advise Congress "exactly what is needed in the way of legislative authority and personnel in order to preserve for the public the freedom to hear and to see on the public airwaves, free from governmental dictation on the one hand, but free as well from private licensee dictation on the other." Some of the recommendations in (*c*) have been put into effect by the Commission. Consideration is being given to the other recommendations.

The number of questions concerning treatment of controversial issues and editorializing over broadcast stations increased sharply in the past 6 months.

In connection with the FCC survey of political broadcast activities of stations and networks during 1962, licensees were asked whether they had editorialized for or against political candidates. In all, 148 stations, including 15 TV stations, reported in the affirmative. Forty-four percent stated that they had broadcast reply statements; 52 percent reported no broadcast of reply statements but explained that they had made some efforts to encourage replies; and the remaining 4 percent are now being questioned by the Commission as to their awareness of their responsibilities in this area. Prospective compilation of such data on a continuing basis is under consideration by the Commission in its contemplated review of the program reporting forms.

In testimony of July 16, 1963, before a subcommittee of the House Interstate and Foreign Commerce Committee, the Commission stated: "Political editorializing is growing. Sixty-two stations broadcast editorials for or against candidates in 1960—148 in 1962. We think this growth and the above survey may indicate the desirability of

better defining our policies in this area—either by rulemaking or by a further policy statement. * * *"

The following significant "fairness doctrine" matters came before the Commission during the fiscal year:

During an election campaign for attorney general of North Dakota, the North Dakota Broadcasting Co., Inc., licensee of several TV stations in the State, aired two programs which were alleged to contain attacks on Charles L. Murphy, a candidate for that office. They consisted of three 30-minute documentaries about a hospital and a training school, with the last 5 minutes of two of the programs consisting of discussion of charges about administration made by Murphy. The latter alleged that the station had refused his request for an answering program.

On July 13, 1962, the Commission informed the complainant that section 315 was not applicable to this matter; that his complaint had been reviewed in light of the Commission's "fairness doctrine" which relates to issues rather than candidates and requires that reasonable opportunity be afforded for the presentation of opposing viewpoints. The complainant was advised that under the "fairness doctrine" the licensee could exercise discretion in determining the subjects to be considered, spokesmen for opposing viewpoints, whether the views of the requesting party has already received sufficient broadcast time, etc., and, therefore, the Commission could not conclude that the licensee's actions were inconsistent with the "fairness doctrine."

Where a station broadcast a series of editorials opposing the establishment of public utility districts in some of which a proponent was identified and attacked, the Commission stated that the "fairness doctrine" requires a copy of the editorial or editorials be communicated to the person attacked prior to or at the time of the broadcast and that a reasonable opportunity be afforded that person to reply. It stated further that this duty is greater where interest in the editorial is built up by the station over a period of days and the time within which the attacked person would have an opportunity to reply was known to be limited.

After investigation, the Commission, on July 20, 1962, reported on a program entitled "Living Should Be Fun." It featured a nutritionist's comment and advice on diet and health which was syndicated to many stations. The Commission found that the program included discussions of such controversial issues as fluoridation of drinking water, the value of certain cancer and other treatments, and views disagreeing with those of public agencies, private organizations, and individuals.

The Commission stated, in part: "Those licensees who rely solely upon the assumed built-in fairness of the program itself or upon the nutritionist's invitation to those with opposing viewpoints cannot be said to have properly discharged their responsibilities. Neither alternative is likely to produce the fairness which the public interest demands. There could be many valid reasons why the advocate of an opposing viewpoint would be unwilling to appear upon such a program. In short, the licensee may not delegate his responsibilities to others, and particularly to an advocate of one particular viewpoint."

In 1961, the Columbia Broadcasting System televised a program entitled "Biography of a Bookie Joint" which dealt with gambling law enforcement in Boston. The Commission received complaints that the program unfairly singled out Boston and was an unsupported attack on the State assembly.

After review, the Commission on July 18, 1962, in a letter to the speaker of the Massachusetts House of Representatives, stated that the licensee's obligation to operate in the public interest carried with it a corresponding obligation not to create erroneous impressions with programing represented as being factual, and that this is more so where the result is to damage the reputation of identifiable individuals or groups. However, the Commission recognized that the licensee producing documentary programs must have greater latitude in the selection and presentation of such material and cannot be expected to independently examine the basis for the comments of each participant in the program, particularly elective officials who are reasonably qualified to discuss the subject. Nor, it added, can a licensee be expected to anticipate every possible interpretation and emphasis and have counterbalancing program material. The Commission concluded that no further action appeared to be necessary.

In 1962, the National Broadcasting Co. broadcast a program entitled the "Battle of Newburgh" dealing with that city's controversial welfare policies. In response to complaints alleging that the program was biased and misleading, the Commission viewed the program and read the script and concluded that substantial portions of it favored the city's position, other portions opposed it, and some portions took no stand. The Commission found no effort by NBC to present a documentary which would deliberately favor one side over the other and, on July 19, 1962, so advised the Newburgh city manager, one of the complainants.

Where a station permitted a commentator to continuously broadcast partisan views with respect to candidates and issues in a campaign, the Commission, in letters to the Times-Mirror Broadcasting Co., stated that the "fairness doctrine" required that the station immediately send a transcript of each such program to the candidates

concerned and offer a comparable opportunity for an appropriate spokesman to answer the broadcast.

On April 19, 1963, the Commission dismissed a petition by Robert H. Scott requesting that renewal of license of KNBR, San Francisco, Calif., be denied because the station refused him time for a talk in support of atheism. The Commission advised the petitioner that the matters set forth in his petition were similar to arguments previously filed by him and that, in denying his earlier petitions, the Commission held in substance that the station did not broadcast programs directly against him or against the position which he espoused.

Where a station broadcast announcements intended to promote bipartisan campaign contributions to the major parties and their candidates, the Commission stated that the "fairness doctrine" required the licensee to make a good-faith judgment as to the particular needs and interests of his community in this respect, including the local interest in minor parties. The Commission concluded that the announcements in question constituted an effort to achieve a commendable goal of broadening the base of political contributions and were compatible to the "fairness doctrine."

In the 1962 elections in California for the office of State superintendent of public instruction, station KQED, San Francisco, proposed a program featuring an interview of the two candidates for that office by education editors of several newspapers. One of the candidates complained that the panel was "loaded" in favor of his opponent. The program was canceled after the parties were unable to agree on format. The station broadcast a statement of one of the candidates commenting on the cancellation of the program. The original complainant again complained, this time alleging that broadcast of the statement was unfair.

On May 29, 1963, the Commission advised the complainant that it could not conclude that the station's choice of interview format constituted anything more than a good-faith exercise of discretion by the licensee in an effort to offer the viewing public meaningful information in a manner acceptable to both candidates. The Commission added that, with respect to broadcast of the announcement concerning cancellation of the program, the complainant was given, and accepted, opportunity to present his own statement.

On July 26, 1963, the Commission issued a public notice advising broadcasters in general of their responsibilities under its fairness doctrine pronouncement of 1949.

TV NETWORK PROGRAMING INQUIRY

Since conclusion of the Commission's public hearing on TV network programing in early calendar 1962 (docket 12782), analysis of

the record has been made in preparation of a staff report for consideration by the Commission. This record consists of voluminous exhibits in addition to over 10,000 pages of testimony by approximately 200 witnesses, including network officials, independent film producers, advertisers, and advertising agencies, and TV program producers, directors, writers, and artists.

Part I of the staff's second interim report, "Television Network Program Procurement," was made public by the Commission in December 1962. It describes, for the first time in a public record, the overall TV network program procurement process and the role of each of the several components of that industry in the creation, production, selection, licensing, and distribution of TV network programs. Part I makes several suggestions for action by the Commission to foster and maintain a more competitive climate in the network TV program market, as well as means to more clearly define practical initial responsibility for the selection and supervision of network programs.

The report was subsequently printed as House Report No. 281, and is on sale by the Government Printing Office. The House document also includes the first interim report, "Responsibility for Broadcast Matter," which was submitted to the Commission in 1960. This earlier staff report contains information regarding the administrative and legislative history of broadcast regulation and is referred to frequently in the second report.

Part II of the second interim report, consisting of the detailed basis of the summary of fact contained in part I, was in staff preparation for submission to the Commission. Also being readied for Commission consideration were a summarization of the recommendations contained in part I and suggested legislation in accordance with those recommendations, and a detailed memorandum which considers the application of the antitrust laws to the facts disclosed by the program inquiry.

LOCAL TV PROGRAMING INQUIRIES

On November 21, 1962, the Commission ordered inquiry into local live programing by TV stations in Omaha, Nebr. Public sessions were held there in January and February of 1963 before Commissioner (now Chairman) Henry. On October 24, 1963, he issued a 66-page report which found, in essence, that "members of the public need and are entitled to help from the Commission and the broadcaster—help in obtaining knowledge of the relevant facts and help in articulating their own needs and those of the community as a whole."

While believing that further like inquiries are not needed at the present time, Chairman Henry said that those already held "clearly demonstrated" need for better public understanding of the obligations

which the Communications Act imposes upon broadcasters. Accordingly, he proposed that each TV station be required to make a prescribed announcement, at regular intervals and in prime time, "concerning its legal duties and the public's corresponding rights." In addition, his recommendations include (1) making available to the public, at the studios or local TV stations, the descriptions of their past and proposed programing which broadcasters have filed in their license applications; (2) making similarly available, at local studios, the information on their financial condition which broadcasters have filed in license applications, as well as the annual statistics on TV revenues in particular communities which are now released by the FCC in Washington; and (3) revisions in the descriptions of station programing contained in TV applications to make them more usable and understandable by the Commission, the public and the broadcasters. In addition, Chairman Henry would require a listing of community issues which, in the broadcaster's opinion, are most important, and a description of the manner in which his programing treats those issues.

The Omaha proceeding grew out of a previous inquiry into local TV programing in Chicago, Ill., in 1962. After considering the report of Commissioner Lee, who presided at the Chicago sessions, the FCC ordered similar hearings in Omaha, in order to gain further information and insight into local TV programing in a representative community.

BROADCAST RATINGS

Hearings held by the Special Subcommittee on Investigations of the House Interstate and Foreign Commerce Committee focused attention on the inadequacies and shortcomings of audience measurement information, particularly broadcast ratings. The Commission, in its testimony, stated that it "certainly accepts the premise that audience research is desirable if it is good research and is properly used," adding, "unfortunately, neither of these conditions obtains sufficiently with respect to rating measurements heretofore in use in American broadcasting." The Commission agreed with the subcommittee that there was a need for substantial overhauling of survey standards and administration, as well as the labeling of the published reports of rating organizations.

In connection with this problem, the FCC and the Federal Trade Commission on June 13, 1963, issued public notices dealing with improper use of broadcast ratings. The FCC notice reminded broadcast licensees of their obligation to take reasonable precautions to insure that a survey which the licensee uses in an advertising campaign is valid (i.e., that it is properly conceived, reasonably free from bias, and has an adequate sample). Also, the licensee may not quote a portion

of the survey out of context so as to leave a false impression of the relative ranking of his station in the market. The Federal Trade Commission warned that failure to act responsibly may constitute an unfair method of competition, or an unfair or deceptive act or practice in violation of its statute.

The FCC intends ordinarily to refer complaints about questionable use of broadcast ratings to the FTC. In determining whether a licensee is operating in the public interest, the FCC will take into account any FTC findings or orders concerning the use of ratings by broadcasters.

Various broadcast industry organizations are taking steps to overhaul ratings practices. The House subcommittee is continuing its activities in this field to insure that necessary reforms are accomplished within a reasonable time.

BROADCAST ADVERTISING

Excessive Advertising

The Commission, concerned with excessive commercialization by broadcast stations, initiated a proceeding on May 15, 1963 (docket 15083), to limit the amount of time which may be devoted to commercials. The radio and television codes of the National Association of Broadcasters (NAB) were used as a basis for the proposed rules, with a recognition that separate standards may be needed for special categories of stations.

In general, the provisions of the NAB codes are as follows: For radio, the time for advertising in announcement or participating programs is not to exceed a maximum of 14 minutes an hour computed on a weekly basis, 18 minutes in any single hour, or 5 minutes in any 15-minute segment. Commercial limitations for single-sponsor programs are 7 minutes for an hour-long program, 4¼ minutes for a half-hour program, and 3 minutes for a quarter-hour program.

For TV, the NAB draws no distinction between sponsored programs and programs with participating announcements. Instead, separate standards are applied to "prime time" programs (usually between 6 and 11 p.m.) and those during other hours. During prime time, the maximum amount of time that may be devoted to commercial continuity or announcements is 8 minutes per hour. During other hours, 12 minutes an hour may be devoted to commercials.

Commission consideration will not be limited to the NAB codes; it requested any alternative suggestions which will provide a reasonable balance between commercial copy and program material. Oral argument was scheduled for December 9, 1963.

Loud Commercials

Over the years the Commission has, from time to time, received many complaints about the loudness of commercial announcements. During the past year the number of such complaints has increased.

On the surface, loudness of commercials would appear to be a simple matter to control, but such is not the case, since loudness is a subjective quality which varies with numerous factors such as degree of modulation of the signal, the modulation level of preceding and subsequent material, rate of speech, strained or relaxed tone of voice, and with various techniques used in broadcasting, such as speech processing, volume compression, and limiting.

In an effort to learn how widespread loud commercials are, why they exist, and how they may be effectively controlled, the Commission on December 18, 1962, initiated an inquiry of the subject. The many comments in this proceeding are being analyzed, along with staff studies, to ascertain whether changes in the present Commission rules are required to deal with the problem.

Combination Advertising Rates

On January 31, 1963, the Commission issued a public notice about combination rates. It stated that combination-rate agreements or practices by independent stations serving the same area raise serious questions concerning the antitrust laws, conflict with established Commission policies, and are contrary to the public interest.

The Commission noted instances where two or more broadcast licensees, serving substantially the same areas, have entered into agreements whereby, directly or indirectly through a representative acting for all, combination rates are offered to advertisers who purchase time for commercial announcements by participating stations. In concluding that such combination-rate arrangements are not in the public interest, the Commission stated that it expects licensees participating in such arrangements to modify their commercial practices to the extent necessary to comply with the views expressed in the notice. There have been a number of requests for rulings and clarification of the notice.

GENERAL BROADCAST MATTERS

Multiple Ownership

The Commission is concerned with instances involving substantial overlap of the service areas of commonly owned broadcast stations. Accordingly, in a currently pending proceeding (docket 14711) designed to tighten the "duopoly" or "overlap" provisions of the multiple-ownership rules, the Commission proposed on July 13, 1962, that no licenses for broadcast stations under common ownership would be

granted which would cause, in the case of AM and FM, overlap of the predicted 1-mv/m groundwave contours and, in the case of TV, overlap of the grade A contours. The required spacings for FM and TV stations would be reflected in mileage separation tables.

The proposed rules would apply to applicants for new stations, major changes in existing stations, and assignments and transfers of control, but not to renewal of existing licenses, and would not pertain to noncommercial educational FM and TV, nor to class IV (local) AM stations desiring to increase daytime power to 1 kw.

Transfers and the "3-Year Rule"

Applications for license assignments and transfers of control declined 8 percent below the 1962 level despite station sales resulting from "freezes" on new AM and FM facilities. This was the first full fiscal year under the rule adopted March 15, 1962 (sec. 1.365), restraining station sales before the licensee has completed 3 years of operation. The new rule appears to be a factor in reducing the number of transfer applications.

The Commission is continuing to process assignment and transfer applications in greater depth. Because of this and the increased complexity of data submitted with the applications, the processing time for such applications has increased from 2 months to 4 or 5 months. Another contributor to increased processing time is the large number of petitions to deny which have been invited by section 309(d) of the act.

Sponsorship Identification

On May 1, 1963, the Commission revised its sponsorship identification rules (docket 14094). This was necessitated by congressional revision of section 317 of the act to redefine the situations in which broadcast licensees must make sponsorship identification announcements. In adopting the new legislation, Congress set forth 27 examples to illustrate the intended effect. The Commission on May 6, 1963, issued a notice, "Applicability of Sponsorship Identification Rules," which contained the Commission's revised rules and 36 illustrative interpretations including the 27 examples mentioned by Congress. The purpose of these rules and the notice is to prevent "plugola" and "payola" abuses and to provide for adequate disclosure of any considerations received for broadcast exposure.

Broadcast of Horseracing Information

On November 22, 1961, the Commission issued its "Restatement of Policy on the Broadcast of Horseracing Information" which concluded

that the broadcast of such information which appears to be of substantial use to persons engaged in illegal gambling activities is not in the public interest. However, there has been a significant increase in the broadcast of racing information and the Commission, therefore, on April 10, 1963, proposed rules (docket 15040) to identify more precisely broadcast practices which can aid illegal gambling.

By establishing specific guidelines, the Commission hopes to remove most of the problems now faced by broadcasters in determining whether a particular program is in that category. It is also expected that these guidelines will eliminate misunderstanding and also facilitate detection and enforcement action in cases involving deliberate violation.

Operator Requirements

On October 16, 1963, the Commission reaffirmed, with some modification, a July 10, 1963 action (docket 14746) concerning operator requirements for AM stations with power of 10 kw or less which use nondirectional antennas and FM stations with power of 25 kw or less. It provides that stations of these types can use, for routine transmitter operation, persons holding at least radiotelephone third-class operator permits indorsed for such operation. Stations using such operators may employ, under certain conditions, a supervising engineer holding a first-class operator license on a contract part-time basis instead of a full-time basis.

Automatic Logging

The Commission has under consideration revision of its program logging rules (docket 14187) and of the programing portion of the application forms (docket 13961). The decisions to be made in the former proceeding depend, to a large extent, on those made in the latter. However, as of October 3, 1963, the Commission amended its program logging rules to permit the use of automatic logging devices subject to certain conditions. With automatic logging devices, it is possible to retain a record from which desired program information can be obtained for use in conjunction with any revision of application forms.

In addition to program logs, broadcast stations are also required to keep operating logs which contain a performance record of the station transmitter and associated equipment. In rules adopted February 20, 1963, and amended July 10, 1963 (docket 14661), the Commission authorized the use of automatic devices for keeping operating logs. The new rules also require that stations now keep a maintenance log with entries pertaining to maintenance of equipment.

Emergency Broadcast

For about 30 years, the Commission has provided for broadcast station operation during emergencies in a manner other than that specified in the authorization. Experience indicated that these rules needed clarification. Therefore, on July 3, 1962, revisions were proposed (docket 14703) which, with some modification, were adopted on November 7, 1963.

Under the new rules, daytime-only and other restricted-hours AM stations may engage in emergency operation outside normally authorized hours if no unlimited-time AM station located in the area is so operating. Unlimited-time AM stations may engage in nighttime emergency operation using daytime facilities if no other AM station in the area is so operating. When so engaged, commercials are prohibited. Music may be played when emergency information is not being transmitted. Stations in emergency operation may also transmit messages to specific individuals.

The decision to engage in emergency operation (except during a national alert) is placed solely with the licensees, not with local or other officials.

On January 9, 1963, the Commission amended its rules so as to enable remote pickup broadcast stations to transmit essential communications in an emergency.

TELEVISION (TV) BROADCAST SERVICE

All-Channel TV Receivers

A principal reason UHF has not been able to develop successfully has been the scarcity of TV receivers capable of receiving UHF stations. The majority of sets can receive only the 12 VHF channels instead of all the 82 available for TV. Congressional enactment of the all-channel TV receiver law (Public Law 87–529, July 10, 1962) will help to remedy this situation. Under this FCC-sponsored legislation, the FCC has directed that TV receivers manufactured after April 30, 1964, or imported, can be shipped in interstate commerce only if they are able to also receive the 70 UHF channels. However, nothing in the law or the Commission's rules will interfere with people continuing to operate their present nonconforming sets.

At the request of educators, the Commission amended its all-channel rules to provide an exemption for receivers manufactured on or before March 30, 1966, and shipped to educational institutions for in-school instruction use.

UHF Pool and Dual VHF–UHF Operation

Enactment of the all-channel TV receiver legislation caused the Commission to reexamine its proposals in docket 14229 to provide a

"pool" of UHF frequencies for existing VHF licensees and to permit dual VHF–UHF operation by commercial TV licensees. The proposal for dual operation was intended to stimulate inauguration of UHF services in predominantly VHF markets, and the "pool" of UHF channels was designed to provide VHF stations with a UHF channel for dual operation. Since all-channel receivers are expected to promote the fuller use of UHF channels, the subject proposals no longer have any immediate utility and, on July 18, 1962, were dropped.

Proposed Revision of UHF Assignments

As part of its overall program to foster UHF TV development, the Commission on October 24, 1963, proposed a revised allocation plan for UHF channels which would add over 400 new local assignments to the present table. Of the nearly 2,000 assignments proposed, about 600 would be reserved for educational use as compared with the present 230 UHF educational reservations.

In selecting places for commercial assignments, effort was made to provide at least one commercial channel to every community with a population of 10,000 or more unless the community is located near a much larger city. Both UHF and VHF channels were counted toward that goal. About 300 possible additional UHF assignments can be made to smaller communities as needed.

Deintermixture

The Commission instituted rulemaking (dockets 14239 et al.) on July 27, 1961, to consider making eight communities which had only one VHF station in operation all UHF. These communities were Madison, Wis.; Rockford, Ill.; Hartford, Conn.; Erie, Pa.; Binghamton, N.Y.; Champaign, Ill.; Columbia, S.C., and Montgomery, Ala. The subsequent all-channel receiver law made unnecessary the dislocating aspects of such a program and, on September 12, 1962, these proceedings, too, were terminated.

The Commission has previously deintermixed Bakersfield and Fresno, Calif. In a new rulemaking proceeding, as a result of a court remand, the Commission in July 1962, reaffirmed its decision to take channel 2 from Springfield, Ill., and make that area all UHF. Channel 2 was assigned to St. Louis, Mo., and Terre Haute, Ind. On June 27, 1963, the court sustained the Commission's decision.

Drop-Ins

Concurrent with the deintermixture proposal, the Commission instituted proceedings (dockets 14231 et al.) to consider drop-in of third VHF channels to Oklahoma City, Okla.; Johnstown, Pa.; Baton Rouge, La.; Dayton, Ohio.; Jacksonville, Fla.; Birmingham, Ala.;

Knoxville, Tenn., and Charlotte, N.C., at less than the minimum mileage separation requirements.

The absence of a third comparable facility was of concern to the Commission because of the effect upon nationwide network competition. However, this interest was tempered by consideration of need to encourage UHF broadcasting. Also, these proceedings were instituted before enactment of the all-channel receiver law. It was the Commission's subsequent decision that new VHF assignments would inevitably affect UHF development by removing choice opportunities for UHF stations. It, therefore, terminated the proceedings with the exception of Oklahoma City, Okla., to which channel 5 was assigned from Enid because there are already three VHF channels in the Oklahoma City market.

Petitions for reconsideration of these drop-in denials were, after oral argument, denied on November 15, 1963.

Relaxation of Technical Requirements

As a further effort to foster UHF, the Commission, on March 27, 1963, relaxed certain technical requirements to reduce the initial investment and the operating costs of UHF stations (docket 14229). The new rules provide that UHF stations may operate with aural power as low as one-tenth the peak visual power; may also operate by remote control; and a low-powered UHF station (1 kw or less) may use a highly directive transmitting antenna and is not required to attenuate the lower sideband by any specified amount. It was found that these relaxations would not significantly impair the quality of UHF receptions.

Advisory Committee on UHF

As a further step to alleviate problems concerning UHF broadcasting, the Commission on February 7, 1963, authorized the formation of an industry advisory committee known as the "Committee for the Full Development of All-Channel Broadcasting." The membership includes representatives of the three major networks, the Electronic Industries Association, Maximum Service Telecasters, Committee for Competitive Television, National Association of Broadcasters, National Television and Radio Center, National Association of Educational Broadcasters, consulting engineers, advertising agencies, TV broadcasters, and attorneys practicing before the Commission. Organized on March 12, 1963, the committee is composed of three groups, one concerning itself with equipment and technical rules, another with station operations and program availability, and the third with consumer information. These groups have held several meetings and have made certain recommendations to the Commission. It is antici-

pated that the committee will have substantially completed its tasks within the 2-year life period provided under Executive Order No. 11007.

Network Programs for UHF Stations

The Commission, on May 31, 1963, announced that conferences would be held with the TV networks in an effort to make programs available for UHF stations in intermixed markets. It is concerned with the availability of network programing for UHF stations which may come into existence in intermixed markets as the effects of the all-channel set law are increasingly felt.

Idle UHF Construction Permits

The Commission has been concerned with the failure of more than 50 UHF permit holders to construct UHF stations under authorizations which date back as far as 10 years. With the prospect of greater activity in UHF broadcasting, the Commission on July 3, 1963, directed letters to such idle noncommercial as well as commercial permittees to ascertain their plans.

Subscription TV

The first 3-year trial of subscription TV was inaugurated by RKO General Phonevision Co. on June 29, 1962, over WHCT, channel 18, Hartford, Conn. The station now has about 3,000 subscribers and transmits about 30 hours of toll programs, as well as 30 hours of free programs, per week.

A second pay-TV trial was authorized on October 3, 1962, with a grant to Gotham Broadcasting Corp. (now Channel 2 Corp.) for such operation by station KTVR (since redesignated KCTO), channel 2, Denver, Colo. Its toll-TV programing has not yet started.

Both the Hartford and the Denver applications were opposed by motion-picture-theater interests in the areas involved. The Hartford opponents took their case to the court of appeals, which affirmed the Commission's grant, and the Supreme Court denied a review.

A third pay-TV application was filed April 17, 1963, by the licensee of station KVUE, channel 40, Sacramento, Calif. However, it was returned as unacceptable since it failed to comply with the conditions for trial operations.

The Hartford test "scrambles" both the picture and the sound signals sent out over the air. An "unscrambling" device attached to the receiver in the subscriber's home readjusts the signals so that normal picture and sound are received. In the Denver trial, it was first proposed to transmit the picture in conventional fashion but send the sound by telephone lines to speakers in the homes of subscribers. However, since nonsubscribers would get the picture—

though soundless—the station now plans to "scramble" both the sound and video.

On November 13, 1963, the Commission announced the formation of a committee of three of its members to study pay-TV developments.

TV Translators

Translators, which pick up signals of regular stations and rebroadcast them locally, are authorized to extend TV service to remote and otherwise unserved areas. Their use continued to increase and, at the end of the fiscal year, there were approximately 1,700 translators. UHF translators, first authorized in 1956, are limited to 100 watts power. In 1960 the Commission authorized the operation of translators on VHF channels also, although restricting their output power to 1 watt. This restriction was deemed necessary in order to guard against interference potentiality in the congested VHF bands.

One important development subsequent to authorization of VHF translators was the imposition of limitations on the use of these facilities by licensees of regular TV stations for the purpose of extending their signals beyond the authorized service area. The rationale for this limitation was that translators are intended to provide TV service in areas receiving either unsatisfactory service or no service and are not to be used by stations as competitive weapons.

CATV Systems

With the continued growth of community antenna (CATV) systems, the Commission has found it in the public interest to take steps to minimize the impact of CATV systems on local TV stations.

On May 23, 1963, the court of appeals affirmed the Commission's denial of application by Carter Mountain Transmission Corp. for additional common-carrier microwave facilities to serve CATV systems in Thermopolis, Riverton, and Lander, Wyo. The court upheld the Commission's position "that in determining whether the authorization requested would be in the public interest, the Commission was entitled—if, indeed, it was not obliged—to consider the use to which the facilities and frequencies requested were to be put, and to weigh that use as against other legally relevant factors, including the effect on existing local stations."

Accordingly, the Commission proposed rules (docket 14895) that grants of microwave facilities for relaying signals to CATV systems would be made on condition, in substance, that the CATV system not duplicate, for a period 30 days before or after, any program of a local TV station unless the latter so requests, and then only if there is no material degradation of the station's signal. (See also "Point-to-Point Microwave Radio Service" in Common Carrier Serv-

ices chapter and "CATV Relay" in Safety and Special Radio Services chapter.)

The Commission has had several recent meetings with representatives of the CATV industry in an effort to reach an agreement on legislation which would be satisfactory to the industry and the Commission. It is hoped that an accord will be realized which will protect the public interest, both in the establishment and maintenance of local TV station service and the provision of multiple TV service through CATV systems. The problem arises because of the economic impact which CATVs, with their multiple signals, have on local stations in small markets, such as in the Wyoming situation. If this results in the local station not being able to survive, not only does the community lose the benefit of a local outlet, but persons in surrounding rural areas, which cannot be connected to the CATV system, may lose their only TV service. It has become more acute as CATVs increasingly employ microwave facilities to bring programs from various TV stations in distant markets.

Option Time

On September 14, 1960, the Commission amended its TV option time rules and reduced from 3 to 2½ hours the amount of time an affiliate broadcast station can option to a network in each time segment of the day (docket 12859). This decision was appealed (*Times-Mirror Broadcasting Co.* v. *United States et al.*, C.A.D.C., No. 16,608). The Commission requested and obtained a remand for further proceedings. On April 19, 1961, the Commission vacated its 1960 action pending reconsideration, which was ordered May 3, 1961, and, after rulemaking, oral argument was held December 4, 1961.

After study of the record, the Commission, on May 28, 1963, concluded that option time is not essential to successful TV network operations, that it restrains the freedom of choice of licensees as to what programs to present and at what times to present them, and restricts access by non-network groups to desirable evening time. A rule was therefore adopted prohibiting, as of September 10, 1963, this and any other practice having a like restraining effect on TV. Petitions for reconsideration were denied September 4, 1963.

CBS TV Affiliates Compensation Plan

On June 4, 1962, the Commission held that a new Columbia Broadcasting System TV network compensation plan tended to hinder CBS affiliates from taking the programs of other networks and, therefore, violated section 3.658(a) of the rules. This plan (under which compensation per hour varied sharply according to the number of hours

cleared for CBS programs) differed substantially from the usual compensation plan previously used by CBS and still used by the other networks. Thereafter, CBS filed a petition for reconsideration and submitted an amended plan. On October 31, 1962, the Commission denied reconsideration and, while holding the amended plan to be consistent with section 3.658(a), tentatively held it violative of section 3.658(e) relating to the right of stations to reject network programs. Further comments were invited.

Upon review, the Commission concluded on May 28, 1963, that the proposed agreement violates section 3.658(e) and frustrates the purpose of that rule, which is to reserve to stations freedom to refuse network programs which the station reasonably believes to be unsatisfactory, unsuitable, or contrary to the public interest, or to substitute for network programs others of greater local or national importance. CBS has sought reconsideration of this decision.

Educational TV

The number of TV channels reserved for noncommercial educational operation increased to 331, which is 89 more than originally set aside for this purpose. During fiscal 1963, 49 additional ETV channel assignments were made. The Commission provided for 6 State systems by adding 12 new channels for Florida, 6 for Georgia, 9 for Kentucky, 3 for Vermont, 5 for Nebraska, and 4 for Kansas. In addition, five more were assigned Pennsylvania on July 3, 1963. Indications are that many other States are considering similar ETV networks.

In large measure, the May 1, 1962, law permitting the Secretary of Health, Education, and Welfare to make matching grants to States for construction of noncommercial ETV stations is having the desired impact. That legislation has been implemented by promulgation of HEW rules and regulations [in whose preparation the Commission assisted] and by an initial appropriation of $1.5 million by Congress. With this and other anticipated funds, the construction of many new ETV stations and improvement of existing facilities are expected.

Separate forms were adopted for noncommercial educational broadcasters which simplify and relax the reporting requirements in applying for authority to construct or make station changes (FCC Form 340), applying for a station license (FCC Form 341), applying for renewal of license (FCC Form 342), and reporting ownership (FCC Form 323E).

To further promote ETV, the Commission, on July 25, 1963, established a new class of service (Instructional Television Fixed Service) to use frequencies in the 2500–2690-Mc band to transmit programs to schools and other selected locations (docket 14744). A low-power transmitter would serve the reception points generally within a radius

of 10–20 miles, where the transmissions would be converted for viewing on conventional TV receivers. The number of channels are sufficient to permit sending various subjects simultaneously to different receiving points.

The new rules were made effective September 9, 1963, to enable school systems to plan use of this auxiliary service and for manufacturers to begin development of the equipment needed. Organizations eligible to operate noncommercial educational broadcast stations can apply for this new nonbroadcast instructional TV service. The 31 channels available should add substantially to facilities for in-school instruction and thus supplement the more general ETV service.

In another proceeding (docket 14896), not yet concluded, it is proposed to make the band 1850–1990 Mc available for use by educational institutions for nonbroadcast, extended range, closed-circuit TV purposes. Still another proceeding (docket 14894) would permit educational broadcasters to use existing microwave facilities of closed-circuit ETV systems to transmit program material to noncommercial educational TV stations on a limited basis. At the same time, operators of closed-circuit ETV systems could use broadcast auxiliary facilities to transmit program material to their closed-circuit systems.

Experimental Airborne TV Operation

On December 22, 1959, the Commission authorized Purdue University, Lafayette, Ind., to test the feasibility of utilizing airborne TV for providing educational programing to schools and colleges within a 200-mile radius of Montpelier, Ind. The project employs two planes each containing two transmitters operating on UHF channels 72 and 76 which transmit instructional material by video tape to schools and colleges in six midwestern States. The planes fly in a 10-mile circle at an altitude of 23,000 feet over central Indiana. One of the planes is used for regular operation while the other is kept on a standby basis.

TV translator stations of 100 watts power are being used at Chicago, Ill., and Detroit, Mich., to rebroadcast the plane transmissions to areas where high buildings make direct reception unsatisfactory. Applications to use similar translators at Cleveland, Ohio, have been granted.

On March 14, 1963, the Commission permitted Purdue University to assign its authorizations to the Midwest Program on Airborne Television, Inc. (MPATI), an association of schools and higher institutions of learning with nearly 1,200 members. The assignment was consummated on April 22, thereafter.

MPATI petitioned that the Commission amend its rules to permit regular operation by airborne educational TV stations and reserve channels for this purpose. Comments have been invited by the Commission.

FREQUENCY MODULATION (FM) BROADCAST SERVICE

FM Rules Revision

On June 28, 1961, the Commission instituted a proceeding (docket 14185) to determine what changes in the FM rules and technical standards are necessary for the optimum development of this broadcast service. Subsequently, on July 25, 1962, a first report was issued which established many new rules concerning commercial FM operation. They create three classes of commercial FM stations based on power and divide the country into three zones. Assignments are based on minimum mileage separations between cochannel and adjacent channel stations.

Simultaneously, a further notice was issued raising, among other matters, the question of whether or not existing stations operating at height and power greater than the maximum limits provided in the first report should be required to reduce their facilities so as to come within the new maximum limits. This part of the proceeding was terminated on November 28, 1962.

The Commission, on December 21, 1962, further proposed a table of FM commercial channel assignments and, meanwhile, imposed a "freeze" on accepting new commercial applications. On July 25, 1963, by a third report, it adopted a table assigning the 80 commercial FM channels to States and communities in a manner similar to TV channel assignments and lifted the freeze (except for Puerto Rico and the Virgin Islands).

Channel assignments in the table (including those to existing stations) total approximately 2,830, in 1,858 communities in 48 States. The revised assignments conform to separation requirements adopted July 25, 1962. Only 10 present FM commercial stations have to shift channels.

Further rulemaking is necessary with regard to Hawaii, Alaska, Guam, Puerto Rico and the Virgin Islands, also for the 20 educational FM channels.

(See also reference to FM in proposed AM assignment rules.)

FM "Simplexing"

On March 27, 1963, the Commission proposed the discontinuance of "simplexing" by FM stations to furnish subsidiary storecasting and background music service to paying customers having special receivers. Only four stations still simplex; the others engaged in this supplemental activity do it by "multiplexing."

Canadian-United States Agreement

The matter of FM assignments within 250 miles of the Canadian-United States border is governed generally by a 1947 agreement, which

was supplemented by a working arrangement reached in July 1961. Negotiations between representatives of the Commission and the Canadian Department of Transport continued during fiscal 1963 concerning possible amended tables to govern assignments on both sides of the border, mileage separations, and other engineering criteria. On July 25, 1963, the Commission adopted a revised working arrangement with Canada.

STANDARD (AM) BROADCAST SERVICE

AM Assignment Policies

Between 1945 and 1962 the number of authorized AM stations had grown from less than 1,000 to nearly 4,000. The way in which this growth occurred created problems which were not anticipated when the present AM rules were adopted. Therefore, the Commission decided to take a fresh look at the AM situation.

The first step was on May 10, 1962, in imposing a limited halt on the acceptance of applications for new or changed AM facilities. However, the processing of applications then on file was continued. The partial "freeze" was essential so that the Commission could avoid compounding its present difficulties with a continual flow of new assignments based upon existing inadequate standards.

Certain categories of applications were exempted from the "freeze." Applications have been accepted which would bring service to substantial "white" (lacking primary AM service) areas and would cause no interference to existing stations. Applications have also been accepted for daytime power increases for class IV stations and for new class II–A facilities, since the making of such assignments would serve the public interest.

Industry AM Conference

A conference was held on January 7 and 8, 1963, with the National Association of Broadcasters and other industry representatives regarding AM growth problems. Considerable interchange occurred among members of the Commission and the various persons present, and a number of constructive suggestions for changes in the AM allocation rules were discussed.

Revision of AM Assignment Rules

On May 15, 1963, the Commission proposed a major revision of the rules governing the AM station assignment system (docket 15048). Upon their adoption, the Commission can bring an end to the current AM "freeze." The objectives of this proceeding are to protect the service areas of existing stations, to bring service to areas now lacking service, to provide a first local aural service to as many communities

as possible, to provide for an equitable distribution of remaining AM assignments, and to look toward an integrated AM–FM aural service.

A "go-no-go" concept would control future daytime assignments by prohibiting overlap of defined service contours between a proposed station and existing stations, and no applications would be accepted which did not meet defined criteria. Each applicant would be required to meet the relevant engineering rules and must either provide a first or second primary, daytime aural service to at least 25 percent of the area within the proposed normally protected service contour, or must not cause the total number of AM stations in a particular city, town, or community to exceed the maximum permissible number of AM assignments specified. This maximum number varies depending on the size of the particular community and also with the number of FM assignments.

Under the proposal, the Commission would not accept applications for new nighttime operation (other than class II–A) unless it was shown that the proposed station would not raise the RSS limitation (the present service contour) of any other station (under the 50-percent exclusion rule) and would provide a first primary AM service to at least 25 percent of the area within the proposed interference-free service contour.

AM Relation to FM Service

As a further consideration of the overall problem, the Commission determined that the relationship between the AM and FM services must be reexamined. It asserted that the long-term goal should be the establishment of an integrated AM–FM aural service and that in this rulemaking a gradual beginning would be made. The Commission held that the ultimate goal of FM broadcasting is to supplement and complement the aural service provided by AM stations and that eventually there must be an elimination of FM stations which are no more than adjuncts to AM facilities in the same community. Rules were therefore proposed which would require that in cities of greater than 100,000 population in which no unused FM channels were available under the FM table of assignments, each FM station would be permitted to devote no more than 50 percent of its broadcasting week to duplicating programs of any AM station in the same area.

Clear Channel Proceeding

This longstanding proceeding (docket 6741) had been concluded in September 1961 by a decision in which the Commission designated for "duplication" 13 of the 25 class I–A clear channels on which, in general, up to now only 1 station (the dominant class I–A station) has

operated at night. On each of 11 of the 13 "duplicated" channels, an unlimited-time station was provided for, in a specified State or States in the West, designed to provide nighttime primary (groundwave) service to areas not now receiving such service. These are called class II–A stations. On the other "duplicated" channels, unlimited-time assignments were provided for in specified communities to take care of stations in those places which must shift frequency under the United States-Mexican broadcasting agreement. The remaining 12 of the 25 I–A channels were left in status quo. This preserves the possibility of their use either for similar "duplication," for power increase of the I–A stations on these channels considerably higher than the present ceiling of 50 kw (such as 500 or 750 kw) or for such other uses as the Commission determines to be in the public interest.

On July 2, 1962, the House of Representatives adopted a resolution expressing its view that (notwithstanding a 1938 Senate resolution to the contrary) the Commission might authorize "higher power" for the I–A stations, and that the Commission should not make any of the "duplicating" assignments provided for on the 13 channels for a period of 1 year. On November 28, 1962, the Commission affirmed its 1961 decision, denying some 22 petitions for reconsideration, and stating that unless controlling legislation was passed meanwhile it would, after July 2, 1963, proceed to act on applications for the "duplicating" assignments. It added that it cannot now be concluded that "higher power" for the I–A stations would be in the public interest, but if it is ultimately so determined sufficient channels remain to accomplish this.

There are 14 pending applications for class II–A stations on 7 of the 13 duplicated channels; no application has been approved.

Late in 1962, four class I–A stations applied for authority to operate with 750 kw. These were returned as inconsistent with the rules. An application for experimental operation with that power was made in April 1963 by WLW, Cincinnati, Ohio (a I–A station). Also in April, the Clear Channel Broadcasting Service (representing 13 I–A stations) petitioned for rulemaking to permit such higher-power operation, and in May another similar petition was filed. The WLW application and these petitions are under consideration.

Two I–A stations (WGN, Chicago, Ill., and WJR, Detroit, Mich.) appealed from decisions "duplicating" their channels and returning their 750 kw applications. These appeals are also pending.

AM Pre-sunrise Operation

On July 2, 1962, the House adopted H.R. 4749, which would, in general, allow AM stations to operate with their daytime facilities

from 6 a.m. until sunset, and also between 4 and 6 a.m., except where another station in the same community serves substantially the same area with its nighttime facilities. The Senate did not act on this proposal.

On November 28, 1962, the Commission proposed rules which would ultimately permit daytime-only class III (regional channel) stations, if in a locality without an unlimited station, to begin operation at 6 a.m. or local sunrise, whichever is earlier, on a regularly licensed basis. In the meantime, under section 3.87 of the rules, such pre-sunrise operation could be engaged in unless complaint of objectionable interference is received from an unlimited-time station. The proposal would limit pre-sunrise power, and would terminate the present permissive operation for daytime stations in localities having an unlimited-time station and also for unlimited-time stations using daytime facilities before sunrise. The effect of the proposal would be to permit many class III daytime stations to operate before sunrise on a regular basis instead of being subject to termination on complaint of interference.

Many comments were received from both daytime and unlimited-time stations which would be affected by the proposal. The Commission hopes to resolve this complex matter before "pre-sunrise" operation becomes a substantial problem.

INTERNATIONAL BROADCAST STATIONS

Most international (high-frequency) broadcasting from the United States to foreign countries is carried on by the "Voice of America," a service of the U.S. Information Agency. However, three private stations are authorized by the Commission to engage in such broadcasting. The latter are: WRUL, Scituate, Mass., broadcasting to Mexico, Central and South America, Western Europe, and Western Africa; KGEI, Belmont, Calif., to Mexico and Central and South America; and WINB, Red Lion, Pa., to Mediterranean areas, including portions of Southern Europe, Northern Africa, and the Holy Land. Also authorized by the Commission is an experimental station at Cincinnati, Ohio, which uses an international broadcast frequency to provide a continuous signal for propagation studies by the National Bureau of Standards.

It is the Commission's intention to institute a rulemaking proceeding for the purpose of amending its international broadcast rules. Such a revision has become necessary for several reasons, principally because of the growing shortage of available frequency hours in the international broadcast band for both private and governmental use.

This shortage has been caused by various factors, including (1) decreasing sunspot activity, (2) an increase in frequency-hour usage by both private and Government international broadcasting stations, and (3) and increase in the worldwide level of international broadcasting. An additional reason for changing the rules is that portions of them are incompatible with the 1959 Geneva convention which has been ratified by the United States.

In order to prevent aggravation of the frequency-hour shortage problem during the anticipated rulemaking proceeding, the Commission on April 17, 1963, adpoted a "freeze" order which stated that applications to construct new international broadcast stations or to broadcast an increased number of frequency hours over existing stations would not be accepted after April 25, 1963, and that such applications accepted before that date would not be granted.

MISCELLANEOUS BROADCAST SERVICES

Nearly 7,800 auxiliary broadcast stations are used for various purposes. Over 6,200 engage in remote pickup of programs; others link studios and transmitters; and still others provide facilities for broadcast experimentation and development.

STATISTICS

Current Broadcast Authorizations

At the close of fiscal 1963, outstanding broadcast authorizations of all classes totaled 15,829, representing a net gain of 219 collectively for the year.

A breakdown of authorizations for the different classes of broadcast services at the end of the last two fiscal years follows:

Class	June 30, 1962	June 30, 1963	Increase or (decrease)
Commercial AM	3,886	3,997	111
Commercial TV	654	666	12
TV translators and boosters	[1] 2,529	1,716	(813)
Educational TV	79	91	12
Auxiliary TV	1,357	1,415	58
Experimental TV	27	30	3
Commercial FM	1,191	1,207	16
Educational FM	209	238	29
International	4	4	0
Remote pickup	5,523	6,257	734
Studio-transmitter-link	83	110	27
Developmental	5	5	0
Low-power auxiliary (cueing)	63	93	30
Total	15,610	15,829	219

[1] Included 1,046 TV repeaters (since terminated).

Status of Broadcast Authorizations

There were 7,915 AM, TV, and FM broadcast stations authorized at the close of fiscal 1963, of which 6,775 had operating authorizations and 1,140 others held construction permits. A breakdown follows:

Class	Operating authorizations	Construction permits
Commercial AM	3,860	137
Commercial TV	581	85
TV translators and boosters	923	793
Educational TV	70	21
Commercial FM	1,120	87
Educational FM	221	17
Total	6,775	1,140

One commercial TV station was engaged in its second year of subscription television operation, and another one was scheduled to commence subscription programing in late 1963. Also, 363 commercial FM and 4 educational FM stations held subsidiary communications authorizations to furnish functional (background) music and other multiplexed services.

Broadcasting Since 1949

The following table shows the number of authorized, licensed, and operating broadcast stations, and pending applications at the close of the past 15 years; also, the number of stations deleted during those years:

Year	Grants	Deletions	Pending applications	Licensed	CPs on air	Total on air	CPs not on air	Total authorized
COMMERCIAL AM								
1949	200	55	382	1,963	43	2,006	173	2,179
1950	194	70	277	2,118	26	2,144	159	2,303
1951	116	35	270	2,248	33	2,281	104	2,385
1952	60	25	323	2,333	22	2,355	65	2,420
1953	187	23	250	2,439	19	2,458	126	2,584
1954	148	29	226	2,565	18	2,583	114	2,697
1955	161	18	304	2,719	13	2,732	108	2,840
1956	197	18	389	2,871	25	2,896	124	3,020
1957	232	14	431	3,044	35	3,079	159	3,238
1958	132	17	536	3,218	35	3,253	100	3,353
1959	159	12	679	3,328	49	3,377	123	3,500
1960	92	11	822	3,442	41	3,483	98	3,581
1961	178	2	702	3,545	57	3,602	155	3,757
1962	147	18	593	3,686	59	3,745	141	3,886
1963	129	18	356	3,809	51	3,860	137	3,997
COMMERCIAL TV								
1949	15	7	338	13	56	69	48	117
1950	0	8	351	47	57	104	5	109
1951	0	0	415	81	26	107	2	109
1952	0	1	716	96	12	108	0	108
1953	381	6	572	101	97	198	285	483
1954	174	81	200	104	298	402	171	573
1955	67	58	127	137	321	458	124	582
1956	60	25	128	186	310	496	113	609
1957	55	13	129	344	175	519	132	651
1958	35	21	125	427	129	556	109	665
1959	24	22	114	475	91	566	101	667
1960	22	36	106	481	98	579	74	653
1961	33	36	80	497	56	553	97	650
1962	24	20	114	494	77	571	83	654
1963	30	18	120	525	56	581	85	666

Year	Grants	Deletions	Pending applications	Licensed	CPs on air	Total on air	CPs not on air	Total authorized
TV TRANSLATORS AND BOOSTERS								
1957	74	0	48	17	24	41	33	74
1958	88	6	34	92	0	92	64	156
1959	96	7	27	158	0	158	87	245
1960	60	3	19	233	0	233	69	302
1961	421	19	686	279	0	279	425	704
1962	797	18	262	487	0	487	996	1,483
1963	268	35	251	923	0	923	793	1,716
EDUCATIONAL TV								
1952	0	0	1	0	0	0	0	0
1953	17	0	29	0	1	1	16	17
1954	13	0	17	0	6	6	24	30
1955	5	1	14	1	10	11	23	34
1956	7	0	11	1	19	20	21	41
1957	8	0	8	14	12	26	23	49
1958	4	0	9	29	3	32	21	53
1959	6	0	7	37	6	43	16	59
1960	6	1	7	40	7	47	17	64
1961	4	1	9	43	11	54	13	67
1962	13	1	8	43	16	59	20	79
1963	12	1	16	57	13	70	21	91
COMMERCIAL FM								
1949	57	212	65	377	360	737	128	865
1950	35	169	17	493	198	691	41	732
1951	15	91	10	534	115	649	10	659
1952	24	36	9	582	47	629	19	648
1953	29	79	8	551	29	580	21	601
1954	27	54	5	529	24	553	16	569
1955	27	44	6	525	15	540	12	552
1956	31	37	10	519	11	530	16	546
1957	40	26	24	519	11	530	31	560
1958	98	24	57	526	22	548	86	634
1959	153	18	71	578	44	622	147	769
1960	165	22	114	700	41	741	171	912
1961	200	20	97	829	60	889	203	1,092
1962	138	39	147	955	57	1,012	179	1,191
1963	42	26	191	1,090	30	1,120	87	1,207
EDUCATIONAL FM								
1949	18	7	9	31	3	34	24	58
1950	25	4	3	61	1	62	20	82
1951	19	6	2	82	1	83	12	95
1952	12	2	2	91	1	92	12	104
1953	13	1	3	106	0	106	10	116
1954	9	2	1	117	0	117	6	123
1955	7	3	1	121	3	124	3	127
1956	13	4	5	126	0	126	10	136
1957	17	5	2	135	0	135	13	148
1958	11	3	6	144	3	147	10	157
1959	16	8	2	150	4	154	11	165
1960	20	4	11	161	4	165	16	181
1961	21	3	4	176	10	186	13	199
1962	11	1	12	192	9	201	8	209
1963	30	1	4	213	8	221	17	238

Reinstatement of some deleted authorizations and other considerations not detailed in this table account for any seeming discrepancy in the relation of grants and deletions during the year to the total yearend authorizations.

Stations actually operating or holding authorizations to operate are covered by the term "on the air". "Construction permits" indicate building status.

Broadcast Applications

There was a decrease in the number of broadcast applications during the year, due largely to the "freeze" on grants for new AM and FM stations, and major modifications of their facilities, pending revision of their respective rules. The 14,519 broadcast application total for the year was, in consequence, about a thousand less than the year previous. The following is a breakdown of those in nonhearing status for fiscal 1963 (for docket statistics, see "Commission" chapter):

Applications	Pending July 1, 1962	Incoming workload			Disposed			Pending June 30, 1963
		New	Returned to processing		Granted	Dismissed, denied, returned	Designated for hearing	
			Hearing	Nonhearing				
STANDARD BROADCAST (AM)								
New stations	411	45	8	7	68	77	116	210
Major changes	402	147	7		184	65	53	254
Subtotal	813	192	15	7	252	142	169	464
Assignments and transfers	152	606			494	64	4	196
Renewals	637	1,371	4	4	1,377	20	8	611
Licenses	348	713		1	764	26	1	271
All others	285	1,317		1	1,275	125	2	201
Total applications	2,235	4,199	19	13	4,162	377	184	1,743
FREQUENCY MODULATION (FM)[1]								
New stations	138	155		1	72	40		182
Major changes	101	178		1	149	37		94
Subtotal	239	333		2	221	77		276
Assignments and transfers	33	219			160	27	3	61
Renewals	178	616			509	7		278
Licenses	139	321			365	19		76
All others	109	586			575	49	2	69
Total applications	698	2,075		2	1,830	179	5	761
TELEVISION (TV)[1]								
New stations	59	105	3	1	35	33	17	83
Major changes	44	99		1	85	10	1	48
Subtotal	103	204	3	2	120	43	18	131
Assignments and transfers	18	95			81	5	6	21
Renewals	130	238			260	7	5	96
Licenses	240	95			149	5		181
All others	85	154		1	134	23	2	81
Total applications	576	786	3	3	744	83	31	510
TV TRANSLATOR								
New stations	283	357		2	270	126	6	240
Major changes	70	188		1	182	4		73
Subtotal	353	545		3	452	130	6	313
Assignments and transfers		33			17			16
Renewals	177	195			114	141		117
Licenses	392	575		3	493	29		447
All others	39	328			298	36		33
Total applications	961	1,676		6	1,375	336	6	926

See footnotes at end of table.

Applications	Pending July 1, 1962	Incoming workload			Disposed			Pending June 30, 1963
		New	Returned to processing		Granted	Dismissed, denied, returned	Designated for hearing	
			Hearing	Non-hearing				
ALL OTHER[2]								
New stations	126	1,346			1,173	107		192
Major changes	44	495			461	12		66
Subtotal	170	1,841			1,634	119		258
Assignments and transfers	59	248			246	6		55
Renewals	1,234	2,081			2,597	74		644
Licenses	493	1,532			1,453	84		488
All others	4	81			63	5		17
Total applications	1,960	5,783			5,993	288		1,462
Total non-hearing applications	6,430	14,519	22	24	14,104	1,263	226	5,402

[1] Includes noncommercial educational.
[2] Includes international, relay and studio link, developmental, experimental TV, remote pickup, TV auxiliaries.

Broadcast Industry Financial Data

The radio and television industry for the calendar year 1962 reported total broadcast revenues in excess of $2 billion.

Radio revenues increased 7.7 percent to $636.1 million and television revenues increased 12.7 percent to $1,486.2 million.

Total radio and television profits (before Federal Income Tax) were $355.1, representing a one-third increase from 1961 profits.

Broadcast revenues, expenses and income of networks and stations of radio [1] and television broadcast services, 1961–62

[$ millions]

Service	1961	1962	Percent increase
	Total broadcast revenues		
Radio	$590.7	$636.1	7.7
Television	1,318.3	1,486.2	12.7
Industry total	1,909.0	2,122.1	11.2
	Total broadcast expenses		
Radio	$561.3	$592.6	5.6
Television	1,081.3	1,174.6	8.6
Industry total	1,642.6	1,767.0	7.6
	Broadcast income (before Federal income tax)		
Radio	$29.4	$43.5	48.0
Television	237.0	311.6	31.5
Industry total	266.4	355.1	33.3

[1] Includes AM and FM broadcasting.

NOTE: 1962 radio data cover the operations of 4 nationwide networks, 3,698 AM and AM-FM and 279 independent FM stations. Excluded are 74 AM and AM-FM stations and 33 independent FM stations whose reports were filed too late for tabulation. 1961 data are for 4 nationwide networks, 3,610 AM and AM-FM and 249 independent FM stations. 1961 TV data cover the operations of 3 networks and 540 stations. 1962 TV data cover the operations of 3 networks and 554 stations.

Nationwide networks only, 1961–62

[Including owned and operated stations]

Item	1961 ($ millions)	1962 ($ millions)	Percent increase
Total broadcast revenues	$736.8	$818.2	11.0
Radio	61.5	64.0	4.1
Television	675.3	754.2	11.7
Total broadcast expenses	649.6	704.6	8.5
Radio	61.3	61.8	0.8
Television	588.3	642.8	9.3
Total broadcast income (before Federal income tax)	87.2	113.6	30.3
Radio	0.2	2.2	1,000.0
Television	87.0	111.4	28.0

NOTE 1: Radio data include the operations of 19 nationwide network-owned AM stations in both 1962 and 1961.

NOTE 2: Television data include the operations of 15 network-owned stations in both 1962 and 1961.

Investment in tangible broadcast property of 4 nationwide networks, their 19 owned and operated stations and 3,679 other AM and AM–FM radio stations, 1962

[$ thousands]

Item	Investment in tangible broadcast property	
	Original cost	Depreciated cost
4 nationwide networks	$7,319	$3,874
19 network owned and operated stations	10,506	5,445
3,679 other stations	437,893	241,668
	455,718	250,987

Broadcast expenses of 4 nationwide radio networks, their 19 owned and operated stations and 3,679 other AM and AM–FM stations, 1962

[$ thousands]

Type of expense	4 nationwide networks	19 network owned and operated stations	3,679 other AM stations	Total
Technical	$1,801	$4,885	$66,613	$73,299
Program	22,623	11,574	157,687	191,884
Selling	4,556	5,192	96,140	105,888
General and administrative	4,967	6,287	197,758	209,012
Total broadcast expenses	$33,947	$27,938	$518,198	$580,083

Comparative Financial Data of 4 Nationwide AM Radio Networks and 3,698 AM and AM–FM Stations, 1961–62

[$ thousands]

Item	4 nationwide networks	19 owned and operated stations	3,679 other stations	Total 4 nationwide networks and 3,698 stations	Percent of increase or (decrease)
Revenues from the sale of time					
Network time sales:					
Sale of major network time to advertisers	$33,954	$615	[1] $5,077		
Sale of other network time			2,990		
Total network time sales	33,954	615	8,067		
Deductions from network's revenue from sale of *time to advertiser:*					
Paid to owned and operated stations	615				
Paid to affiliated stations	[1] 4,695				
Total participation by others (excluding commissions) in revenue from sale of network time	5,310				
Total retentions from sale of network time	28,644	615	8,067	37,326	4.2
Nonnetwork time sales:					
a. National and regional advertisers		23,081	185,374	208,455	5.6
b. Local advertisers		13,410	[2] 406,058	419,468	9.2
Total nonnetwork time sales		36,491	591,432	627,923	8.0
Total time sales	28,644	37,106	599,499	665,249	7.8
Deduct—Commissions to agencies, representatives, etc	5,028	6,845	59,915	71,788	8.5
Net time sales	23,616	30,261	539,584	593,461	7.7
Revenues from incidental broadcast activities:					
Talent	6,781	1,899	10,317	18,997	(2.0)
Sundry broadcast revenues	1,164	353	12,804	14,321	8.8
Total incidental broadcast activities	7,945	2,252	23,121	33,318	2.4
Total broadcast revenues	31,561	32,513	562,705	626,779	7.4
Total broadcast expenses	33,947	27,938	518,198	580,083	5.2
Broadcast income (before Federal income tax)	(2,386)	4,575	44,507	46,696	45.7

[1] Amounts differ slightly because of variations in accounting practices.
[2] Some small amount of network and national nonnetwork time sales may be included here since stations with less than $25,000 time sales for the year do not report detailed revenue breakdown.

NOTE: Data for 1961 cover the operations of 4 nationwide networks, their 19 owned and operated stations, and 3,591 other stations.

Broadcast revenues, expenses, income, investment in tangible broadcast property of frequency modulation (FM) stations operated by non-AM licencees, 1961–62

Item	1961 number of stations	Amount ($ millions)	1962 number of stations	Amount ($ millions)
	Total FM broadcast revenues			
FM stations operated by:				
AM licensees:				
Reporting FM revenues	284	$2.9	408	$4.6
Non-AM licensees	249	7.1	279	[1] 9.3
Total FM stations reporting revenue	533	10.0	687	13.9
	FM broadcast expenses			
FM stations operated by:				
Non-AM licensees	249	$9.7	279	$12.5
Industry total		[2]		[2]
	FM broadcast income (before Federal income tax)			
FM stations operated by:				
Non-AM licensees	249	($2.6)	279	($3.2)
Industry total		[2]		[2]

Investment in tangible broadcast property, 1962

($ millions)

Original cost	Depreciated cost
$10.4	$7.8

[1] Of this amount $1.4 million was reported as incidental broadcast revenues including revenues from providing functional music or other special services.

[2] In view of the difficulty in a joint AM-FM operation in allocating FM operation expense separately from AM station operation expense, licensees of such stations were not required to report FM station expense separately. As a result, FM industry totals for expense and income are not available. AM-FM licensees, however, were requested to report separately the revenues, if any, attributable to FM station operation.

Broadcast financial data of 3 national television networks and 554 TV stations, 1962

[$ millions]

Item	Networks	15 network owned and operated TV stations	539 other TV stations	Totals: 3 Networks and 554 TV stations
Revenues from the sale of time:				
Network time sales:				
Sale of network time to advertisers	$520.2			
Deductions from networks' revenue from sale of time to advertisers:				
Paid to owned and operated stations	36.1			
Paid to affiliated stations	164.5			
Total participation by others (excluding commissions) in revenue from sale of network time	200.6			
Total retentions from sale of network time	319.6	$36.1	[1] $165.8	$521.5
Nonnetwork time sales:				
National and regional advertisers		114.8	424.7	539.5
Local advertisers		38.4	204.1	242.5
Total nonnetwork time sales		153.2	628.8	782.0
Total time sales	319.6	189.3	794.6	1,303.5
Deduct—Commissions to agencies, representatives, etc	77.9	28.5	113.7	220.1
Net time sales	241.7	160.8	680.9	1,083.4
Revenues from incidental broadcast activities:				
Talent and programs	310.4	3.5	8.6	322.5
Sundry broadcast revenues	32.6	5.2	42.5	80.3
Total incidental broadcast activities	343.0	8.7	51.1	402.8
Total broadcast revenues	584.7	169.5	732.0	1,486.2
Total broadcast expenses	548.0	94.8	531.8	1,174.6
Broadcast income (before Federal income tax)	36.7	74.7	200.2	311.6

[1] Total retentions from sale of network time of $165.8 million by 539 other TV stations include revenues received from miscellaneous TV networks in addition to receipts from the 3 national TV networks.

Investment in tangible broadcast property of television networks and stations, 1962

Items	Number of stations	Investment in tangible broadcast property	
		Original cost	Depreciated cost
3 networks and their owned and operated stations	15	$142,005	$75,126
Other TV stations:			
VHF	456	488,142	243,194
UHF	83	42,380	19,526
Total	554	672,527	337,846

Broadcast expenses of 3 networks and 554 TV stations, 1962

[$ thousands]

Type of expenses	Networks	15 network owned and operated TV stations	539 other TV stations	Total 3 networks and 554 TV stations
Technical	$27,617	$15,281	$86,048	$128,946
Program	463,131	49,603	215,808	728,542
Selling	20,785	10,841	63,420	95,046
General and administrative	36,443	19,036	166,550	222,029
Total broadcast expenses	547,976	94,761	531,826	1,174,563

Safety and Special Radio Services

GENERAL

The nearly 4 million fixed, portable, and mobile transmitters in the Safety and Special Radio Services attest to the mushrooming radio usage by more than 40 categories of stations in these services. This is an increase of over 735,000 during the year. These transmitters are operated by more than 1.1 million licensees (a gain of 95,000 for the year) for the protection of life and property and a wide variety of uses in connection with business, transportation, personal, research, and other activities.

REGULATORY DEVELOPMENTS

Microwave

In two different proceedings, the Commission reallocated the microwave bands 2110–2200 (docket 14712) and 6425–6575, 10,550–10,860, and 11,700–12,200 Mc (docket 14729). Heretofore, those bands were available on a shared basis to both common carriers and private users, excluding broadcasters. As a result of these proceedings, there is now private use of the 2130–2150 and 2180–2200 portions of the 2110–2200-Mc band (shared only with international control stations) and, exclusively, the 6525–6575- and 10,550–10,680-Mc bands. The 2150–2160-Mc band is available for omnidirectional use, on a developmental basis, to be shared with common carriers. The 2130–2150- and 2180–2200-Mc bands are for point-to-point, low-capacity, long-haul operations with 800 kc channelization. The 6525–6575- and 10,550–10,680-Mc bands are for mobile operations.

The microwave band 2500–2690 Mc, which was previously allocated to the Safety and Special Radio Services, was made available for instructional television (docket 14744). (See chapter on "Broadcast Services".) Existing safety and special users will be permitted to continue and expand their systems in this band but new applicants (during a 3-year period) will be authorized to use the band only if they meet the technical standards specified for the instructional TV service.

CATV Relay

During fiscal 1963, considerable interest developed in the use of microwave relay facilities in the Business Radio Service for bringing off-the-air TV signals from distant pickup points to community antenna (CATV) cable distribution points. Concerned with the

economic impact of CATV systems on local television stations, the Commission, in December of 1962, proposed rules to govern the grant of applications in the Business Radio Service for relaying TV signals to CATV systems (docket 14895). To minimize the effect on local TV stations, the Commission proposed to authorize these facilities on condition that the CATV system to be served will not duplicate, for a period of 30 days before or after, any program of a local TV station unless requested to do so by the local station. A "freeze" was imposed on all such applications, except where the applicant advises the Commission that he accepts the proposed conditions pending the result of the rulemaking proceeding. Several applicants agreed to these conditions and 10 such microwave relay systems were authorized by the end of the fiscal year.

ENFORCEMENT

Authority to impose small monetary forfeitures for repeated and willful violations in 12 specified categories by safety and special station licensees and some operators (enacted in 1962 as sec. 510 of the Communications Act) has been implemented by rules effective in early 1963. It is expected that this new small fines provision will have a deterrent effect on repetitive violations, and the Commission intends to invoke it forcefully. More experience with the penalty, including collection proceedings by the Department of Justice pursuant to section 504 of the act, will be needed before a realistic evaluation can be made.

The number of enforcement cases involving safety and special licensees continues to mount, especially in the Citizens Radio Service.

At the beginning of the fiscal year, 22 safety and special station license-revocation proceedings were pending. During the year, 61 station licenses were revoked. At the close of the year, 54 station license-revocation proceedings were pending. Hearings were conducted in the field in two cases at the request of the licensees involved.

During the year, there were six cases involving the suspension of amateur operator licenses. One case was pending at the yearend.

Seventy-one notices of marine monetary forfeitures (under title III and sec. 507 of the Communications Act) were issued during the year. Two of these cases were referred to the Department of Justice for collecting the forfeitures.

MARINE RADIO SERVICES

Safety at Sea

The Commission administers the requirements of domestic law and international agreement that certain vessels carry radio installations for safety purposes.

Safety of Life at Sea Convention.—The Safety of Life at Sea Convention establishes minimum radio safety requirements for vessels navigated on international voyages. New rule proposals in docket 15034 were issued to implement the 1960 safety convention which will replace the 1948 safety convention now in force.

New legislation.—Public Law 87–811, adopted October 15, 1962, provides for extending the minimum 12-month inspection period of radio installation of a vessel subject to title III, part II, of the Communications Act, for a period not exceeding 30 days. The Commission amended its rules in docket 14893 to provide procedures for granting these extensions.

Distress studies.—The Commission makes a continuing study of ship distress communications as a basis for regulating radio to promote safety of life and property. During the fiscal year, the radiotelegraph distress signal "SOS" was used in behalf of 228 vessels and aircraft. These calls were intercepted by 568 non-Government ships and coast stations in addition to U.S. Coast Guard ships and shore stations. There were 76 reports of auto alarms being actuated to alert off-duty ship radiotelegraph operators.

An analysis of public coast radiotelephone station logs shows that such stations participate substantially in ship distress communications. They reported intercepting 214 "MAYDAY" or other calls for assistance. In 21 of these cases, the public coast station provided the communications link between the ship in distress and Coast Guard shore rescue facilities and in 20 other cases they alerted the Coast Guard to distress calls. However, in the majority of cases observed, the Coast Guard radio station was contacted directly by the vessel requesting assistance.

In the case of radiotelephone-equipped vessels, FCC monitoring reported 26 cases where the radiotelephone was used successfully to summon help and 8 cases where it was either not used, failed in service, or was inoperative.

Coast station watch requirements.—Public coast radiotelephone stations operating in the 2-Mc band are normally required to keep a safety watch on the distress frequency 2182 kc. On May 4, 1962, the Commission denied a request by the State of Alaska for exemption of 11 of its public coast stations from this watch requirement. On May 21, 1963, public coast station WOU of the New England Telephone & Telegraph Co. at Boston, Mass., and KOU of the Pacific Telephone & Telegraph Co. at San Pedro, Calif., were authorized to conduct special tests with the Coast Guard looking toward the filing of applications for exemption from the 2182 kc watch requirement at these coast stations.

Radio Technical Commission for Marine Services (RTCM)

The RTCM, with a membership of 6 Government agencies and 130 non-Government organizations, considers maritime telecommunication problems for the purpose of providing guidance to the interests concerned. The Commission loans an employee as executive secretary and provides office space for the secretariat.

Technical studies completed during the year were: Present Communications Requirements for Voluntarily Equipped Noncommercial Vessels and Standardization of Distinctive Signals (A2 Emission) for Use in Survival Craft Radiobeacons. Technical studies continue on the following subjects: Future Communications Requirements for Voluntarily Equipped Noncommercial Vessels, A Program for the Development of Maritime Telecommunications, Selective Calling Devices for Use in the International Maritime Mobile Services, and Maritime Mobile VHF–FM Usage in the United States.

Marine Radio Communication Systems

Rule amendments.—By rule amendments in docket 14423, ship stations were authorized to use the intership frequency 2003 kc in the Great Lakes area for communicating with Coast Guard coast stations concerning port security.

Proceedings in docket 14375 aligned the marine rules to the 1959 Geneva radio regulations in regard to use of frequencies in the 156–174-Mc band, among other matters. The new rules increased the number of available frequencies and provided for "single channel" ship station operation on any one of five public correspondence and three business and operational channels. Use of 156.65 Mc as a navigational channel and for "single channel" operation was established on a regular basis in areas other than the Great Lakes. Licensing of shore radiolocation and shore radionavigation stations using radar was authorized on a regular basis. The frequency 121.5 Mc was made available to survival-craft stations for radiobeacon purposes. Single-channel ship station equipment capable of operating on 2182 kc was authorized when confined to safety communications.

Proposed rule changes.—An inquiry in docket 15035 was instituted to obtain information as to whether or not the Commission should, in areas other than the Great Lakes, (1) restrict the development of navigational systems in the marine VHF band to 156.65 Mc, (2) expand authority to use that frequency on a "single channel" basis to include a second channel for non-navigational communications by ship pilots with low-power portable equipment, and (3) increase the power limit on the same channel to accommodate multichannel ship transmitters.

Developments in radiotelephone equipment offer the possibility of ultimate conversion of present MF and HF marine radiotelephone to

single sideband with attendant spectrum conservation and operational benefits. Rule changes were proposed in docket 15068 to establish technical and operational particulars for single-sideband voice communication in the marine services and for Alaska public fixed stations. Other than in Alaska, voice communication on frequencies between 4 and 27.5 Mc would be restricted to single sideband beginning January 1, 1970.

Authorizations of special interest.—The Hawaiian Telephone Co. was authorized a public class II–B (2-Mc) coast station at Hanaumna Bay, to replace similar facilities of public coast station KQM at Koko Head, both Hawaii.

The American Telephone & Telegraph Co. was granted a temporary limited class II–B coast station at Ojus, Fla., to communicate with the cable-laying ship *Alert* for coordinating testing of the cable laid between Florida City, Fla., and Kingston, Jamaica.

A petition of the American Waterways Operators, Inc., for special temporary authorizations to certain ship radio stations aboard permanently moored vessels on the Mississippi River system, for operation on 2-Mc frequencies, culminated in the Commission's granting such authority until December 31, 1963. The purpose is to allow time to implement a plan by the American Waterways Operators for a standardized VHF maritime mobile radiotelephone service on these inland waters.

Closure of stations.—The Commission granted application of the South Puerto Rico Sugar Corp. to discontinue its public coast radiotelegraph station (WPR) at Ensenada, P.R. Similar service to Puerto Rico is provided by coast station WOE at Lantanna, Fla. Application of RCA Communications, Inc. (RCAC), to discontinue its public class II–B (2–3-Mc) coast station (KQM) at Koko Head and Kahuku, Hawaii, was granted provided continuity of service in the areas is furnished by the Hawaiian Telephone Co. An application filed by RCAC to close its public coast station (WBL) at Buffalo, N.Y., is pending.

Radio communications in Alaska.—The demand for point-to-point radio communication within Alaska continued to increase. Many oil exploration and production, construction, fishing, canning, logging, mining, and airline companies require radio contact with remote locations for safety and business purposes. In addition, Alaskan communities depend largely on radiotelephone links with other communities for their safety and business needs because landline facilities are not generally available in that State. The principal trunklines in Alaska are operated by the Alaska Communications System (ACS).

Exemptions from compulsory radio provisions.—The Commission is authorized, subject to section 352(b) of the Communications Act, to grant exemptions from compulsory ship radio requirements. The disposition of exemption applications received during fiscal 1963 was as follows:

	Received	Granted	Denied
From radiotelegraph requirements	[1] 59	[2] 54	5
From radiotelephone requirements	17	15	2

[1] Not included in this table are 25 applications for temporary radiotelegraph exemptions, all of which were granted.
[2] These include 24 vessels in the Great Lakes area, 10 passenger vessels of less than 100 gross tons, 12 ferry vessels making international voyages solely on inland waters, 5 vessels engaged in oil well drilling, and 3 sewage disposal vessels.

AVIATION RADIO SERVICES

General

The Commission regulates non-Federal use of radio related to aviation communication, aeronautical navigation, and allied air safety and operational purposes, including international telecommunications in which U.S.-flag air carriers are involved.

The Aviation Radio Services encompass stations aboard aircraft and on the ground. Categories of stations include aeronautical advisory, air carrier aircraft, airdrome control, aeronautical en route, aeronautical fixed, flight test, flying school, aeronautical metropolitan, aeronautical multicom, operational fixed, private aircraft, aeronautical public service, radiobeacon, aeronautical search and rescue mobile, aeronautical utility mobile, and Civil Air Patrol.

Radio Technical Commission for Aeronautics (RTCA)

The RTCA is a nonprofit cooperative association of Government and industry organizations concerned with aeronautical telecommunications matters. Its findings and reports are often used by Federal agencies in proposing aviation radio regulations. The Commission is represented on the RTCA executive committee and on several of its special committees conducting specific technical studies.

The latter, during the year, considered subjects such as radio interference to aircraft electronic equipment by devices carried aboard, standardized procedures for measurement of RF energy emitted from aviation radio receivers, compendium of electronic navigational systems, data link system requirements, priority list of electronic equipments for various classes of aircraft, minimum performance standards for airborne low-range radar altimeters, international minimum performance standards for airborne radio communications; VOR, ILS, ADF equipment, and air traffic system.

International Aviation

The Interagency Group on International Aviation (IGIA) provides guidance for U.S. representatives to international meetings such as those of the International Civil Aviation Organization (ICAO) and coordinates international aviation matters within the United States for the various U.S. agencies involved. During the year, FCC representatives assisted in preparing the U.S. position with respect to aeronautical telecommunications for use at conferences of the ICAO and served on U.S. delegations to the ICAO Second Pacific Regional Air Navigation Meeting and the ICAO Special Communications Meeting Preparatory to the Extraordinary Administrative Radio Conference (EARC) of the International Telecommunication Union (ITU). Commission representatives also helped draft the radiocommunications and radionavigation portions of the U.S. position for the following ICAO conferences: 14th Session of the Assembly; Limited European Rules of the Air, Air Traffic Services/Communications (Secondary Surveillance Radar); Limited European Communications (Aeronautical Fixed Telecommunications Network); Aerodromes, Air Routes and Ground Aids Division, Seventh Session; North Atlantic Cable Meteorology/Communications Panel; Rules of the Air Traffic Services/Operations; Limited South East Asia Rules of the Air, Air Traffic Services/Communications, and a meeting in connection with the World Meteorological Organization Commission for Aeronautical Meteorology.

The ICAO Special Communications meeting was to coordinate the views of the aviation interests in the member nations on revisions to the ITU regulations (appendix 26) relating to HF radio-frequencies for the aeronautical mobile (R) service. The material developed is being used in preparation for two sessions of the Aeronautical EARC—one in 1964 and the other in 1965. Among problems considered at ICAO conferences are those concerning plans and procedures for installation and operation of radionavigation aids, aeronautical fixed and mobile services, air traffic services requirements for commmunications, search and rescue communications, VHF frequencies for survival craft, extended-range VHF communications, and general-purpose VHF channels which would help reduce requirements for HF radiotelephone facilities at international gateway stations.

New Developments and Rule Changes

A new class of station, established in docket 14657, is called aeronautical multicom and permits, among other things, communication with aircraft for agricultural, ranching, and conservation activities, aerial application, aerial advertising, parachute jumping and forest-

fire fighting. Under certain conditions, aeronautical advisory service may be rendered by a multicom station.

The aeronautical advisory rules were amended in dockets 14594 and 14834. The eligibility requirements for an aeronautical advisory station were clarified in the former to require a written contractual agreement between the owner of the landing area and the nonowner applicant for an aeronautical advisory station. Such agreement must be for a stated time and give the applicant exclusive right to establish an aeronautical advisory station to serve the owner's landing area. A requirement was added that communications by the operator of the aeronautical advisory station must be impartial with respect to information concerning similar available ground services. In docket 14834, the scope of service for aeronautical advisory stations at landing areas served by FAA flight service stations was limited to preclude the issuance of conflicting advisory information.

In docket 14524, rules were adopted to provide for the discontinuance by 1965 of the regular use of high frequencies for aeronautical mobile (R) communication in the domestic service within the continental United States.

Important rulemaking proceedings were initiated but not yet completed. Docket 14452 proposes, among other things, a frequency tolerance of 0.003 percent for the majority of aircraft radio transmitters as well as ground stations operating in the air/ground system. Docket 15078 would allow, upon a showing of need, more than one flight test station at a landing area. The pilot-to-weather forecaster test was extended until July 1964 and an inquiry looks toward selecting a frequency for this service on a regular basis.

PUBLIC SAFETY RADIO SERVICES

General

Radio communication essential to emergencies endangering life and property and in discharging non-Federal governmental functions are provided by the Public Safety Radio Services. Such use is exemplified in the police, fire, forestry-conservation, highway maintenance, special emergency, local government, and State guard services.

New Developments and Rule Changes

The most serious impediment to potential applicants in the Local Government Radio Service has been the shortage of available frequencies, particularly in the populous areas. Therefore, four frequencies in the 46-Mc band originally allocated to the Forestry-Conservation Radio Service have been reallocated to the local government service. Forestry-conservation systems presently authorized on those frequencies are permitted to continue such operations, but no new systems

will be authorized to that service on these frequencies. The Commission also proposed (docket 14503) that additional frequencies be made available for the local government service, as well as the other public safety services.

Frequency coordination procedures for the local government service have been simplified by rulemaking in docket 14932 to allow applicants to satisfy such frequency determination requirements in the same manner as the fire, police, highway maintenance and forestry-conservation services. Effective May 1, 1963, local government applicants may elect to undertake an engineering study as to probable interference from their proposed operation or, alternatively, seek a recommendation from a frequency advisory committee as to interference potential.

The Commission in docket 14424 provided for the use of alarm signaling in the police, fire, and local government services. It permits the operation, strictly on a secondary basis, of low-power transmitters emitting voice, tone, or impulse signals on public safety frequencies above 25 Mc to indicate fire, etc., on property under protection of the licensee. Such automatic systems must not cause interference to any base-mobile operations and require that the licensee proposing such use make an affirmative showing that interference will not be caused to other licensees on the same frequency.

On November 7, 1963, the commission in docket 14950 authorized operation of transmitters of certain stations by unlicensed operators. It permits normal operation by unlicensed persons of transmitters in several categories of stations (mainly mobile) subject to conditions and limitations. This is possible because of improvements in the operating characteristics and the limited range and low power of transmitting equipment, all of which tend to minimize interference possibilities. The station licensees, of course, remain responsible for the proper operation of their stations, and the operators, although unlicensed, are subject to sanctions provided in the Communications Act.

DISASTER COMMUNICATIONS SERVICE

This service enables communication facilities in the 1750–1800-kc band to be used in emergencies such as storm, flood, and war. Its stations may transmit any communication necessary to civil defense or relief work during disaster. At other times, communications are limited to those necessary in drills and tests to assure efficient functioning of equipment and competency of personnel. Over 85 percent of this service's licensees are civil defense organizations. Of the latter, 76 percent are also using the Radio Amateur Civil Emergency Service (RACES) for civil defense communication.

LAND TRANSPORTATION RADIO SERVICES

General

The Land Transportation Radio Services are designed to meet radio communication needs of railroads, motor-carrier systems (trucks, buses—both inter and intracity), and the taxicab industry; and, in addition, provide radio communication essential to giving prompt emergency road service to disabled vehicles. Increased efficiency of operations stemming from this use of radio continues to benefit the public both with respect to the transportation service rendered and its cost.

The railroads continue to make substantial investments in microwave point-to-point facilities. Over 4,000 miles of these systems are in operation. Construction of approximately 2,500 additional route miles has been authorized. The use of land mobile radio by motor carriers, particularly truckers, has in many areas increased to the point where the successful operation of additional stations requires engineering studies of their effect on existing systems. The trend in taxicab radio is toward the cooperative use of the same base station by different persons.

Developments and Rule Changes

A proposed rule change (docket 14970) would provide for the use of microwave facilities in the Railroad Radio Service for the transmission of public telegrams by telegraph common carriers in areas where, were it not for the railroad radio facilities, no such service could be provided. Of particular importance to the urban transit industry is a proposed rule amendment (docket 14503) which looks to the deletion of a substantial number of frequencies presently available to this service.

A petition of importance to truckers in the Motor Carrier Radio Service seeks to make available to other licensees certain frequencies in this service which at the present time are open only to licensees employing the two-frequency method of operation.

The general requirement that only equipment which meets the new technical standards will be licensable after November 1, 1963, resulted in a number of requests from railroads and the taxicab industry for varying degrees of relief. In some instances the replacement of "obsolete" equipment has been completed in part and the licensee seeks only additional time. In other cases the licensee pleads economic reasons or the fact that his present equipment is sufficient. Another petition by the taxicab industry seeks use of radio facilities in this service for taxicabs to transport certain property such as parcels of medicines. Using taxicabs for the extensive cartage of property was the subject of a recent complaint by two common carriers of property.

INDUSTRIAL RADIO SERVICES

General

Any citizen engaged in a lawful commercial activity may, if qualified, obtain a radio license in the Business Radio Service—the largest and fastest growing service in the industrial category. In addition, certain segments of industry and commerce, because of their importance to the public economy and welfare, have been specifically provided for in the Industrial Radio Services. Thus, for example, the power utility industry has its own radio service, as do the petroleum, manufacturing, forest products, motion picture, relay press, and telephone maintenance industries. The Special Industrial Radio Service extends eligibility to such business activities as farming, mining, oil well servicing, fuel oil delivery, heavy construction, and the delivery and pouring of ready-mixed concrete and asphalt. There is, finally, the Industrial Radiolocation Service which mainly engages in geophysical and geological activities to establish position, direction, or distance with radiolocation devices.

In January of 1963, the 100,000th authorization in the Industrial Radio Services was granted. The increasing expansion of industrial radio facilities has resulted in corresponding growth in the work of handling the approximately 4,000 such applications filed each month.

New Developments and Rule Changes

Manufacturers were afforded a greater degree of geographic choice in locating their base stations and were also allowed to increase transmitter input power from 60 to 180 watts by reason of rule amendments in the Manufacturers Radio Service in late 1962 (docket 13769).

In the Pacific Northwest, a shortage of assignable frequencies in the Power Radio Service has hampered, in recent years, the local power utility companies from rendering their desired measure of public service. This situation was alleviated in some degree in 1963 when five frequencies from within the 153-Mc band were reallocated from the Forest Products and Petroleum Radio Services to the Power Radio Service for use in Oregon and Washington (docket 14502).

Two categories of licensees in the Special Industrial Radio Service were affected by a rulemaking proceeding that was concluded in 1963 (docket 14899). Farmers and ranchers may now communicate with their vehicles that are employed in gathering and processing agricultural products grown for them by others, and deliverers of ice and fuel can now use their radio facilities in connection with the servicing of customer equipment used in connection with the products delivered.

In another proceeding, the Commission has proposed that the Petroleum and Forest Products and Manufacturers Services' unused fre-

quencies in the 150-Mc range be made available to the Special Industrial Radio Service in Alaska, Hawaii, Puerto Rico, and the Virgin Islands (docket 14990).

On July 24, 1963, the Commission proposed to provide frequencies for "flea power" (very low power) operations in the Manufacturers Radio Service.

One of the relatively new and timesaving techniques of radio utilization that is growing in favor is tone or impulse signaling. Essentially, this technique involves the transmission of a tone measured in seconds or milliseconds to a selective receiver which may, in turn, be used to actuate or turn off apparatus or warn of equipment failures or emergency conditions. In the past few years, the power, petroleum, and, to a certain extent, the forest products services have pioneered in the tone signaling field. On the basis of the satisfactory results experienced, the Commission is considering a wider allowance of tone signaling usage in the industrial services.

One example of the use of tone signaling is under study in the protective alarm industry. Developmental authorizations on microwave frequencies have been issued in the Business Radio Service to a number of companies that provide fire, burglar, and intruder alarm services to industry. The results of these developmental operations will be considered in conjunction with the outstanding proposal to create an Industrial Protection Radio Service.

CITIZENS RADIO SERVICE

General

The Citizens Radio Service is now numerically the largest single radio service. During the year it passed the 400,000 authorization mark. It provides for short-distance, low-power communication and is available for a variety of purposes. Usage ranges from individuals or family groups for their own personal or business pursuits to industry and persons in professional fields. Specialized uses include remote control by radio of objects or devices, such as garage-door openers and model aircraft or boats, and for radio paging systems within hospitals, stores, factories, or other establishments.

New Developments and Rule Changes

Amendment of a substantial number of the rules governing this service was proposed November 14, 1962 (docket 14843). They were prompted because monitoring, inspections, and investigations by the Commission, as well as numerous letters from licensees complaining of unnecessary interference to their operations, indicate that misuse of citizens radio station operating privileges is so prevalent in some areas as to threaten the continued usefulness of this service. The

710-451—64——8

Report Summary

GENERAL

With about 4 million non-Government transmitters operating on the land, on the water, and in the air, the United States is increasing steadily its world leadership in civilian radio usage.

Further, its pioneering in testing space communication holds promise of a third dimension for international telecommunication. Public interest in the broadcast aspect of space relay was attested by reports that 122 million persons in this Nation watched or listened to Major Cooper's earth-girdling feat in May of 1963.

Though astronauts have revised Jules Verne's "Around the World in 80 Days" to that many minutes, global radio communication is already extensive and almost instantaneous. The telegraph links us with practically every city and town on the globe and telephone calls can be made to about 175 foreign countries. The telephone cable system is being extended across the Pacific and to Latin American points, and its ties with Europe are being augmented.

More than 1.1 million FCC licensees now operate radio facilities in 60 classes of services. In addition, there are nearly 3.2 million authorizations to individuals to man the multitude of fixed, mobile, and portable transmitters involved.

Today's widespread and varied usage of radio extends from contributing to the national defense and safeguarding life and property in time of peace to serving other public, commercial, and individual needs. Radio provides ships and planes with safety and navigational aids. It is employed for police and fire protection, highway maintenance, forest conservation, and other State, county, and municipal operations. Radio serves land transportation by directing the movement of trains, buses, trucks, and taxicabs. Industry utilizes radio in the manufacturing processes and to speed the delivery of goods. Telephone and telegraph companies are depending more and more on radio for carrying public and business correspondence. Radio brings broadcast programs into the home. It furnishes a testing ground for new equipment and techniques. Personalized use of radio is reflected in the amateur and citizens radio services.

Following are some highlights of these and other communications matters discussed in the Commission's accompanying report.

Stations in Safety and Special Radio Services

Class of station	June 30, 1962	June 30, 1963	Increase or (decrease)
Citizens	305,138	446,590	141,452
Amateur	237,159	255,140	17,981
Disaster	411	431	20
RACES	14,089	15,267	1,178
Total amateur and disaster services	251,659	270,838	19,179
Aeronautical and fixed group	4,743	4,867	124
Aircraft group	85,825	84,269	(1,556)
Aviation auxiliary group	502	621	119
Aviation radionavigation land	402	409	7
Civil Air Patrol	15,451	16,036	585
Total aviation services	106,923	106,202	(721)
Business	39,266	49,973	10,707
Forest products	2,179	2,321	142
Industrial radiolocation	294	338	44
Manufacturers	630	891	261
Motion picture	64	48	(16)
Petroleum	9,064	9,289	225
Power	13,364	13,932	568
Relay press	164	186	22
Special industrial	27,688	30,147	2,459
Telephone maintenance	360	671	311
Total industrial services	93,073	107,796	14,723
Automobile emergency	1,439	1,521	82
Interurban passenger	53	68	15
Interurban property	2,435	2,770	335
Railroad	3,861	4,179	318
Taxicab	5,029	4,999	(30)
Urban passenger	128	131	3
Urban property	333	421	88
Total land transportation services	13,278	14,089	811
Alaskan group	1,362	1,505	143
Coastal group	468	425	(43)
Marine auxiliary group	82	85	3
Marine radiolocation land	45	47	2
Ship group	125,676	141,165	15,489
Total marine services	127,633	143,227	15,594
Fire	7,233	8,312	1,079
Forestry conservation	3,988	4,177	189
Highway maintenance	4,475	4,978	503
Local government	3,489	4,650	1,161
Police	15,001	15,919	918
Special emergency	4,473	5,115	642
State guard	17	17	0
Total public safety services	38,676	43,168	4,492
Total safety and special stations	936,380	1,131,910	195,530

Transmitters in Safety and Special Radio Services

Since authorizations in the Safety and Special Radio Services can cover the use of more than one transmitter, the collective number of fixed, mobile, and portable transmitters in those services rose to 3,961,018, an increase of 735,236 over 1962.

Transmitters in Safety and Special Radio Services

Class of station	Land or fixed	Mobile	Total
Citizens	13,844	1,429,088	1,442,932
Amateur	247,486		247,486
Disaster	431		431
RACES	32,061		32,061
Total amateur and disaster services	279,978		279,978
Aeronautical and fixed group	7,739		7,739
Aircraft group		134,831	134,831
Aviation auxiliary group	68	2,919	2,987
Aviation radionavigation land	532		532
Civil Air Patrol	7,697	16,036	23,733
Total aviation services	16,036	153,786	169,822
Business	29,984	354,808	384,792
Forest products	2,553	20,889	23,442
Industrial radiolocation	196	609	805
Manufacturers	1,069	20,671	21,740
Motion picture	52	802	854
Petroleum	22,294	61,308	83,602
Power	11,703	154,645	166,348
Relay press	168	2,418	2,586
Special industrial	28,338	289,411	317,749
Telephone maintenance	651	21,070	21,721
Total industrial services	97,008	926,631	1,023,639
Automobile emergency	1,430	14,450	15,880
Interurban passenger	55	612	667
Interurban property	3,047	46,813	49,860
Railroad	4,597	133,310	137,907
Taxicab	8,748	159,968	168,716
Urban passenger	105	3,170	3,275
Urban property	358	11,620	11,978
Total land transportation services	18,340	369,943	388,283
Alaskan group	3,266		3,266
Coastal group	659		659
Marine auxiliary group	553	6	559
Marine radiolocation land	75		75
Ship group		160,928	160,928
Total marine services	4,553	160,934	165,487
Fire	7,564	93,095	100,659
Forestry conservation	9,774	34,669	44,443
Highway maintenance	4,381	46,793	51,174
Local government	19,391	45,570	64,961
Police	13,690	194,212	207,902
Special emergency	4,911	16,112	21,023
State guard	306	409	715
Total public safety services	60,017	430,860	490,877
Total safety and special stations	489,776	3,471,242	3,961,018

Applications in Safety and Special Radio Services

During fiscal year 1963, 489,184 applications for stations in the Safety and Special Radio Services were received, which was an increase of 60,488 from the corresponding figure of 1962. A comparison of the numbers of applications received in each service during the past 2 years follows:

Applications in Safety and Special Radio Services

Class of station	June 30, 1962	June 30, 1963	Increase or (decrease)
Citizens	171,984	221,332	49,388
Amateur	123,777	117,571	(6,206)
Disaster	30	129	99
RACES	2,394	2,311	(83)
Total amateur and disaster services	126,201	119,971	(6,190)
Aeronautical and fixed group	2,041	2,583	542
Aircraft group	27,581	30,346	2,765
Aviation auxiliary group	215	312	97
Aviation radionavigation land	153	220	67
Civil Air Patrol	4,541	4,919	378
Total aviation services	34,531	38,380	3,849
Business	17,116	18,990	1,874
Forest products	536	1,339	803
Industrial radiolocation	296	378	82
Manufacturers	379	715	336
Motion picture	21	21	0
Petroleum	4,302	3,583	(719)
Power	3,585	6,150	2,565
Relay press	65	96	31
Special industrial	7,994	11,653	3,659
Telephone maintenance	255	406	151
Total industrial services	34,549	43,331	8,782
Automobile emergency	544	662	118
Interurban passenger	37	34	(3)
Interurban property	967	1,097	130
Railroad	1,604	1,651	47
Taxicab	1,621	2,039	418
Urban passenger	39	39	0
Urban property	180	334	154
Total land transportation services	4,992	5,856	864
Alaskan group	301	277	(24)
Coastal group	223	569	346
Marine auxiliary group	100	44	(56)
Marine radiolocation land	40	30	(10)
Ship group	35,698	40,039	4,341
Total marine services	36,362	40,959	4,597
Fire	3,163	3,588	425
Forestry conservation	1,911	1,712	(199)
Highway maintenance	2,563	2,223	(340)
Local government	2,723	3,236	513
Police	7,545	6,287	(1,258)
Special emergency	2,164	2,307	143
State guard	8	2	(6)
Total public safety services	20,077	19,355	(722)
Total safety and special stations	428,696	489,184	60,488

Common Carrier Services

DOMESTIC TELEPHONE

Highlights

One of the year's major accomplishments was the adoption of the "after 9" plan for interstate long-distance message toll service. The Commission took the initiative in urging the new rate schedule whereby a 3-minute station-to-station interstate call within the time period from 9 p.m. to 4:30 a.m. can be made between any two points within the continental United States for $1 or less.

At the close of calendar 1962, the telephone industry, consisting of the Bell System and more than 2,800 independent telephone companies, was serving over 81 million telephones, with a gross investment in plant exceeding $33 billion. Because of mergers and consolidations, the number of independent companies decreased from 3,035 to 2,825. To keep pace with the growing needs of customers, construction expenditures for the Bell System, which owns about 85 percent of the Nation's telephones, reached nearly $3 billion. The General Telephone System spent $277 million. Operating revenues for Bell exceeded $9 billion and for the independent segment over $1 billion.

Consolidated earnings applicable to American Telephone & Telegraph Co. (A.T. & T.) common stock of $1,388 million and $86 million for General Telephone for calendar 1962 represented a gain of 8 and 17 percent, respectively, over 1961; the earnings per share increased from $5.52 to $5.70 for A.T. & T. and from $1 to $1.15 for General Telephone.

The return on interstate earnings to net investment in plant amounted to 7.74 percent on a "flow-through" basis (including the effect on net operating income of the investment credit from plant additions authorized by the Revenue Act of 1962).

During 1962, the Western Electric Co. reduced its prices to the Bell companies on the products it manufactures, resulting in a saving of $40 million annually. The Commission continues its cooperation with the National Association of Railroad & Utilities Commissioners in reviewing Western Electric's prices, earnings, and costs.

The Commission is continually studying the rates and services of the carriers to insure that the public is afforded efficient services at reasonable rates.

Telephone Services and Facilities

Telephone companies continued their rapid expansion and improvement in services and facilities during fiscal 1963 by installing some 3.5 million telephones, increasing the total investment in plant almost $3 billion to provide for present and future needs, modernizing equipment to improve line transmission qualities and reduce the time required to switch calls, and constructing broadband facilities for TELPAK, closed-circuit video, and other new communication requirements.

During the year, the nationwide teletypewriter exchange service of some 60,000 stations was converted from manual to dial operation. "Touch-Tone" calling, using pushbuttons to transmit the called number to the central office, was tried successfully and sets are being manufactured for widespread usage.

Dataphone service, which permits alternate voice-record communication over regular telephone circuits, was expanded to include high-speed data transmission and to meet special requirements. A new-type carrier system, employing pulse-code modulation, was placed in service to increase the capacity of short-haul trunks between central offices.

By the end of calendar 1962, direct-distance dialing was available to more than 36 million customers and approximately 45 percent of all toll calls are now being handled without operator assistance. New equipment is being developed which will allow subscribers to directly dial distance person-to-person, credit-card, third-number, collect, and other types of special calls. Expansion of customer and operator dialing continued to improve utilization of plant, increase efficiency, and lower costs on interstate toll operations, and provide faster telephone service. The Bell System's average speed for completing long-distance calls in 1962 was 53 seconds, an improvement of 5 seconds over 1961. Coordination and rerouting of traffic on major routes is now done by a toll network control center in New York, where a display board provides constant visual information concerning the flow of calls from 12 regional centers.

The Bell System and most of the independents continue to rely on microwave radio relay and coaxial cable in handling the bulk of interstate services. As of June 30, 1963, the A.T. & T.'s long-lines department had 30,339,900 message telephone circuit miles of radio relay facilities and 18,383,310 miles of coaxial cable, with only 4,416,430 miles of other cable conductors or open wire. Research is continuing with solid-state and gas optical masers, which promises to ultimately provide circuit capacities thousands of times greater than now possible.

Construction continued on the Bell System's transcontinental coaxial cable route. Twin eight-tube coaxial cables are being installed a

depth of between 4 and 5 feet with all associated repeater stations underground and blastproof for protection in case of national emergency. This coaxial cable route has been completed westward from near New York City to Fairview, Kans. Additional microwave relay express routes are being constructed across the country, generally avoiding metropolitan areas and military targets.

The Commission authorized 331 applications for the construction of cable, wire, and carrier systems costing $241,320,240 during the fiscal year, including the annual blanket construction program of A.T. & T. in the amount of $97,386,000 and continuing authority for small projects in the amount of $1,368,558. Also, during fiscal 1963, the Commission authorized $99.2 million construction of radio relay facilities and 93,186 additional channel-miles of other radio facilities. Practically all of these projects were for the Bell System, with the independents accounting for less than 1 percent of the total expenditures.

The Commission granted 4 applications to discontinue telephone service during fiscal 1963, each of which provided for continuance of service by another telephone company. Two other applications were pending, one of which is in hearing.

The Commission granted 10 applications for carriers to acquire telephone plant and property of other carriers, at a total purchase price of $227,980; also, 8 applications for consolidation of facilities at a cost of $253,417.

Separation Procedures

The adoption of the separation procedures in April 1962 resulted in a shift of approximately $46 million from intrastate to interstate revenue accounting requirements. This change enabled States to reduce intrastate rates by about $43 million on an annual basis as of June 30, 1963. It has helped to alleviate existing disparities between intrastate and interstate message toll rates.

Tariff Docket Cases

TELPAK. In September 1961, the Commission suspended certain revisions of A.T. & T.'s TELPAK tariff and ordered an investigation of its overall offering covering bulk voice, teletypewriter, data, and other forms of communication (docket 14251). Rates for larger users are significantly lower than comparable private line charges. Since then, after intervention by many interested parties, 36 days of hearings have been held. Initial decision is now pending.

WATS.—Hearings were previously completed in the investigation of A.T. & T.'s wide-area telephone service (docket 13914). WATS is a long distance, station-to-station telephone service which makes

available limited (measured time) and unlimited (full time) interstate calling within six zones or calling areas at flat monthly rates. This case is also awaiting initial decision.

WADS.—The Commission issued an initial decision in the wide-area data service proceeding (docket 14154). While accepting some aspects of the WADS design, the Commission concluded that certain of the flat-rate aspects of the tariff were unreasonably discriminatory. A.T. & T. was given the opportunity to submit a new WADS tariff reflecting modifications suggested by the Commission. At the same time, the Commission instituted an investigation into the lawfulness of teletypewriter exchange service (TWX) rates and consolidated it with the WADS proceeding. Final decision in the WADS proceeding was made July 24, 1963. It affirmed the conclusions of the initial decision and ordered A.T. & T. to cancel its full-scale WADS offering but permitted it to continue its developmental line switched teletype service until otherwise ordered by the Commission.

Private line.—A final decision was issued in the private-line case (dockets 11645 and 11646) in which Western Union and A.T. & T. were ordered generally to raise rates as to the private-line teletypewriter services and to lower rates in regard to voice channels. Refunds are to be made in certain instances by both companies and revised rates were filed to be effective August 1, 1963. On reconsideration, the Commission affirmed the final decision with the exception of press rates which it stayed pending an investigation into those rates. On July 31, 1963, the U.S. Court of Appeals for the Seventh Circuit stayed the effect of the Commission's orders in the private-line case.

SAGE.—Because a final decision has been rendered in the private-line case, it is anticipated an initial decision will soon be issued in the SAGE (semiautomatic ground environment) services to the Department of Defense.

BMEWS and COPAN.—In another case involving the Department of Defense, A.T. & T. charges and regulations for the ballistic missile early warning system (BMEWS) and the command post alerting network (COPAN) services, the hearings were completed and an initial decision is pending.

Doniphan Telephone Co.—In the Doniphan Telephone Co. of Missouri case, which involved its request for a change in points of interconnection with the Southwestern Bell Telephone Co., a final decision on May 22, 1963, limited the initial decision to a denial of Doniphan's request (docket 13378).

Thornell Barnes Co.—During the year, the Thornell Barnes Co. filed a complaint against the Illinois Bell Telephone Co. alleging it was being overcharged for interstate toll calls and challenging Bell

methods of recordkeeping and billing such calls. After 24 days of hearing, the case awaits further filings before an initial decision (docket 14654).

New Tariffs

"After 9" and other rate changes.—For over 35 years some form of discount rate has applied to interstate telephone calls made during nonbusiness hours. "Evening rates" (applicable between 7 and 8:30 p.m.) and "night rates" (applicable between 8:30 p.m. and 4:30 a.m.) were in effect from October 1, 1926, until June 1, 1935, when a single night rate was provided for the period between 7 p.m. and 4:30 a.m. Effective March 23, 1944, the night-rate period was advanced 1 hour to 6 p.m.; on April 4, 1963, multiple night-rate periods were reintroduced with the "after 9" plan modification. The public benefits on costs for station-to-station calls made between 9 p.m. and 4:30 a.m. to points 221 or more airline miles away.

Under this new night-rate schedule, a 3-minute station-to-station interstate call can be made between any two points within the continental United States for $1 or less, a decrease ranging from 5 to 75 cents. Additional period rates were decreased from 5 to 20 cents. These reductions were designed to encourage telephone users to take advantage of the technological improvements introduced by the Bell System in recent years, much of which is engineered for peak daytime usage.

At the same time the "after 9" reduction became effective, changes designed to adjust rate structures including increases of 5 to 10 cents in person-to-person calls up to 800 miles were placed into effect. Person-to-person calls at the shorter distances have not borne their proportionate share of the cost of furnishing such services.

The net effect of the foregoing rate changes, based upon 1962 traffic volumes, is estimated to result in an annual savings to the public of about $30 million.

Message toll tariff.—A.T. & T.'s message toll tariff was further expanded, effective February 1, 1963, to include regulations and rates in connection with telephone service with ships of foreign registry. These provide for the application, in addition to the charge specified in the tariff, of the ship station charges specified in the List of Ship Stations published by the International Telecommunication Convention, Geneva (1959).

Of interest also was a revision of the message toll tariff, effective December 5, 1962, which extended the scope of the provisions applicable to station-to-station, person-to-person, and initial and additional period for two-point message toll telephone service to reflect changes

resulting from the telephone company's interconnection with the systems of miscellaneous common carriers for through service.

New TELPAK offering.—A new offering to the public was made in the TELPAK tariff for high-speed data channels at 40,800 and 105,000 bits per second. This service is not offered in any of the other Bell private-line tariffs.

Filings.—At the fiscal yearend, there were 776 tariffs on file with 9,368 revised or new pages having been filed during the year. The Bell System alone has 68 tariffs on file which account for some 4,300 pages and about 1 million words. At the present time a Bell project is underway to reduce and simplify this bulk. It anticipates that the work will be substantially completed during the next fiscal year.

Depreciation

In recognition of the considerable growth in recent years of the business services in the telephone station-apparatus field, such as the increasing use of multibutton instruments, a separate depreciation study category has been established to include all apparatus other than regular residence and coin telephones. Studies made thus far indicate that this type of apparatus has only about half the life of the regular telephones. Further developments in the station-apparatus field are expected to accentuate this condition. For example, 1964 production of "Touch-Tone" telephones is estimated at 400,000 to 600,000 sets. Other developments expected to have a serious impact on the lives of telephone equipment in the near future are the introduction, during 1963, of console-type switchboards with solid-state circuitry, and, in 1964, of electronic central offices.

New revised depreciation rates were prescribed for eight Bell companies during fiscal 1963. Over the past 3 years, rates have been revised for all Bell companies, resulting in an average increase of slightly under 5 percent.

In cooperation with the National Association of Railroad & Utilities Commissioners, work was started on the preparation of a manual on depreciation for engineers. It will be concerned with the practical aspects of depreciation and will supplement an existing manual which deals mostly with statistical and legal aspects.

When the Internal Revenue Service in July 1962 announced its new shorter guideline lives for tax depreciation, it specifically exempted telephone and telegraph companies. It provided, among other things, that, where depreciable lives or depreciation rates have been established by the FCC, they are to be used in the computation of depreciation for tax purposes.

Other Subjects

Charitable contributions.—On June 27, 1963, the Commission denied requests that it amend its accounting rules with respect to charitable and educational contributions for activities beneficial to the community. Such contributions are not prohibited and the effect of the Commission's ruling merely is that they will continue to be chargeable to a "below-the-line" income account rather than to an account or accounts classified as operating expenses as was proposed.

Investment tax credits.—On November 21, 1962, the Commission proposed rulemaking (docket 14850) with respect to accounting for investment tax credits made available under the Revenue Act of 1962. After oral argument the Commission, on July 31, 1963, concluded that the best method to reflect the investment tax credit is to permit it to "flow through" immediately to net income as is presently required by the uniform system of accounts. On August 2, 1963, it continued in effect a waiver permitting certain differing interim accounting pending consideration of any petitions for reconsideration, or until further order.

Relief and pensions.—During 1962, Bell company payments to trust funds for employees' service pensions amounted to $228.6 million, an increase over the preceding year of $7.2 million, or 3.2 percent. As of December 31, 1962, the balance in Bell System pension funds was $3.1 billion. Also, during 1962 certain revisions were made in the investment instructions to the trustee of the A.T. & T. and some Bell System pension funds which, among other things, will now permit investment (*a*) in common stocks not to exceed 20 percent (previously 10 percent) of the total fund and, (*b*) for the first time, in bonds or notes secured by mortage or deed of trust gauranteed or insured by the Federal Housing Administration.

For the calendar year 1963, Bell (except for the Southern New England Telephone Co., which had previously adopted the higher interest assumption) service pension accrual rates were revised to reflect the use of a 3.5-percent assumed interest rate in lieu of the 3-percent rate used in recent years. In addition, 1963 accrual rates reflect the effect of 2 years' additional experience as well as revised wage scales.

Certain liberalizations in the pension plans of the Bell companies to become effective in the latter part of 1963 will result in increases in pension costs. These provide for a reduction in the social security adjustment from one-half to one-third of the primary benefit, for a reduced pension to a qualified survivor of a deceased class A pensioner, and eligibility for a pension at age 65 of an employee who has 15 years but less than 20 years of service.

Telephone set losses.—The A.T. & T. adopted more stringent controls in an attempt to reduce the number of telephone set losses. In 1962 for the Bell System the net quantity of sets lost or determined to be unrecoverable was 854,084 which was 121,990 or 17 percent more than in 1961. The net quantity shortage disclosed by inventories, including unreconciled left-in losses, for 1962 was 112,853, which was 15,261 or 16 percent greater than in 1961. This is a matter which is of continuing concern to both the company and the Commission.

Original cost accounting.—Twenty-two journal entries recording acquisitions of telephone plant at original cost, in accordance with FCC accounting rules and regulations, were submitted for consideration. Approval was given to the accounting for 17 acquisitions. In certain instances this involved the disposition of amounts in excess of original cost. At the close of the year, of 39 telephone plant acquisitions awaiting approval, 32 were involved in correspondence to resolve such matters as questions regarding the amounts to be recorded in the accounts in exchange of stock transactions, the propriety of the methods used in estimating original cost, and the procedures followed in determining the related theoretical reserve requirements.

Field studies and reviews.—Fiscal 1963 showed an increase in the number of telephone companies visited for making limited studies of certain accounts, records, and accounting procedures. These included 11 Bell companies and 4 independents. They were conducted by Common Carrier Bureau field offices in New York, St. Louis, and San Francisco, as well as by the headquarters staff. They were directed, among other matters, to plant accounting for station apparatus and station connections, establishment and maintenance of continuing property records, cost of conversion of teletypewriters from manual to dial operation, acquisitions of "isolated poles" or "interests in pole lines" from electric utilities under pole-equalization agreements, termination of service for cause, and accounting for uncollectible revenues.

DOMESTIC TELEGRAPH

Highlights

The Western Union Telegraph Co.'s gross landline operating revenue of $264,119,000 for calendar year 1962 declined $1,610,000 from the high of 1961. The drop was due principally to a 6-percent decline in public-message volume only partially offset by increases in private-line and Telex service revenues. Net income from the company's entire operations was $10,606,000 in 1962, compared with $12,226,000 in 1961. The 1962 net income reflects a negative Federal income tax provision of $3,500,000 due principally to the use of accelerated depreciation in calculation of the tax.

In contrast to the declining message business, Western Union's gross private-wire and Telex revenues amounted to $63,225,000 and $2,570,000, respectively, in 1962, as compared with $60,413,000 and $727,000, respectively, in 1961.

As of December 31, 1962, Western Union's landline system represented a gross plant investment of $541 million, an increase of $106 million for the year; it had 16,316 offices, of which 1,819 were company operated and the remainder were agency offices operated by railroads, small telephone companies, and small businesses. As of October 31, 1962, it employed 30,021 people, including 4,558 messengers, excluding telegraph agencies and their employees.

Message telegraph volume was 112 million in 1962 compared to 117 million the previous year. Domestic public-message service was responsible for 57 percent of the company's total landline revenue in 1962 as compared with 59 percent in 1961. Public-message gross revenue was $151 million in 1962 as compared with $158 million the previous year.

Telegraph Facilities

Modernization and expansion.—During the year, Western Union passed the midpoint in the largest building and expansion program in its history. This program for the 1961–64 period provides for such important projects as building a transcontinental microwave system, installation of the world's largest digital data communications system (AUTODIN) for the military services, completion of a nationwide nuclear-bomb alarm system, expansion of Telex on a nationwide basis, and development of new voice and alternate record-voice services. The company's original plans contemplated expending $375 million for the 4-year period; however, the impact of competitive service offerings by the Bell System has necessitated a restricted capital program.

Western Union pushed construction of its new transcontinental microwave system and plans to place the New York-Los Angeles trunk route in operation by the end of 1963 and the entire system in early 1964. This network will make possible the addition of more than 50 million telegraph channel-miles with a capacity of 2.4 million words a minute. The new system's 4 million voice channel-miles will provide advanced cross-country broadband microwave facilities capable of handling all forms of modern communications.

The automatic digital network (AUTODIN) was completed and placed in operation to serve over 300 Air Force, Department of Defense, and defense industry users. The network has transmission capability of 100 million words daily from 7 million punched cards plus perforated paper tape or magnetic tape. The system is completely

automatic and compatible with other Department of Defense communications systems. Other major private-wire and facsimile networks were furnished by Western Union to large commercial and industrial firms.

Also during the year, Western Union formally inaugurated a nationwide nuclear-bomb alarm system for the U.S. Air Force. It consists of about 300 optical "sensor" devices installed around 99 target areas. They are designed to trigger instantly an alarm if any target area should be hit by a nuclear bomb and automatically pinpoint the location on illuminated display maps at key centers.

Telex service (a teleprinter exchange service similar to Bell's TWX service) was expanded from 64 to 100 cities in the United States and the number of subscribers increased from 1,350 to 5,000 during the year. Associated with Telex is a new service, introduced during the year, called Tel(T)ex which permits Telex subscribers in this country to send messages to nonsubscribers at 61 major cities in the United States and Canada.

Western Union plans to inaugurate its new broadband switching exchange service between New York and Chicago in late 1963 using facilities provided by its new transcontinental beam system. Broadband switching will provide customer-to-customer wide-band channels for transmitting voice, highspeed data, facsimile and other types of record communication on a toll basis.

Telegraph Services

Some growing services.—In comparison to waning message business, private-line telegraph and teletypewriter exchange services are growing. Private-line telegraph services accounted for 24 percent, and its new Telex service for 1 percent, of Western Union's total revenues in 1962 as compared with a combined figure of 23 percent the previous year (Telex service accounted for only 0.27 percent of total revenue in 1961). Telex service revenue of $727,000 in 1961 jumped to $2,570,000 in 1962, and indicated prospect of an annual rate of $6 million per year.

Western Union private-line service revenue mounted from $6 million in 1945 to $63.2 million in 1962. During the same period, Bell System's private line (excluding TELPAK) increased from $24 million to $115.5 million and its teletypewriter exchange service (TWX) revenue jumped from $17 million to $68 million. However, Bell showed a decline in private-line revenue from $121 million in 1961 and less than $500,000 increase in TWX, due substantially to diversion to the WADS and TELPAK service offerings.

During 1945–61, Western Union's share of total domestic telegraphic communications revenues declined from 80.7 to 56.9 percent

while Bell's share increased from 19.3 to 43.1 percent. This trend was reversed in 1962 when Western Union obtained 57.3 percent versus Bell's 42.7 percent of the total, due apparently to private-line telegraph revenue diversion to other services (WADS and TELPAK).

Investigation of domestic telegraph services.—Progress continued on the FCC Telephone and Telegraph Committees' domestic telegraph investigation (docket 14650). The committees adopted rules governing the procedure to be followed in the inquiry, while the Commission staff assigned to the investigation studied a number of areas pertinent to the need for message telegraph service. Also during the year, both Western Union and the Bell System, on request, began collecting additional data and information for submission at hearings scheduled to begin in September 1963. After the receipt and analysis of this material, the inquiry staff will prepare a report for the committees which, when considered with any separate presentations from other participants in the investigation, will serve as a basis for policy recommendations by the committees to the Commission regarding the future of nationwide message telegraph service.

Extension of facilities and curtailment of service.—The Commission approved 42 Western Union applications for supplementation and extension of wire facilities to meet the increasing needs of customers for private-wire telegraph services and for extension of lines and improvement of message telegraph service. The requests involved the leasing of approximately 800,000 telegraph channel-miles, 33,500 data channel-miles, 12,000 TELPAK channel-miles, and 2,000 facsimile channel-miles. The Commission also granted four applications to extend and supplement the company's facilities including some 1,400 miles of its transcontinental microwave system. During calendar 1962, 2 main and 1 branch telegraph offices were established and the open hours of 17 main and 2 branch offices were extended.

Western Union applications to curtail local service result primarily from the continuing decline in message volume. During the year, 959 applications were filed for authority to discontinue or reduce service as compared to 1,117 the previous year. In addition, 90 applications were pending at the beginning of the year. Of the total, 897 applications were granted, 2 were denied, 9 were withdrawn, and 141 were pending at the yearend.

Applications granted during the year involved closure of 713 railroad-operated or other agency-operated offices in small communities where a negligible traffic volume did not warrant continuation of local representation and substitute service by telephone was made available to most of the communities; 235 reductions in office hours, the vast

majority of which complied with specified standards and conditions prescribed by the Commission, including provision for substitute service through company-operated and agency-operated offices in the same community; replacement of 57 company-operated main offices by agency offices to handle the limited volume of messages involved; and closure of 44 company-operated branch offices, with substitute service provided through other offices or facilities. Western Union estimates that current savings resulting from office closures, conversions, and hour reductions amount to approximately $940,000 annually.

Speed of service.—The Commission's rules require the telegraph company to conduct daily studies and report monthly summaries on the speed of service in handling domestic message traffic at the 75 cities with the largest volume of terminating traffic. The company's ultimate goal calls for complete handling of messages delivered by telephone and tieline within 1 hour and business messages delivered by messenger within 75 minutes.

The reports revealed a progressive decline in speed of service during calendar 1962, with only about two-thirds of the reporting offices achieving service performance on the average as high as 90 percent of the company's objectives. This deterioration resulted primarily from the company's efforts to reduce operating expenses. Pursuant to efforts initiated by the Commission in the latter part of calendar 1962, Western Union agreed to pursue steps to improve declining service trends and preclude individual cities from falling below 90 percent of the company's objectives more than twice in any 6-month period. Although the company is far from achieving its overall target, some service improvement was made during the latter half of the fiscal year and most of the cities are reporting performance above the 90-percent figure.

The speed, quality, and adequacy of telegraph service are an important part of the regulatory function and, to the extent that the FCC budget permits, on-the-ground investigations are made to determine service conditions. These inspections which are, of necessity, confined to the most pressing situations, have had a salutary effect on the offices visited and on service generally and provide information essential to the discharge of the regulatory responsibilities. A limited number of such field inspections were made to determine service conditions in general, review curtailment proposals, and study service conditions following closure of offices. Deficiencies revealed through speed of service reports, field investigations, and other sources, including complaints from users, are brought to the company's attention in order that corrective measures may be taken.

Domestic Telegraph Rates

Message service.—Western Union, on August 10, 1962, filed revised tariff schedules contemplating an increase in the charges for interstate message telegraph service by discontinuing the company's practice of making a reduction in its charges of 20 cents for each sent-paid message by a customer over a tieline in excess of the first 50 such messages in a month. Increased rates, according to Western Union, are necessary to offset higher wages resulting from recently negotiated labor contracts. On the following September 5, the Commission suspended the proposed schedules and instituted an investigation (docket 14754). Western Union later obtained special permission to substitute schedules reducing the effect of the discount but not eliminating it altogether. The substitute schedules, effective October 25, 1962, are estimated by the company to increase annual revenue by $3 million instead of $4.7 million had the tieline discount been eliminated completely.

The company also filed revised tariff schedules, effective November 23, 1962, increasing the charges for additional words (in excess of 15 in telegrams and in excess of 50 in day-letter and night-letter messages). The estimated effect of these increases will be additional revenue of $2.3 million a year.

On June 10, 1963, Western Union filed revised tariff schedules, effective July 10 and November 1, 1963, increasing rates for interstate message telegraph services and certain miscellaneous services. The revised rates are expected to produce additional annual revenues of approximately $16.5 million on a systemwide basis. The overall average effect is an increase in the cost of these telegraph services to the public approximating 10 percent.

Private-line services.—Western Union filed tariffs, effective January 5, 1963, establishing rates and regulations for channels for remote metering, supervisory control, and miscellaneous signaling purposes. These leased facilities services are directly competitive with similar A.T. & T. offerings.

Data-tape transmission service.—Effective January 9, 1963, Western Union established rates and regulations for a new service to be known as data-tape transmission service for an experimental period of 1 year. This new offering is being made to provide a rapid means of transmitting digital data information compatible with the company's operating equipment from one city to another when there is not sufficient volume to warrant the leasing of a private-wire channel for the purpose.

Personal opinion message service.—As reported last year, Western Union established a flat-rate personal opinion message service on an experimental basis for a year to test public reaction to such a message service. The company was favorably impressed with the public's

acceptance of this new offering and, on January 21, 1963, established the service on a permanent basis.

Tariff schedules.—During the year, Western Union filed 1,003 pages of domestic telegraph tariff material and 20 requests for special tariff permission to file tariff schedules effective on less than statutory notice.

(See "private line" service rates in telephone section concerning the proceeding in dockets 11645–6 and 12194 involving both Western Union and A.T. & T.)

DOMESTIC COMMON CARRIER RADIO FACILITIES

Domestic Public Land Mobile Radio Service

The Domestic Public Land Mobile Radio Service continues to expand at a rate which indicates the widespread need and acceptance of this service by the general public. Metropolitan areas began using common-carrier mobile radio in the early stages of its development, and present trends show new awareness and increasing demands for mobile communication in rural areas. In fact, independent telephone companies have filed many applications designed to integrate common-carrier mobile radio facilities into their telephone systems. The potential is great for miscellaneous common carriers interconnected with telephone companies in a nation whose population is becoming increasingly mobile.

One of the most promising developments for the common-carrier mobile radio industry authorized by the Commission is the construction and testing, on a developmental basis, of an "improved mobile telephone system" which would effect a more efficient use of radio channels by using automatic trunking devices similar in principle to the operations of an automatic dial telephone network.

The equipment was developed by Bell Laboratories to facilitate automatic multichannel access to a common-carrier mobile radio system from either a mobile station or a landline station, and is intended to provide a fully automatic two-way dial service between any two phones on a system (mobile or fixed) with ready access to any phone connected into the nationwide communications network. If this development is successful it should result in a more efficient telephone service generally by making a more effective use of assigned radio frequencies through the automatic selection of an idle radio channel with a higher percentage of completed calls.

Air-Ground Radiotelephone

The Commission on June 5, 1963, terminated the rulemaking proceeding (docket 14615) concerning establishment of a nationwide public air-ground radiotelephone service on a regular basis. It

concluded that the system as proposed would not provide sufficient channels to meet the ultimate requirements for the service. The developmental public air-ground system is to continue until September 10, 1964, and unless by that time a suitable system with greater channel capacity is devised the Commission will consider terminating this developmental service. Subsequently, several petitions for reconsideration were filed but there has been no further determination in this matter.

Point-to-Point Microwave Radio Service

The use of point-to-point microwave radio facilities for telephone, telegraph, data transmission, and video (including relaying of TV programs to CATV systems) is constantly increasing. On June 30, 1953, there were only 626 stations authorized in this and related services. On June 30, 1963, in the microwave point-to-point radio service alone, there were 3,577 authorized stations. Evidence of the intense activity in this service is also found in the fact that during the fiscal year 3,942 microwave applications were filed with the Commission. This expanding field has resulted in more complex problems involving frequency conservation, elimination of interference between microwave facilities, and improvement of circuit reliability.

Applications to use microwave facilities for relaying TV programs to CATV systems, in addition to raising traditional common-carrier questions, also pose problems because of the Commission's responsibilities for TV broadcasting. The Commission recognizes the benefits derived from the use of microwave facilities in making available to CATV users a more varied and improved service. However, it it also concerned about the effect of such operations on its policies to encourage the establishment of local TV stations which, in many instances, provide the sole video service in rural areas.

In the Carter Mountain Transmission Corp. case referred to under "Litigation," the Commission denied microwave facilities to serve a CATV operation on the grounds that a grant would destroy the local TV broadcast station and thus result in loss of TV broadcast service to a substantial rural population. The denial was made without prejudice to the filing of a new application if the CATV operation would avoid duplication of the programing of the local TV station unless requested by the latter.

Following the Carter Mountain decision, a number of petitions to deny microwave authorizations were filed by TV stations raising issues concerning the loss or reduction of service to their viewers. A hearing was held in one such case—Mississippi Valley Microwave Co., Inc. (docket 14852)—and several other hearings involving the same subject matter are in prospect. The Commission has suggested

that, wherever feasible, the interests of TV broadcast viewers and CATV subscribers might both be satisfied by the local TV station and the CATV system entering into an arrangement providing protection against duplication of the TV station programing and for carrying its signal by the CATV system if requested to do so.

Another matter of continuing concern to the Commission relating to microwave applications to serve CATV systems is the use of common-carrier frequencies, which are reserved for service to the public, to serve what are primarily private business interests. The Commission, recognizing the need for private businesses to use microwave facilities for their own ends, has set aside separate frequencies in the Business Radio Service in order to satisfy such needs. Approximately four applications for new common-carrier microwave authorizations have been designated for hearing because a substantial question has been raised as to public need for them.

Action also has been taken in instances where violations have been reported or were otherwise discovered involving the operation of common-carrier radio facilities without proper authorization. The Commission in one case imposed a forfeiture of $1,200 under provisions of the new section 510 of the Communications Act. In other cases, it warned the licensees involved that future violations may result in revocation proceedings.

Carriers Compete for Participation in Space Communications

Western Union and the California Interstate Telephone Co. each filed mutually exclusive applications to provide the Jet Propulsion Laboratory, a division of the California Institute of Technology, with common-carrier microwave facilities for transmitting spacecraft data in connection with the unmanned exploration of space. The laboratory is a participant in the program of the National Aeronautics and Space Administration and the sought facilities were subject to critical planning deadlines. The Commission determined that the national interest required an expedited procedure and directed the hearing examiner to conduct an evidentiary hearing and certify the record to the Commission for final disposition without preparing an initial decision.

After the hearing was concluded, an oral argument was held before the Commission en banc in which the legal issues were highlighted. The Commission concluded, among other things, that the superior reliability associated with the Western Union application—a technical requirement considered by Jet Propulsion Laboratory to be vital to the proposed operations—warranted granting that application and denying the competing one.

INTERNATIONAL TELEGRAPH AND TELEPHONE

General

With a satellite communications system still under development, oversea telegraph service continues to be provided through conventional radio media, submarine telegraph cables, and leased voice circuits in submarine telephone cables, with circuits in the latter showing the greatest growth. A number of telegraph companies, of which the three largest are American Cable & Radio Corp., RCA Communications, and Western Union, provide various types of telegraph service to practically all points on the globe.

The American Telephone & Telegraph Co. provides oversea telephone service to about 175 points throughout the world through its radio and cable facilities.

Telecommunications service is also provided by the common carriers with ships at sea.

Financial Position of Industry

Total operating revenues of the international telegraph industry continued to rise, reaching $92,257,000 for calendar year 1962. This increase in revenues, however, was more than offset by increased expenses so that net operating revenues declined to $10,357,000 from $11,669,000 in calendar 1961. The rise in revenues was due primarily to the increased demand for customer-to-customer services. International teletypewriter exchange service (Telex) revenues rose 21.7 percent to $12,200,000 and leased-channel service revenues rose 10 percent to $9,600,000. The relative volume of international message service revenues to total industry revenues continued to decline, dropping to 68.4 percent.

Revenues from oversea telephone services also continued to rise, reaching $58,721,000, an increase of 17.4 percent.

Western Union Cable Divestment

The Commission on April 29, 1963, interposed no objection to a supplemental agreement between Western Union and American Securities Corp., which further amended their basic agreement of September 15, 1960, for divestment of the former's international telegraph operation to the latter (docket 6517). These amendments, among other things, provided a new method for the sale of securities to be received by Western Union in exchange for its international telegraph facilities.

Subsequently, American and Anglo American Telegraph Co. reached an agreement permitting assignment to the divestee of a lease covering certain cables owned by the latter and used by Western Union, which released the latter from its obligations under the lease.

Divestment was completed on September 30, 1963.

Reorganization of American Cable & Radio Corp.

Projected plans for combining the telegraph operations within the continental United States, including Hawaii, of its four operating subsidiary companies into a single entity were revealed by the American Cable & Radio Corp. in an application granted by the Commission to transfer authorizations issued to two of its subsidiaries—All America Cables & Radio, Inc., and Mackay Radio & Telegraph Co., Inc. Because All America has abandoned its cable sections extending from the continental United States, a grant would eliminate it from the A.C. & R. operating system in the continental United States. The other A.C. & R. subsidiaries are The Commercial Cable Co. and Globe Wireless Ltd.

Discontinuance of South Puerto Rico Sugar Corp. Operations

The South Puerto Rico Sugar Corp. was authorized to discontinue operation of its public coast and international fixed public telegraph station, its sole radio station, at Ensenada, P.R., in October 1962. A steady decline in its international traffic, coupled with the increasing inclination of ship communications to bypass its public coast station and communicate directly with the mainland, led to the company's decision to abandon the telegraph portion of its business.

Ocean Telephone Cables

With the opening for service of a new submarine telephone cable to Jamaica and thence to the Panama Canal Zone, the oversea cable network, in which the American Telephone & Telegraph Co. and other U.S. communications companies have a direct financial interest, continues to expand. A third transatlantic cable which, for the first time, links the United States with England directly, was opened on October 10, 1963. The Commission has authorized the construction of a cable between the Panama Canal Zone and Colombia, as well as a second cable between California and Hawaii which will connect with the previously authorized transpacific cable to be constructed between Hawaii and Japan via the islands of Midway, Wake, and Guam.

Future plans call for cables between Florida and the Virgin Islands, connecting there with Puerto Rico via microwave radio facilities; between the Virgin Islands and Venezuela; and between the Philippines and Guam, connecting there with the transpacific cable.

Use of Telephone Facilities by Telegraph Carriers

International telegraph carriers are continuing to lease and operate channels in the submarine telephone cables in increasing numbers. All America Cables & Radio, Inc., has discontinued its own telegraph cables from the continental United States to Cuba and the Panama

Canal Zone, which were antiquated and frequently interrupted, and is leasing circuits in the new Florida-Jamaica-Panama Canal Zone cable. It is anticipated that the telegraph carriers will continue to lease and operate such channels in new cable systems as they are put into service.

On July 17, 1963, the Commission instituted an inquiry into leased radio and cable channel service to oversea points in preparation for an international meeting at Moscow in 1964.

Congestion in International Frequency Bands

Although international communications are handled in increasing volume over the new high-capacity submarine cables, the high-frequency bands allocated internationally to the fixed radio services continue to be congested. This is due to the overall increase in demand for international communication, particularly with respect to countries served primarily by radio, and by the fact that the approaching low phase of the 11-year sunspot cycle tends to crowd operations on high frequencies into the lower portion of the range.

Progress is being made, principally through the efforts of the International Frequency Registration Board, to eliminate inactive circuits from the international lists. This makes it easier to fit additional new circuits into the lists.

International Radio Circuits

Direct radiotelephone service with St. John's, Antigua, was established by A.T. & T. in February; with Bangkok, Thailand, in May; and with Pago Pago, American Samoa, in June, all 1963. Because the international telegraph carriers continue to rely increasingly on leased facilities in ocean telephone cables, there was practically no change in the number of direct radiotelegraph circuits authorized during the year.

Rates for International Telegraph Services

During the year, the level of rates for international telegraph message services remained largely unchanged. In the latter part of 1962, the international carriers substantially reduced their rates for leased-channel services to a number of European countries in order to meet the competition of lowered leased-circuit rates between London and Montreal in the British Commonwealth telephone cable between Canada and the United Kingdom which is operated jointly by those two countries.

Because of poor operating results shown by carriers offering ship-shore service, the Commission authorized an increase in coast-station

charges for the handling of marine messages. A new service, "Phototelex," was offered between New York and London for the direct exchange of phototelegrams between customers' offices.

A.C. & R. filed a petition, now awaiting disposition, requesting a general investigation into the reasonableness of the charges, practices, classifications, and regulations for international point-to-point telegraph services and, in particular, an increase of 30 percent in message service charges. Western Union supported the petition, requesting that the issues be enlarged to comprehend an increase in landline charges for international traffic handled by it.

Airline Contract Service

On March 6, 1963, the Commission instituted a proceeding (docket 14988) into the lawfulness of a proposed tariff of RCA Communications, Inc., offering to airlines only leased cable channel service between the United States and certain European points at rates lower than those available to the general public. The Commission on April 10, 1963, dismissed the proceeding when that carrier canceled the offering.

Pan American Complaint

Oral argument was heard by the Commission October 5, 1962, on joint complaint of the Pan American Union and the Pan American Sanitary Bureau against six international telegraph carriers, alleging that the complainants are entitled to the lower rates for international telegraph messages accorded to messages of foreign governments (docket 14198). A decision is in preparation.

Depreciation

Continued progress was made, with cooperation of the international telegraph carriers, in studies designed to develop information necessary for the Commission to prescribe depreciation rates for the remaining carriers, as required by section 220(b) of the act, and to determine whether or not the previously prescribed depreciation rates should be revised. No new nor revised depreciation rates were prescribed in fiscal 1963, but some rates may be prescribed in fiscal 1964. The Commission continued its studies of the carriers' depreciation accounting practices, depreciation charges, and their booked depreciation reserves to ascertain their reasonableness for ratemaking purposes.

Other Regulatory Matters

Continued limited studies and reviews were made of certain of the accounts and records of seven international carriers to insure their compliance with the accounting rules and regulations of the Commission.

The matter of accounting for investment tax credits provided for in the Revenue Act of 1962 is discussed under "Domestic Telephone." The international carriers were not in agreement on what changes should be made in the rules, with the A.C. & R. group supporting the telephone company viewpoint of deferral over service life of plant and RCAC being in accord with Western Union in favoring the 48-percent immediate flow-through approach.

Tariff Schedules

During the year, carriers filed 2,500 pages of international tariff material and 115 applications for permission to file tariff schedules on less than statutory notice.

STATISTICS

General

Annual reports were filed by 556 common carriers and 8 controlling companies for the calendar year 1962. Considerable financial and operating data taken principally from these reports are published annually in a volume entitled "Statistics of Communications Common Carriers." The larger telephone and telegraph carriers also file monthly reports of revenues and expenses, and summaries of these data are published monthly by the Commission. (The number of common carriers mentioned and the numbers of telephone carriers and miscellaneous common carriers shown under "Telephone carriers" are less than were reported last year, not because of an actual reduction in numbers but due to counting this year as miscellaneous common carriers only the licensee entities so engaged rather than counting each city or town served as a carrier as was done in previous years.)

Telephone Carriers

Annual reports were filed by 547 telephone carriers, including 188 carriers engaged in general landline telephone service and 359 miscellaneous common carriers, engaged only in providing land mobile radiotelephone service. Seventy-three of the 188 telephone carriers were subject to the comprehensive landline telephone reporting requirements of the Commission and the remaining 115 were required to report on the more limited basis applicable to mobile radio carrier licensees.

Selected financial and operating data concerning 60 general telephone carriers whose annual operating revenues exceed $250,000 are shown in the following table for the year 1962 as compared to 1961.

Telephone carriers [1]

Item	1961	1962	Percent of increase or (decrease)
Number of carriers	60	60	
Book cost of plant (as of Dec. 31)	$27,726,254,890	$29,937,530,789	7.98
Depreciation and amortization reserves	$5,949,441,119	$6,347,889,618	6.70
Net book cost of plant	$21,776,813,771	$23,589,641,171	8.32
Local service revenues	$5,097,281,941	$5,412,216,531	6.18
Toll service revenues	$3,386,869,737	$3,663,073,444	8.16
Total operating revenues	$8,901,883,244	$9,514,840,404	6.89
Operating expenses and operating taxes	$6,101,175,767	$6,484,802,281	6.29
Provision for Federal income taxes [2]	$1,279,835,860	$1,352,677,845	5.69
Net operating income after all taxes	$1,520,871,617	$1,677,360,278	10.29
Net income	$1,336,179,152	$1,437,901,300	7.61
Dividends declared	$901,057,397	$953,547,382	5.83
Company telephones:			
Business	18,011,190	18,805,323	4.41
Coin	1,251,504	1,279,029	2.20
Residence	48,483,057	50,737,870	4.65
Number of calls originating during the year:			
Local [3]	103,985,827,150	108,024,088,878	(3)
Toll [3]	4,176,967,587	4,531,550,613	(3)
Number of employees at end of December	605,734	602,834	(.48)
Male	264,748	268,410	1.38
Female	340,986	334,424	(1.92)
Total compensation of employees for the year	$3,478,525,949	$3,630,131,740	4.36

[1] Data shown relate to telephone carriers whose annual operating revenues exceed $250,000. Intercompany duplications, except in minor instances, have been eliminated.

[2] All of the Bell companies and most of the non-Bell companies in 1962 reduced the provision for Federal income taxes by the amount of investment credit authorized by the Revenue Act of 1962 and charged miscellaneous income with an equal amount. By so doing net income is unaffected. The total amount of investment credits reported in 1962 by these carriers was $50,576,244. A few carriers allowed the amount of their investment credit to "flow through" to net income and some insignificant amounts were charged to provision for Federal income taxes.

[3] Partly estimated by reporting carriers. The number of calls has not been adjusted to reflect the reclassification of calls from "toll" to "local" due to the enlargement of local calling areas. The Bell System, after adjusting for such reclassifications, reported for 1962 increases of 7.0 percent in local conversations and 7.6 percent in toll conversations.

Landline telephone companies filing reports with the Commission include most of the larger companies (accounting for over 90 percent of the industry revenues) but exclude the great majority of the 2,800 telephone companies in the United States. There are also additional thousands of connecting rural or farmer lines and systems. Telephone industry estimates are that its operating revenues in 1962 totaled $10.4 billion, with book cost of plant at December 31, 1962, of $33.7 billion, and 678,000 employees.

Land mobile radiotelephone service is offered in about 450 areas (each usually comprising a city or town but sometimes covering adjacent cities or towns) by 34 of the 73 telephone carriers reporting to the Commission as "fully subject" carriers, with revenues for the year 1962 amounting to $7.5 million, an average of over $16,000 per area.

This service is also offered in 133 areas by 115 other carriers engaged in general landline telephone service and in 460 areas by 359 miscellaneous common carriers. Their 1962 revenues were $0.6 million and $4.6 million, respectively, or $4,500 and $10,000, respectively, average per area. The low average revenues per area served of the 115 general telephone companies is apparently a result of many of them using the mobile service largely in their own maintenance vehicles and possibly not actively pursuing outside sales.

In many cases the miscellaneous common carriers and the general telephone companies are in direct competition. The former also compete among themselves in many localities. More than half of the miscellaneous common carriers reported operating losses for 1962. Operating losses or profits are not available for enough of the general telephone company licensees to permit a similar statement regarding them.

Domestic Telegraph Carrier

The following table sets forth financial and operating data relating to the domestic landline operations of The Western Union Telegraph Co. for the calendar year 1962 as compared to 1961. The data pertaining to its cable operations are included in the table below showing data of international telegraph carriers.

The Western Union Telegraph Co.[1]

Item	1961	1962	Percent of increase or (decrease)
Book cost of plant (as of Dec. 31)	$434,932,518	$541,418,986	24.48
Depreciation and amortization reserves	$177,850,445	$183,098,859	2.95
Net book cost of plant	$257,082,073	$358,320,127	39.38
Message revenues	$187,819,005	$181,474,208	(3.38)
Teleprinter exchange service revenues	$726,467	$2,569,905	253.75
Leased-circuit revenues	$58,968,241	$61,980,995	5.11
Total operating revenues	$265,726,591	$264,118,593	(.61)
Operating expenses, depreciation, and other operating revenue deductions	$253,374,435	$257,139,164	1.49
Net operating revenues	$12,352,156	$6,979,429	(43.50)
Provision for Federal income taxes [2]	$3,295,000	($3,730,000)	(213.20)
Net income	$11,833,309	$10,404,580	(12.07)
Net income (landline and cable systems)	$12,226,262	$10,606,536	(13.25)
Dividends (landline and cable systems)	$9,703,700	$10,484,482	8.05
Number of revenue messages handled [3]	117,263,367	112,486,552	(4.7)
Number of employees at end of October	31,425	30,021	(4.47)
Total compensation of employees for the year	$165,856,398	$168,278,093	1.46

[1] Represents data for landline operations. Figures covering cable operations are included in table below showing data of international telegraph carriers.

[2] Reflects estimated net reductions in Federal income tax expense of $2,288,000 and $4,290,000 in 1961 and 1962, respectively, arising from the utilization, for income tax purposes but not for accounting purposes, of a liberalized depreciation method recognized by sec. 167 of the Internal Revenue Code of 1954. In addition, reflects $230,000 reduction in 1962 for Federal income taxes provided for by the cable system but not paid. Also reflects estimated net increases in Federal income tax expense of $216,000 and $217,000 in 1961 and 1962, respectively, arising from the utilization in prior years of 5-year amortization authorized under sec. 168 of the Internal Revenue Code of 1954. The accumulated amount to Dec. 31, 1962, of liberalized depreciation and 5-year amortization income tax differentials accounted for on the "flow through" basis was $18,523,000, which includes $675,000 adjustment upward in 1962 related to prior years. Investment tax credits under the Revenue Act of 1962 were not utilized due to the absence of tax liability for 1962. It is estimated that the unused investment tax credit carryover to subsequent years will approximate $350,000.

[3] Includes domestic transmission of transoceanic and marine messages (about 10,768,000 in 1961 and 11,433,000 in 1962).

International Telegraph Carriers

Financial and operating statistics relating to the U.S. international telegraph carriers for the calendar year 1962 are shown below as compared to similar figures for 1961. As a departure from the practice followed in previous years, no statistics relating to radiotelegraph and ocean-cable carriers separately are presented. One ocean-cable carrier has a substantial radiotelegraph operation, and some of both the ocean-cable and radiotelegraph carriers handle substantial amounts

of their traffic over channels leased from the operators of ocean telephone cables. There is question how accurately one international telegraph system consisting of two radiotelegraph companies and two ocean cable companies, but treated as one system by the Commission for ratemaking purposes, allocates its revenues, expenses, and plant investment among the four companies. Altogether, statistics for radiotelegraph and ocean cable separately are losing their former significance.

International telegraph carriers

Item	1961	1962	Percent of increase or (decrease)
Number of carriers	9	9	
Book cost of plant (as of Dec. 31)	$172,050,577	$163,359,572	5.05
Depreciation and amortization reserves	$85,210,203	$72,394,028	(15.04)
Net book cost of plant	$86,840,374	$90,965,544	4.75
Message revenues:			
Domestic [1]	$3,372,835	$3,321,611	(1.52)
Transoceanic [2]	$57,260,913	$56,275,572	(1.72)
Marine	$1,883,630	$1,942,804	3.14
Teleprinter exchange service revenues	$10,004,040	$12,159,415	21.55
Leased-circuit revenues	$8,618,343	$9,490,210	10.12
Total operating revenues	$90,048,179	$92,372,493	2.58
Operating expenses, depreciation, and other operating revenue deductions	$78,378,632	$82,104,144	4.75
Net operating revenues	$11,669,547	$10,268,349	(12.01)
Provision for Federal income taxes [3]	$4,926,115	$4,083,026	(17.11)
Net income	$8,466,805	$8,117,830	(4.12)
Dividends declared [4]	$1,620,000	$3,620,000	123.46
Number of revenue messages handled:			
Domestic [5]	139,229	67,309	(51.66)
Transoceanic	24,479,835	24,772,584	1.20
Marine	1,059,356	1,056,779	(.24)
Number of employees at end of October	10,734	10,522	(1.98)
Total compensation of employees for the year	$48,876,440	$50,651,008	3.63

[1] Includes revenues of 2 ocean-cable carriers and the radiotelegraph carriers from the domestic transmission of transoceanic and marine messages outside of points of entry or departure in the United States, and revenues from domestic-classification messages (primarily Canadian and Mexican).

[2] Radiotelegraph transoceanic message revenues of All America Cables & Radio, Inc., $1,898,956 in 1961 and $1,698,002 in 1962 are not included.

[3] All America Cables & Radio, Inc., Commercial Cable Co., and Mackay Radio & Telegraph Co. had for the year 1962 net reductions totaling $249,000 in Federal income tax expense, arising from the utilization, for income tax purposes, but not for accounting purposes, of a liberalized depreciation method recognized by sec. 167 of the Internal Revenue Code of 1954. These amounts were accounted for on the "flow through" basis. The accumulated amount "flowed through" for the years 1961 and 1962 was $185,000. The liberalized depreciation income tax differentials accumulated in the accounts of All America and Mackay during the years 1954 through 1960, in the amount of $883,000, are being amortized in equal amounts over 10 years beginning Jan. 1, 1962, to provision for Federal income taxes. RCA Communications, Inc., had for the year 1962 net reductions in Federal income tax expense of approximately $528,000 arising from the utilization for income tax purposes, but not for accounting purposes, of a liberalized depreciation method recognized by sec. 167 of the Internal Revenue Code of 1954. This amount was accounted for on the "flow through" basis. The accumulated amount "flowed through" for the years 1957 to 1962, inclusive was $1,736,000. Commercial Cable Co., All America Cables & Radio, Inc., Mackay Radio & Telegraph Co., and Globe Wireless, Ltd., had investment tax credits in 1962 authorized by the Revenue Act of 1962 totaling $43,891. Deductions from ordinary income were charged with the amounts of these credits so that net income is unaffected. RCA Communications, Inc., had investment tax credits in 1962 amounting to $210,000. The full amount of this credit was accounted for on the "flow through" basis.

[4] All dividends declared by Western Union Telegraph Co. have been reported in the table above relating to the domestic landline operations of that company and are excluded from this table.

[5] Represents domestic-classification messages (primarily Canadian and Mexican).

Oversea Telegraph and Telephone Traffic

During calendar year 1962 a total of 650,231,000 words were handled into and out of the United States by international cable and radiotelegraph carriers. In the outbound direction 334,548,000 words were transmitted, while 315,683,000 were inbound. There were also, during calendar year 1962, 2,167,900 telephone calls outbound from the United States and 2,151,100 calls inbound. The foregoing figures include

traffic between continental United States and Hawaii and oversea territories.

The word volume of oversea telegraph traffic and the number of telephone calls between the United States and oversea points during calendar year 1962 are set forth in the following table:

U.S. oversea message telegraph traffic in words and telephone calls, 1962

[Includes traffic transiting the United States]

Country	Telegraph traffic, number of words (in thousands)		Telephone traffic,[1] number of calls (in hundreds)	
	Outbound from the United States	Inbound to the United States	Outbound from the United States	Inbound to the United States
Europe, Africa, and the Near East				
Ascension Island (Bahrain relay)			2	7
Algeria	177	105		
Arabia	1,582	1,256	6	8
Austria	1,422	1,269	110	38
Belgian Congo	471	411		
Belgium	4,621	4,186	191	80
British East Africa	1,215	842		
British West Africa	1,587	1,295		
Bulgaria	123	116		
Cameroons (French)	119	56		
Canary Islands	190	146		
Cyprus	119	103		
Czechoslovakia	581	613		
Denmark	2,181	1,567	150	49
Egypt	1,985	2,362	13	17
Ethiopia	388	383		
Finland	777	745	22	11
France	16,722	16,434	1,199	916
French Equatorial Africa	261	77		
French West Africa	690	313		
Germany	18,738	15,406	2,159	1,269
Greece	2,510	1,966	103	56
Hungary	308	536		
Iceland	207	216	12	13
Iran	1,249	1,157		
Iraq	601	1,268		
Ireland	1,156	1,158		
Israel	3,262	3,152	82	54
Italian East Africa	139	78		
Italy	16,130	12,301	765	351
Lebanon	1,468	1,439		
Liberia	1,149	1,260		
Libya	570	309		
Luxembourg	188	146		
Madagascar	137	79		
Morocco	514	388		
Netherlands	7,856	6,457	301	201
Norway	3,322	2,153	126	62
Persian Gulf	952	780		
Poland	847	1,304	12	22
Portugal	1,367	1,092	30	17
Republic of South Africa	2,710	2,758	21	17
Rhodesia	342	365		
Roumania	214	208		
Spain	5,211	3,387	140	88
Sweden	4,296	3,946	196	159
Switzerland	9,960	7,784	522	277
Syria	287	220		
Transjordania	213	251		
Tunisia	271	267		
Turkey	1,644	1,578	21	16
U.S.S.R.	4,457	3,197	11	23
United Kingdom	46,733	44,822	2,429	2,475
Yugoslavia	1,150	1,061	10	7
All other places	815	1,219		
Total	176,484	155,987	8,633	6,233

See footnotes at end of table.

U. S. overseas message telegraph traffic in words and telephone calls, 1962—Con.

[Includes traffic transiting the United States]

Country	Telegraph traffic, number of words (in thousands)		Telephone traffic,[1] number of calls (in hundreds)	
	Outbound from the United States	Inbound to the United States	Outbound from the United States	Inbound to the United States
West Indies, Central, North and South America				
Argentina	7,492	7,684	204	229
Aruba			19	21
Bahamas	1,683	2,128	997	900
Barbados	388	246	53	59
Bermuda	1,210	816	603	426
Bolivia	1,818	1,071		
Brazil	9,434	9,098	173	154
British Guiana	550	400		
British Honduras	276	285	8	5
Canada[3]	7,564	12,862		
Canal Zone	810	662		
Chile	3,316	2,766	52	74
Colombia	6,258	4,780	163	230
Costa Rica	1,611	1,229	75	72
Cuba	5,355	16,653	712	4,713
Curacao			23	33
Dominican Republic	1,879	2,051	222	246
Ecuador	2,152	1,538	42	42
French West Indies	209	162		
Guatemala	2,259	1,863	96	97
Haiti	1,409	998	45	37
Honduras Republic	1,373	986	58	61
Jamaica	2,221	1,666	298	253
Martinique			3	5
Mexico[4]	3,160	2,685		
Netherlands West Indies	1,045	1,025		
Nicaragua	1,444	977	71	84
Other British West Indies	421	307		
Panama	2,236	1,725	194	202
Paraguay	627	307		
Peru	3,467	3,094	107	108
Puerto Rico	7,989	6,572	3,157	2,994
Salvador	1,918	1,123	56	48
Surinam	381	244	7	12
Trinidad	1,331	1,069	74	91
Uruguay	2,589	2,255	34	34
Venezuela	8,353	10,375	223	275
Virgin Islands	757	661		
All other places	153	64		
Total	95,136	102,427	7,769	11,505
Asia and Oceania				
Afghanistan	153	135		
Australia	5,811	5,557	141	141
British Malaya			7	10
Burma	301	406		
Ceylon	689	422		
China			(2)	(2)
Formosa	2,127	1,501	26	19
French Indo China	1,176	1,723		
Guam	459	535	55	45
Hawaii	7,437	5,957	4,014	2,961
Hong Kong	3,636	2,885	69	71
India	6,862	6,292		
Indonesia	1,739	1,775	2	11
Japan	17,416	13,888	562	240
Korea	1,823	2,038	130	42
Malaya, Federation of	1,627	1,331		
New Guiana	103	49		
New Zealand	1,362	1,314	24	22
Okinawa	745	869	127	38
Pakistan	2,541	3,298		
Philippines	4,883	5,287	109	126
Society Islands	126	106		
Tahiti			4	4

See footnotes at end of table.

U. S. overseas message telegraph traffic in words and telephone calls, 1962—Con.

[Includes traffic transiting the United States]

Country	Telegraph traffic, number of words (in thousands)		Telephone traffic,[1] number of calls (in hundreds)	
	Outbound from the United States	Inbound to the United States	Outbound from the United States	Inbound to the United States
Asia and Oceania—Continued				
Thailand	1,395	1,385		
Viet Nam			7	43
All other places	497	303		
Total	62,908	57,056	5,277	3,773
Unknown destination or origin	20	213		
Grand Total	334,548	315,683	21,679	21,511

[1] The data on telephone calls include the number of oversea calls handled via radio and via North Atlantic, Hawaii, and Caribbean telephone cables. A.T. & T. reports its volume of oversea telephone traffic transmitted to, and received from, each point of communications, which may be either (1) the foreign country or oversea point of destination or origin of the calls, or (2) the intermediate country or oversea point through which the calls are relayed onward. Therefore, the number of calls reported herein with respect to a particular place is not necessarily the number of calls originating or terminating with that place. The absence of calls for certain countries or oversea points indicates only that no direct cable or radiotelephone service was provided in 1962. Any calls that may have been handled with such countries during 1962 are included in the traffic of the intermediate country through which indirect service was rendered. Although telephone service with Alaska is by means of transoceanic cable such service is not classified as oversea telephone service.

[2] Less than 100 calls.

[3] Represents international-classification traffic which originated at oversea points and was destined to Canada (outbound from the United States), and international-classification traffic which originated in Canada and was destined to oversea points (inbound to the United States). This traffic was handled between such points and Canada by U.S. carriers via the United States.

[4] Represents international-classification traffic which originated at oversea points and was destined to Mexico (outbound from the United States), and international-classification traffic which originated in Mexico and was destined to oversea points (inbound to the United States). This traffic was handled between such points and Mexico by U.S. carriers via the United States.

Common Carrier Applications

Over 9,100 applications were filed with the Commission by common carriers during the fiscal year (exclusive of Alaskan and marine mobile). The following table shows the number of applications according to class of service:

Class	Pending June 30, 1962	Received	Disposed of	Pending June 30, 1963
Radio facilities				
New and changed facilities:				
Domestic:				
Point-to-point microwave radio stations	506	3,942	3,801	647
Local television transmission stations		18	18	
Rural radio stations	66	242	248	60
Domestic public land mobile radio stations	256	2,057	1,850	463
Developmental stations	14	130	118	26
Registration of Canadian radio station licenses		34	34	
International:				
Fixed public and fixed public press telegraph		43	43	
Fixed public telephone		27	27	
International control		12	12	
Renewal of license: [1]				
Point-to-point microwave radio stations				
Local television transmission stations				
Rural radio stations		547	547	
Domestic public land mobile radio service:				
Systems of—				
Telephone companies				
Miscellaneous common carriers		467	467	
Customer-supplied mobile units utilizing base stations of—				
Telephone companies [2]				
Miscellaneous common carriers [2]		1	1	
Developmental stations		68	68	
International		40	40	
Total, radio facilities	842	7,628	7,274	1,196
Wire facilities				
Telephone extensions	10	346	352	4
Telegraph extensions	5	92	93	4
Telephone reductions	1	6	7	
Telegraph reductions	96	964	928	132
Total, wire facilities	112	1,408	1,380	140
Miscellaneous				
Applications to purchase stock in Satellite Communications Corporation		117	97	20
Interlocking directorates		6	6	
Jurisdictional determinations				
Submarine cable landing licenses	1	4	5	
Grand total	955	9,163	8,762	1,356

[1] Licenses in the various common-carrier radio services are issued for terms of 1 to 5 years, and consequently do not expire at a uniform rate from year to year.

[2] Customer-supplied mobile units utilizing base stations of telephone companies are usually licensed to the customers, but similar units utilizing base stations of miscellaneous common carriers are usually included in the license of the common carrier system, hence few renewals.

Field Engineering

GENERAL

Reorganization of the Field Engineering and Monitoring Bureau into the Field Engineering Bureau changed the former line-staff organization to one along functional lines. The engineering, inspection and examination, and monitoring functions were welded with the former Field Operating Division to form three basic operational units; namely, the Engineering and Facilities, Monitoring Systems, and Field Offices Divisions. The move increased organizational cohesiveness and improved focus of responsibility.

The Commission's outside contact with the public, industry, and Government installations is through its field engineering offices. Coordination by bureau headquarters at Washington utilizes facilities for around-the-clock contact with these units. It is thus possible for the bureau chief to keep in touch even with traveling investigative units.

As the number of licensed facilities increases and new activities are found for radio, radar, and TV, field engineering surveillance functions grow less spectacular in any one line but become more important because of their volume. These varied activities are discussed hereafter.

ELECTRONIC GROWTH ADDS TO FIELD PROBLEMS

The fact that the field facilities are so conveniently available invites many requests for engineering assistance. Individuals and public and private agencies in increasing numbers call upon the field installations for help in resolving interference problems and other roadblocks to proper radio operation. These "growing pains" of a dynamic industry are derived in large measure from the rapid outmoding of equipment by new devices and systems.

Though the FCC does not exercise control over receiving apparatus except in certain instances, even "good growth" of radio facilities has bad effects on substandard equipment and, particularly, on older radio receivers. Thus, the widening use of radio will, in particular, prompt more interference complaints from broadcast listeners and viewers.

SMALL FINES—A NEW ENFORCEMENT TOOL

During fiscal 1963, a new enforcement tool was provided in congressional authority for the FCC to impose monetary forfeitures on

licensees of nonbroadcast radio stations that are guilty of repeated or willful specified infractions.

It is believed that the liability for forfeitures up to $100 for each offense and not more than $500 for several offenses will have a salutary effect upon irresponsible licensees and operators.

This sanction is expected to especially aid the enforcement programs in the Citizens Radio Service and the small-boat field. Both services are increasing in a phenomenal manner, with many users unwilling to adjust themselves to the restraints necessary for an orderly and efficient communication service.

The field bureau during late fiscal 1963 developed a number of cases of apparent liability in accord with standards agreed upon with the Safety and Special Radio Services Bureau, resulting in the issuance of forfeiture notices for violations in different services. The field offices have been instructed in a procedure for handling the informal conferences which the law affords offenders if they desire to show in a personal interview with Commission representatives why they should not be held liable. Discussions with the Department of Justice have paved the way for expeditious handling of any necessary court actions.

FIELD OFFICE ENFORCEMENT

The Field Engineering Bureau maintains 24 district, 4 suboffices, and 2 marine offices and 3 TV mobile enforcement units. Responsibilities of these field offices include: Inspection of all classes of U.S. land, mobile, and aircraft stations and U.S. and foreign ship stations; examination and licensing of commercial radio operators; and investigation of unlicensed operation of radio-transmitting equipment and interference to reception of all types of radio stations.

A major enforcement effort during the year was the inspection of nonbroadcast stations. These encompass a myriad of radio operations to protect life and property and to assist activities of businesses and individuals.

Since radio frequencies are in short supply, one enforcement program was to determine whether nonbroadcast frequencies are being used efficiently. This produced improved compliance by licensees, operational assistance to licensees, and recommendations to other bureaus of the Commission for constructive rule changes.

Broadcast

Though continuing to inspect AM broadcast stations, emphasis this year was placed on joint inspection of TV and FM stations. The primary purpose was to analyze transmissions so as to insure high tech-

nical quality. Addition of a third TV mobile enforcement unit augmented this effort.

TV and FM signals travel relatively short distances and can be analyzed only by close-in monitoring. The obvious answer is mobile monitoring units. TV and FM station operators have expressed appreciation for the technical assistance given them by these mobile checks. The program is, in turn, responsible for improved pictures and better sound for the public.

Marine

The hope held out in last year's report of better compliance by small-boat owners, who voluntarily use radio for safety and convenience, was not realized in 1963. They showed a continuing disregard for the law, particularly with respect to idle chitchat on frequencies intended for safety and operational purposes. FCC field representatives held several meetings with local fishermen to stress the need for cooperation.

At the year's end there were 136,900 outstanding small-boat radio licenses, an increase of 15,500 during the year.

Other Field Contacts

Field engineers have daily contact with licensees, the public, and industry, not only in the field offices but on frequent trips to make inspections and investigations and to give operator examinations. Three-quarter million miles were traveled for such purposes during the year.

Field engineers in a composite working day might perform the following:

Board a luxury-class ocean liner (or prosaic cargo ship) to see that radio equipment is properly working so it can summon aid if the ship should be in distress during a voyage;

Inspect a TV station and determine by engineering measurements the quality of the emitted signal and, if technically deficient, advise the station personnel to take corrective action;

Make aircraft flights to determine the degree of interference caused air navigation aids by ground-based electronic devices and to shut down any devices which, if permitted to continue operating, might cause aircraft mishaps;

Travel 250 miles to give radio operator examinations to as many as 800 assembled examinees who require an operator license to hold or obtain jobs;

Investigate the complaint of a shut-in whose reception, along with that of neighbors, is being interfered with and, if it is caused by an FCC licensee, request the station to take corrective action, and

Using specialized equipment, make engineering measurements which serve as a basis for eliminating interference to various types of stations, many of which are owned by small business firms.

COMMERCIAL OPERATOR EXAMINATION AND LICENSING

The Commission licenses not only radio stations but also the operators of station transmitters. The term "commercial" is used to classify all holders of authorizations to operate transmitters as part of their livelihood or vocation, as distinguished from the amateur operator who is interested in radio as an avocation without pecuniary return.

The duties of commercial radio operators are varied. They include the handling of routine and emergency communications, the manipulation of transmitter controls, the keeping of certain station records, and the performance of complex technical duties that affect the service of the station. At some stations a single class of operator does all of these tasks; at others they are done by operators of different classes.

There are seven basic classes of commercial radio operator licenses (radiotelephone and telegraph) graded to meet the operating requirements of the various categories of services. Examinations are based upon responsibilities under the respective authorizations.

The Commission continued to update examination material and streamline its examining procedures. Operator candidates are examined at points throughout the United States and possessions at regular intervals. The frequency of examinations ranges from daily at offices in large metropolitan areas to quarterly, semiannually, and annually at other places.

Most of the radio stations licensed by the Commission are required to use licensed radio operators. Exempt from this requirement are small "pushbutton" type stations of limited range. During the year, the Commission proposed to waive the licensed operator requirement for most of the base and fixed radio stations in the public safety radio services operating on frequencies above 30 Mc with semiautomatic equipment. A similar waiver has been in effect for mobile stations in these services.

On 10 occasions disciplinary action resulted in suspension of commercial operator licenses. Causes included improper operating procedures, superfluous transmissions, and false signals of distress.

During the year, the Commission waived the U.S. citizenship requirement and licensed more than 1,000 alien aircraft pilots, who navigate over the United States and meet certain criteria established by a law of 1958.

INTERFERENCE INVESTIGATION

The use now being made of radio for two-way communication far exceeds its use for broadcast entertainment. This expanded service, while beneficial to the users, has made them more vulnerable to interference, and has also increased interference to broadcast viewers and listeners.

The interference potential is multiplied by the even greater growth in the use of radio frequency (RF) energy for other than communication purposes. The fact that this energy can be used to create heat has been a boon to many manufacturing processes, particularly the plastic industry. Certain alloys used in jet engines and in space vehicles depend upon RF heating to support the chemical process involved.

Each piece of equipment which generates a radio frequency for heating is also capable of radiating a portion of this energy that, unless controlled, can cause interference to radio communication.

The combination of increasing radio and RF uses has added to the work of FCC field engineers. The responsibility of tracing an interfering signal to its source and removing from the air is an investigative demand which has reached staggering proportions. During the year, field offices received approximately 40,000 interference complaints. Over 1,100 major investigations were made, which is nearly double the number 3 years ago. Self-help committees, while performing valiantly, have not been able to stem the tide.

Complaints involved interference to aeronautical navigational aids, military radar defense systems, police and fire communication, citizens radio, amateur, aural and TV broadcast, ships, model aircraft, and remote-controlled devices such as garage-door openers, etc. Reports of RF interference were not confined to radio equipment. Many were due to RF pickup on tape recorders and hi-fi equipment in homes.

Almost as varied were the sources found by FCC investigative engineers. Apart from radio stations not operating in accordance with their authorizations, industrial heating and welding equipment created their share of interference, especially on vital aeronautical and emergency communications frequencies. Radiating receivers frequently caused interference; also restricted radiation devices such as certain low-power communication outfits used by young experimenters in a manner exceeding engineering specifications. Home appliances were responsible in numerous other instances.

It would be impossible for the FCC's limited field staff to investigate every complaint received. However, each complaint is given consideration and, where possible, corrective action taken. If the complaint concerns interference which might endanger life or property, immediate action is initiated. An investigating engineer is dispatched from the nearest field office to trace the cause and see that it is eliminated.

Complaints not requiring immediate investigation are handled on a priority basis and action, as warranted, is taken. Many can be dealt with by telephone or mail because of years of FCC field experience in identifying causes of interference and effecting remedies.

Many urban areas have the benefit of citizens interference committees made up of volunteers familiar with the subject. When study of a complaint indicates that more rapid attention can be given by referring the matter to a self-help committee, this course is followed.

There is, however, a backlog of interference cases awaiting FCC attention and investigative demands will continue to mount.

Unlicensed Stations

Notwithstanding the relative ease with which qualified applicants may obtain radio station licenses, instances of unlicensed operation are all too frequent. Often this operation is by persons who have been refused a nonbroadcast station license or have had one revoked.

The majority of illegal operations, however, are by persons either too impatient to wait while their application is being processed or who neglect to submit a properly executed application. In many cases, especially in the Citizens Radio Service, operators are "authorized" by the person selling the equipment to use the call assigned to the selling firm until a proper license is obtained. While this may help sales, it is a violation of the law.

Young experimenters, overly enthusiastic in their operation of low-power communication devices which require no license, discover that, by adding a length of antenna or increasing power input, range is extended. This increases interference probability and constitutes unlawful operation.

During fiscal 1963, a total of 520 unlicensed transmitters were discovered. Of this number, 343 were illegal citizens radios. The remainder were unlicensed transmitters on fishing and pleasure boats, low-power communications devices in the broadcast band, unlicensed transmitters in private aircraft, unlicensed amateurs, etc.

MOBILE FACILITIES

Mobile monitoring and measuring facilities have long been required for policing the radio spectrum, for tracing interference and unidentified stations, for making station inspections, and for close-in observations of station emissions. However, with the increasing use of VHF, UHF, and microwave frequencies, which transmissions are predominantly limited to "line-of-sight" distances, mobile monitoring facilities have become increasingly important. Since the signal cannot be brought to the office or monitoring station, it is necessary to "go to the signal." Fortunately, improved technology is resulting in availability of more compact, lightweight, low-power receiving equipment suitable for mobile observations. For example, it is now possible to cover the frequency range 200 kc to 1000 Mc with only three receivers occupying little more space than a single 500 kc to

30 Mc receiver of a few years ago. In addition, the new compact receivers have superior technical characteristics. Such equipment is being obtained for FCC mobile operations as rapidly as limited funds permit.

Mobile Investigative Units

Direction-finder-equipped mobile investigative units, with their wide frequency range coverage and specialized electronic instrumentation, are used in tracking illegal or unidentified stations and sources of interference. In addition to permanently installed equipment, these vehicles can accommodate special equipment required in a particular case. Some of this equipment, such as miniaturized receivers for on-foot investigation, is not commercially available and is specially constructed for such use.

Engineering Measurements Cars

To assure compliance with technical requirements, engineering measurements of broadcast and other radio emissions are required to an ever-increasing extent. Such measurements have largely been accomplished by using specially equipped vehicles shared among several offices. However, to meet the increasing need for engineering measurements, a program has been initiated for providing each enforcement office with a vehicle equipped with the necessary electronic instruments to make a variety of measurements to pinpoint transmitter troubles or deficiencies.

TV Enforcement Units

A third TV mobile monitoring unit, equipped with complex instruments for measuring and analyzing the characteristics of TV and FM broadcast transmission, was placed in service. With this additional unit, it will be possible to make a technical check at least once during the license period of each TV and FM broadcast station, and to bring to their attention technical deficiencies which tend to lower the sound or picture quality or are potential or actual interference sources.

Microwave Units

For monitoring microwave transmission, two specially equipped mobile units are in use, one in the East and the other in the West. The old western unit was replaced during the year by an improved one. Communication facilities are included in these units so that interference search operations can be coordinated with the base office or with other search units. With the continually increasing utilization of microwaves, both for earthbound and space communication,

the role of the microwave units assumes increasing importance in keeping these important channels as free as possible of harmful interference.

Under the anticipated necessity for sharing of some channels between space and nonspace services, interference on space channels can be expected to arise at times either from improper operation of channel-sharing stations or as a result of radiations from other stations or electronic devices straying into space channels. Since most such interference sources will be located on earth, rather than in space, the microwave-equipped mobile units will play an important role in tracking down interference on these critical frequencies.

MONITORING

The network of radio monitoring and direction-finding stations operated by the FCC consists of 10 primary and 8 secondary stations throughout the Nation, including 2 in Alaska and 1 in Hawaii. Work is underway to reestablish a secondary station in Puerto Rico.

With the expiration of its lease on June 30, 1963, the Searsport, Maine, monitoring station moved to Winter Harbor, Maine, to share new facilities with the host Government agency which built them. The Winter Harbor installation was also connected to the FCC teletype network, whereas Searsport had depended upon radioteletype contact.

Improvements made during the year at monitoring stations included construction of new transmitter and emergency powerplant buildings at Livermore, Calif.; building modernization at Grand Island, Nebr., Allegan, Mich., Laurel, Md., and Fort Lauderdale, Fla.; road construction at Canandaigua, N.Y., and road paving at Allegan.

Wide-Aperture Direction Finders

Of greatest interest and future promise concerning the FCC monitoring network is the shift to modern wide-aperture direction finders which, it is believed, will eventually replace the Adcock type which has been in use since pre-World War II days. Having proved feasible in tests of an experimental model at Laurel, a smaller, less expensive direction finder of the same wide-aperture type has been designed and built by the Commission's engineering construction unit at Powder Springs, Ga. The first permanent installation is at Powder Springs; more are planned for other monitoring stations in a gradual replacement program.

Technical Equipment

The Commission has initiated a 3-year program to eliminate all obsolescent monitoring equipment. If funds permit, it expects that

this equipment modernization can be completed by the end of fiscal 1965.

New equipment acquired during 1963 included a number of wide-range electronic counters for use in making frequency measurements, general-coverage receivers, more rugged tape recorders, and antenna multicouplers. The latter devices offer an improvement in operational efficiency by permitting several receivers to be connected to each antenna without undesirable interaction. Acquisition continued, when necessary, of used equipment that has become excess to the needs of the military or other Government agencies.

Network Intercommunication

The FCC monitoring and direction-finding network requires instant, effective intercommunication for coordination and direction from field engineering headquarters in Washington. Twelve of the eighteen monitoring stations and monitoring control are now served by leased landline teletype with FCC radioteletype and Morse radiotelegraph used only as a backup. The remaining six stations, including those in Alaska and Hawaii, maintain continuous network contact by means of radio facilities.

Monitoring Enforcement

By far the most difficult monitoring enforcement problem continues to be the numerous and flagrant violations by class D licensees in the Citizens Radio Service. Despite monitoring effort devoted to this problem during the year, at the expense of adequate coverage of more important radio services, the citizens service violations continued to increase.

Monitoring enforcement of other radio services continued on a spot-checking basis. FCC engineers measured radio signals from ships, aircraft, and land-based stations, including broadcast, to assure compliance with operating regulations as a deterrent to interference. Citation notices to FCC licensees, U.S. Government radio stations, and foreign stations totaled 15,357, or 4 percent over the previous year.

SURVEILLANCE AND SPECIAL SURVEYS

Systematic, scheduled "cruising" of the radio spectrum continued at all FCC monitoring stations to detect illegal and unauthorized operations. This task is coordinated with the mobile investigative function.

Twenty-three special monitoring surveys were conducted for various Commission units needing data for rulemaking and other regulatory purposes, and for other U.S. Government agencies at their request. As an example, a 1-week survey of conditions in the Citizens Radio

Service, aided by mobile monitoring, consumed 553 days (man) of effort and detected over 7,200 violations in this particular service.

Frequency usage data forwarded to the International Frequency Registration Board consisted of 53,682 reports compiled by FCC monitoring stations and 17,894 reports from assisting U.S. private monitoring stations.

The monitoring coverage of all the radio services, particularly the Citizens Radio Service, is reflected in a decrease in general spectrum cruising operations because of lack of manpower.

Space Monitoring

Gradual improvement of FCC space monitoring facilities was continued. At the Kingsville, Tex., monitoring station work nears completion for placing a rotatable 28-foot diameter parabolic antenna in operation for reception of weak microwave signals. Space channel monitoring facilities are needed so that transmissions regulated by the Commission may be sampled for technical compliance and unauthorized operation and complaints of interference on space channels may be checked.

Search and Rescue

The FCC direction-finding network continues to be a valuable part of the national search and rescue facilities. The Coast Guard, Air Force, and Federal Aviation Agency request FCC help in many emergencies where bearings and "fixes," or clearance of interference from distress frequencies, will assist a distressed aircraft or ship. The FCC was called in on 428 such situations during the year.

The following are examples of assistance given by the FCC direction-finding facilities in distressed plane and ship emergencies:

The Tampa marine office intercepted an SOS distress call on the 2182-kc radiotelephone distress frequency. The FCC engineer reported it to the Coast Guard, which found a boat with a disabled motor. Though the boat's transmitter was defective so that voice could not be used, the resourceful skipper tapped out the "SOS" by a makeshift arrangement.

The Santa Ana monitoring station obtained a bearing on a lost boat under search by the Coast Guard off Long Beach, Calif. The latter advised that the FCC bearing "fitted in very nicely" with other bearings and enabled the boat to be located.

A military plane with its LORAN navigational equipment out of commission en route from Deleware to the Azores was positioned periodically by the FCC monitoring net. The pilot, with this assistance, navigated his plane to its destination.

A search aircraft using bearings furnished by the Alaskan monitoring stations found a bush pilot who had been forced down in the Alaskan wilds.

A plane lost in the vicinity of Bermuda in bad weather on its way to Africa was located by a search plane using "fixes" furnished by the FCC net.

Monitoring and DF Reduces Radio Interference

Approximately one-half of the time of FCC monitoring stations is spent in obtaining facts required to solve interference complaints, including location of the source area. During the year, requests for this assistance numbered 2,260, a 36-percent increase from 1962.

The FCC monitoring network in general works on long-range, worldwide radio interference situations affecting FCC licensees and U.S. Government agencies. Assistance is also rendered at the request of foreign countries pursuant to the International Telecommunications Convention and associated radio regulations setting up the International Monitoring System which includes the FCC monitoring stations.

Some examples of interference cases with an international aspect handled by the FCC monitoring network follow:

Two U.S. private communication carriers complained of interference in the 16-Mc marine band. A monitoring "fix" placed the interfering signal source in Ecuador.

A spurious emission from a Canadian station was identified as the cause of a complaint by the U.S. Coast Guard.

Interference to U.S. Government operations by a high-frequency broadcast station on Formosa was complicated because the Formosa station was in turn being intentionally jammed from behind the "bamboo curtain."

An Australian broadcast station interfered with a communications circuit from Tokyo to Honolulu.

Reception at Miami of radiotelephone communications from Nicaragua was smeared by a spurious emission from Honduras.

Egyptian broadcast station "Radio Cairo" wandered onto the frequency used by a radiotelephone circuit between London and New York.

The spurious frequency of a Dominican Republic station plagued an FCC licensee in Texas.

Another spurious radiation, from Colombia, disrupted "Voice of America" programs.

Stratovision Field Strength Recording

The Allegan monitoring station again made continuous field strength recordings for several months, for the Bureau of Standards, of experimental educational UHF–TV transmissions from an aircraft flying over east-central Indiana. It provided information important for evaluating this unconventional method for obtaining wide-area TV coverage.

Radiological Monitoring

Preparations are being made to engage in radiological monitoring activities both on a national basis and in a community sense. Currently, the Kingsville monitoring station is cooperating in a local civil defense activity in the matter of radiological monitoring. The primary monitoring stations will become part of a national program to report radiation levels to headquarters points designed by the Office of Civil Defense.

Monitoring stations possess radiological measuring instruments, but current plans are to upgrade these. Also, selected personnel at monitoring stations have taken courses and will continue training in the use of these instruments. They will, in turn, train other members of the staff so that within a short time there will be a field group skilled in radiological measurements.

CONTRACTUAL SERVICES FOR FEDERAL AGENCIES

The field bureau continued to furnish special technical services for various Federal agencies. These services include field strength recording, monitoring, tracking, and direction finding in connection with transmissions from high-altitude weather balloons, and anchored and free-floating weather and hurricane-detection buoys—all to obtain scientific data for research and defense programs. An experimental balloon tracked this year set an endurance record by remaining aloft 28 days on a flight from California to a point north of Japan. The cost of these fiscal 1963 services, for which the Commission was reimbursed, exceeded $115,000.

ANTENNA SURVEY

Antenna proposals for new or modified transmitting towers are processed by the FCC to insure compliance with requirements established in Federal Aviation Agency's part 77 regulations (formerly part 626) governing the filing of notices of proposed construction. Proposals that require notices to FAA are assigned painting and lighting specifications by the Commission pursuant to part 17 of its rules.

The number of antenna proposals processed by the Commission during fiscal 1963 for all radio services totaled 24,558, exceeding the previous high of 23,391 during 1961. This was due principally to a recordbreaking total of 21,297 processed for the nonbroadcast services.

Transmitting towers in excess of 1,000 feet above ground now total 130, an increase of 16 during the year. The tallest manmade structure continues to be the jointly used tower of WRBL–TV and WTVM at Columbus, Ga., with a height of 1,749 feet. However, during the year, FAA approved a new record height of 2,063 feet for KEND–TV

(formerly KXGO–TV), Fargo, N. Dak. A construction permit for this tower was granted May 8, 1963.

The continuing trend to more and higher TV towers has necessitated collaboration between FCC and FAA looking toward the establishment of "antenna farms" areas in major communities to accommodate such structure. Also, studies are in progress for improving obstruction markings of tall towers for further protection of air navigation.

FCC field engineers continue to check heights and locations of towers constructed along airway routes and in proximity to airports. These inspections revealed over 30 towers built in excess of authorized heights or at unauthorized locations. Cases which were deemed critical to air navigation were referred to FAA for recommended action. Towers which FAA determined to be hazardous were required to reduce in height or relocate to the authorized site.

FIELD RECRUITMENT AND TRAINING

The field bureau has engaged in student trainee activities for many years. This program, encouraged by the Civil Service Commission, has as its purpose the hiring of student engineers who alternate their activities between the FCC and accredited colleges and universities. Through the years it has provided the Commission with many engineers.

FIELD ENGINEERING OFFICES AND MONITORING STATIONS

A list of field engineering district offices and monitoring stations follows:

1_____ 1600 Customhouse, Boston, Mass., 02109
2_____ 748 Federal Bldg., New York, N.Y., 10014
3_____ 1005 New U.S. Customhouse, Philadelphia, Pa., 19106
4_____ 415 U.S. Customhouse, Baltimore, Md., 21202
5_____ 405 Federal Bldg., Norfolk, Va., 23510
6_____ 240 Peachtree St. NE., Atlanta, Ga., 30303; (suboffice) 214 Post Office Bldg., Savannah, Ga., 31402
7_____ 312 Federal Bldg., Miami, Fla., 33101; (marine office) 201 Spradlin Bldg., Tampa, Fla., 33606
8_____ 608 Federal Bldg., New Orleans, La., 70130; (suboffice) 439 U.S. Courthouse and Customhouse, Mobile, Ala., 36602
9_____ 5636 New Federal Office Bldg., Houston, Tex., 77002; (suboffice) 301 Post Office Bldg., Beaumont, Tex., 77704
10_____ Room 401, States General Life Insurance Bldg., Dallas, Tex., 75202
11_____ 849 South Broadway, Los Angeles, Calif., 90014; (suboffice) 1245 Seventh Ave., San Diego, Calif., 92101; (marine office) 356 W. Fifth St., San Pedro, Calif., 90731
12_____ 323–A Customhouse, San Francisco, Calif., 94126
13_____ 201 New U.S. Courthouse, Portland, Oreg., 97205
14_____ 806 Federal Office Bldg., Seattle, Wash., 98104
15_____ 521 New Customhouse, Denver, Colo., 80202

16_____ 208 Federal Courts Bldg., St. Paul, Minn., 55102
17_____ 3100 Federal Office Bldg., Kansas City, Mo., 64106
18_____ 826 U.S. Courthouse, Chicago, Ill., 60604
19_____ 1029 New Federal Bldg., Detroit, Mich., 48226
20_____ 328 Post Office Bldg., Buffalo, N.Y., 14203
21_____ 502 Federal Bldg., Honolulu, Hawaii, 96808
22_____ 322–323 Federal Bldg., San Juan, P.R., 00903
23_____ 53 U.S. Post Office and Courthouse Bldg., Anchorage, Alaska, 99501
24_____ 1101 Pennsylvania Ave. NW., Washington, D.C., 20555

Primary Monitoring Stations
Allegan, Mich.
Grand Island, Nebr.
Kingsville, Tex.
Canandaigua, N.Y.
Santa Ana, Calif.
Laurel, Md.
Livermore, Calif.
Portland, Oreg.
Powder Springs, Ga.
Waipahu, Hawaii

Secondary Monitoring Stations
Winter Harbor, Maine
Spokane, Wash.
Douglas, Ariz.
Fort Lauderdale, Fla.
Ambrose, Tex.
Chillicothe, Ohio
Anchorage, Alaska
Fairbanks, Alaska

STATISTICS

Field engineering statistics for fiscal 1963 in comparison with 1962 follow:

Inspection statistics

Stations	United States		Foreign	
	1962	1963	1962	1963
Ship				
Authorized stations	120,427	141,165		
Compulsory:				
Inspections	4,619	4,326	190	151
Violation notices	1,904	1,812	30	34
Items cleared during inspection	3,965	3,861	150	174
Certificates issued [1]	2,842	2,479	159	134
Voluntary:				
Inspections	1,356	1,815		
Violation notices	859	1,326		
Broadcast				
Authorized stations	15,164	15,829		
Inspections	2,368	1,851		
Violation notices:				
Inspections	2,411	1,712		
Inspection monitoring	130	178		
Other-than Broadcast Services [2]				
Authorized stations	565,402	726,375		
Inspections	5,971	7,074		
Violation notices:				
Inspections	2,287	3,217		
Inspection monitoring	889	2,402		

[1] Safety Convention, Communications Act Safety Radiotelephony, and Great Lakes Agreement Radiotelephony Certificates.
[2] Excludes ship, broadcast, and amateur.

Investigative statistics

	1962	1963	Increase
Interference complaints received by FCC:			
Interference to monochrome TV	25,918	29,690	3,772
Interference to color TV	116	205	89
Interference to aural broadcast	3,255	4,304	1,049
Interference to other services	3,349	4,941	1,592
Total	32,638	39,140	6,502
Interference investigated by FCC	17,562	19,719	2,157
Other investigations by FCC	2,370	4,240	1,870
Total	19,932	23,959	4,027
Number of cooperative interference committees	40	41	1
Number of TV interference committees	640	785	145
Total	680	826	146
Number of unlicensed stations found in violation of Communications Act	529	512	−17
Indecent-language cases	32	44	12
Certifications submitted by users of ISM equipment	559	658	99

Monitoring statistics

	1962	1963	Increase or (decrease)
Source and number of major interference complaints:			
U.S. military agencies	711	619	(92)
Civil government agencies	184	322	138
Commercial companies	758	1,293	535
Foreign governments	4	26	22
Total	1,657	2,260	603
Monitoring net alerts	8,014	3,436	(4,578)
Direction-finder bearings:			
Case bearings	45,624	25,950	(19,674)
Search-and-rescue bearings	446	502	56
Total	46,070	26,452	(19,618)
Cases monitored and developed:			
Major:			
Interference	1,657	2,372	715
Noninterference	465	283	(182)
Minor (local):			
Interference	4,930	6,002	1,072
Noninterference	8,470	4,667	(3,803)
Total	15,522	13,324	(2,198)
Survey cases	11	23	12
Contractual cases for other Government agencies	5	5	0
Signals identified and indexed	77,221	77,150	(71)
Monitoring reports to IFRB:			
FCC	48,250	53,682	5,432
Commercial companies (via FCC)	16,750	17,894	1,144
Total	65,000	71,576	6,576
Monitoring observers participating in agency training program	117	106	(11)
Citations:			
FCC licensees	9,673	9,650	(23)
U.S. Government stations	529	723	194
Foreign stations	4,547	4,984	437
Total	14,749	15,357	608

Commercial radio operator licenses

Class of license	Outstanding June 30, 1962	Outstanding June 30, 1963	Increase over previous year
Radiotelegraph:			
1st Class	9,790	10,677	887
2d Class	14,825	16,825	2,000
3d Class	3,271	3,677	406
Radiotelephone:			
1st Class	127,603	149,655	22,052
2d Class	97,658	116,107	18,449
3d Class	115,748	155,408	39,660
Restricted permits [1]	2,189,458	2,485,774	296,316
Total	2,558,353	2,938,123	379,770

[1] Restricted permits issued for lifetime of operator as of Nov. 15, 1953. This class of license, normally issued for the lifetime of operator, does not include 1,028 permits issued for a term of 1 year or less to alien aircraft pilots.

Applications processed by Antenna Survey Branch

Services	Pending July 1, 1962	Received in ASB	Completed by ASB	Pending June 30, 1963	Obstruction markings assigned
Broadcast:					
AM	94	404	470	28	309
FM	50	254	301	3	182
TV	106	841	908	39	286
International	1	4	5	0	2
Experimental	0	1	1	0	1
Total broadcast	251	1,504	1,685	70	780
Common carrier	139	1,491	1,576	54	733
Safety and special radio	409	21,980	21,297	1,092	784
Grand total	799	24,975	24,558	1,216	2,297

Applications referred to Federal Aviation Agency for special aeronautical study

Services	Pending at FAA July 1, 1962	Additional during year	Final actions during year	Pending at FAA June 30, 1963
Broadcast:				
AM	86	304	367	23
FM	22	110	129	3
TV	65	266	297	34
International	0	1	1	0
Experimental	0	2	2	0
Total broadcast	173	683	796	60
Common carrier	83	830	861	52
Safety and special radio	76	3,462	3,429	109
Grand total	332	4,975	5,086	221

Research and Laboratory

NEW YORK UHF–TV STUDY

The Commission completed its study, in New York City, of the technical and economic feasibility of UHF television coverage of a large, canyon-type metropolitan area. This undertaking, which extended through fiscal years 1961 and 1962 and into the first half of fiscal 1963, was authorized with a $2 million appropriation by Congress.

Several Industry Advisory Committee groups were organized by the Commission to assist in the project. These committees met with Commission engineers and studies were made, not only in the planning stages, but also as the work progressed and until complete reports were issued. These groups were: General Industry Advisory Committee, Transmitter Industry Advisory Committee, Receiver Industry Advisory Committee, Observations and Measurements Industry Advisory Committee, and Analysis Industry Advisory Committee.

A high-powered UHF–TV transmitter was operated on the Empire State Building with the antenna mounted on the same supporting tower as the local VHF–TV stations. On November 1, 1962, the project was completed and the Municipal Broadcasting System of New York City assumed the ownership of the UHF transmitting facilities. The station is now providing a regular TV service using the call letters WNYC–TV.

Data were collected at about 3,860 locations within 25 miles of the Empire State Building, which area, being highly built up, was of principal concern. At each of these selected locations observations and measurements were made of picture quality and signal strength, not only on channel 31 (the UHF channel tested) but also on VHF channels 2 and 7 for comparison purposes. At 768 (nearly one-fifth) of the locations actual home-type TV set installations complete with requisite antennas were used. Data were taken on observations by the installation crews as well as the householders.

Two complete mobile signal level measurements were made, one during winter conditions and the other during summer conditions. Each survey included measurements taken for a distance of about 100 feet at about 340 locations on channels 2, 7, and 31. This information supplements that taken in the households, not only by overlapping the information obtained between 10 and 25 miles from the stations but also by furnishing data for greater distances.

A private firm installed a translator station on the George Washington Bridge on channel 77. Observations and measurements were taken on this signal at appropriate household locations as well as measurements in a mobile unit in pertinent directions.

The following reports were issued on the results obtained in the New York project:

Report on Receiver Installations, New York City UHF–TV Project, by Jules Deitz, Research Division Report No. R–6201, November 14, 1962.

Report on Mobile Field Strength Measurements, New York City UHF–TV Project, by Daniel B. Hutton, Research Division Report No. R–6302, February 12, 1963.

Report on the Analysis of Measurements and Observations, New York City UHF–TV Project, by George V. Waldo, Research Division Report No. R–6303, March 27, 1963.

These reports show that when using outdoor antennas there was very little difference in overall picture quality between channels 2, 7, and 31 within 25 miles of the Empire State Building. With indoor antennas, channel 31 gave acceptable service to slightly fewer locations than either channels 2 or 7.

At greater distances, as measured by the mobile vehicle, the signal from the highest channel diminishes more rapidly than those from the lower channels. In addition, behind obstructions the signal from channel 31 was affected more than signals from channels 2 and 7. This factor is of little importance near the station since there still remains adequate signal strength to provide acceptable service. However, at the greater distances the obstructions cause sufficient effect to create more locations where channel 31 is too weak to provide acceptable service (using normal types of home installations) than is the case on the lower channels.

As a byproduct of the UHF–TV project, additional data have been collected which will be analyzed and reported upon from time to time.

RADIO WAVE PROPAGATION RESEARCH

The Commission requires scientific information concerning propagation characteristics of radio waves in order to determine their useful service areas and interference possibilities. Such information is also basic to the development of technical rules for the operation of the various broadcasting services and involves such matters as maximum and minimum permissible transmitter powers, antenna design, station spacings, required signal-to-interference ratios, etc.

Much of this information can be derived only from specialized field strength measurements in the course of which signals are recorded over given transmission paths during specified time periods. The results are subsequently studied and analyzed, culminating in reports,

propagation curves, and formulas for the Commission's guidance and reference.

VHF and UHF Propagation

Analysis continued of the VHF–UHF field strength data received from the Commission's monitoring stations and the New York City UHF project. Such analyses add to the knowledge of wave propagation involving TV and FM broadcasting as well as other services operating in the VHF–UHF frequency bands.

An example of a final product is the recently published Report No. R–6301 on "Variations of VHF Field Strengths over a Sunspot Cycle (1950–1961)." Propagation curves were derived for predicted service areas and possible interference between various common-carrier land mobile facilities in the 30–40-, 150–170-, and 450-Mc bands. Studies were made of possible methods for improving utilization efficiency of the radio space allocated to land mobile services.

Research also continued on methods of field strength prediction over specific terrain in the VHF–UHF bands. As the demand for facilities increases, estimates of useful service and interference based on propagation curves need to be more reliable and, consequently, more accurate methods are needed to enable the Commission to allocate facilities in the most equitable and efficient manner. This research involves the painstaking analysis of many topographical, seasonal, and meteorological factors which are known to influence radio wave propagation.

Research was conducted on the techniques of making fixed location and mobile-type VHF–UHF field strength measurements and investigating further such factors as meter and recorded time constants, vehicle speed, receiver detector modes, antenna calibration, height-gain, and required sampling intervals.

Another study concerned possible interference to TV channels 4 and 5 from the use of low-power mobile transmitters in the 72–76-Mc band.

FM Broadcasting Assignment

Studies were made of the various FM station assignment plans, using several spacing configurations and employing the latest available U.S. and foreign data concerning permissible signal-to-interference ratios for various values of carrier frequency differences, both for monaural and stereophonic broadcasting.

Ionospheric Propagation

Comparative studies dealt with the Commission's skywave propagation curves used for AM station assignments and similar curves developed in Western Europe. Reasonable agreement was found be-

tween these two sets of curves considering the great range of variability of the basic measured field strength data used in their derivation.

Studies were also conducted of the pre-sunrise and postsunset skywave fields in the AM band for the purpose of evaluating the Commission's proposed skywave diurnal factors curves in docket 14419, which are to be used in conjunction with the regular nighttime skywave curves for predicting interference during pre-sunrise hours.

Space Systems and Allocation

Studies of technical characteristics of space communication systems continued. Working liaison was maintained with international organizations such as the International Radio Consultative Committee (CCIR). Such participation was reflected in technical reports which formed a part in the contribution of the U.S. delegations at various conferences and meetings. Topics included problems of band sharing by the terrestrial microwave and space communication systems, bandwidths, and radiated power requirements.

INTERFERENCE CONTROL

A paramount technical consideration is the matter of reducing interference from one station to another, or of increasing the effectiveness of a station without reducing the utility of the radio spectrum for others. The regulatory principles applied to the industrial, scientific and medical services, and to emissions from radio frequency devices, for example, seek to provide for the use of a multitude of items in industry and in the home which radiate radio frequency energy while at the same time applying reasonable curbs to minimize their interference potential.

Interference vs. Compatibility

In attempting to strike a proper balance, the Commission is relying increasingly on the practical concept of "electromagnetic compatibility" rather than the ideal of "interference elimination." The latter concept involves measures to limit power and modulation, or increase restrictions on spurious emissions or on frequency stability, or prohibit the use of certain devices or operations. Although the elimination of undesired radiation is a desirable goal, the state of the art and economics impose a practical limit to the benefit which can be obtained through such measures. Accordingly, the Commission and the communications industry are shifting emphasis to making systems compatible—that is, designing them so that they can operate harmoniously together. This concept is being carried into the Commission's regulatory program for noncommunications equipment as evidenced by the "wireless microphone" rulemaking completed in May 1963 and in the "intruder alarm" rulemaking initiated in June 1963.

Stopping Interference Before It Starts

In its attempt to make spectrum usage more efficient, the Commission is handicapped by the fact that it cannot readily prosecute the manufacturer of an interfering device. When interference develops, the Commission's engineers must locate the particular device causing interference before control measures can be imposed. Accordingly, it frequently happens that devices with interference potentialities have been manufactured, sold, and used before the Commission can take effective countermeasures. To surmount this difficulty, the Commission has engaged in a campaign of directing the attention of manufacturers to the interference problem and has sought their voluntary cooperation in the production of equipment which complies with its rules. While the response from manufacturers has, on the whole, been excellent, it is becoming increasingly evident that the most effective way of controlling interference or insuring electromagnetic compatibility is to require that interference problems be considered at the time that electrical devices are designed and before they are placed in production. This appears to require further legislative authority. A recommendation to that effect is in preparation.

Consultation With Industry

The problem of interference and the need to build equipment which will safeguard radio operations has been recognized by many of the electrical-electronic industry associations. They have been helpful in disseminating information about FCC requirements. The Commission has also consulted with these associations regarding control procedures and technical specifications, and with the American Standards Association in connection with developing standards for interference measuring equipment and procedures.

Type Acceptance of Equipment

The Commission's own type-acceptance program seeks to promote better spectrum utilization by reducing radio frequency interference through procedures which insure that types of transmitting equipment will be accepted only after they have been shown to comply with the FCC technical standards. (See also "Type Approval of Equipment.") The following table compares the past year's type-acceptance activity with that of 1962:

Type of equipment	Number of applications granted		Increase or (decrease)
	1962	1963	
Television broadcast	53	31	(22)
AM and FM broadcast	142	77	(65)
Nonbroadcast	219	372	153
Total	414	480	66

Preparations were made to withdraw acceptance from certain types of equipment which will not meet new technical standards that become effective November 1, 1963. This is made necessary because only conforming equipment will permit the effective use of nearly twice the number of channel assignments in the land mobile services as previously without allocation of additional frequency space. Similar action is contemplated for equipment in the maritime mobile services which fails to meet the new standards.

EXPERIMENTAL RADIO SERVICES

In addition to promoting more efficient use of the radio spectrum through interference control, the Commission also provides for research and experimentation in radio and allied arts. The experimental radio services provide for (1) fundamental research in all phases of radio, (2) communication essential to such research work, (3) development and testing of new equipment for use in established radio services, (4) the development of new radio techniques and uses of radio, (5) the development of Government radio equipment, and (6) the demonstration of equipment for various purposes. These services are the proving ground for the embryo ideas of scientists and the opportunity for the inventive engineer to develop new electronic devices and techniques.

As the radio art develops, the number and complexity of experimental operations increase. Applications for experimental authorizations received during the fiscal year totaled 1,510.

LABORATORY

The Commission's laboratory is located near Laurel, Md., in an area satisfying the requirements of freedom from manmade electrical noise and strong signals from radio and TV stations which might interfere with its activities.

Studies of Systems and Devices

During the year the laboratory studied the possible effects of radio propagation conditions upon the use of precision offset of TV frequencies as a means of reducing interference. Experiments were made to determine the conditions under which certain low-power transmitters might be assigned frequencies between TV channels 4 and 5. Tests were made of the relative performance of several selective calling systems for possible international standardization, in cooperation with committees of the Radio Technical Commission for Marine Services (RTCM) and the International Radio Consultative Committee (CCIR). In furtherance of the Commission's inquiry into loud broadcast commercials, the laboratory set up several kinds of modulation meters and audio-level meters for side-by-side observation.

The operating characteristics of some new types of devices were measured to assist the Safety and Special Radio Services Bureau in determining the compliance of such devices with existing rules, or the adequacy of the present rules. These included several citizens band transmitters and amplifiers and a walkie-talkie intended for sale to children.

Assistance to Other Commission Programs

The laboratory developed and constructed special antenna systems and built special equipment for use in the revised Emergency Broadcast System. Assistance was given to the Field Engineering Bureau establishment of a new mobile TV monitoring unit and in the development of methods of enforcing FM stereo regulations. The accuracy of two frequency meters was studied as possible aids to field operations.

Calibration of Measuring Equipment

The laboratory repairs and calibrates measurement equipment used in the field and its own operations. During the year the calibration activity included 12 standard signal generators, 15 field strength meters, 1 modulation meter, 2 RF wattmeters, and 2 frequency meters.

Type Approval of Equipment

Certain types of equipment are type approved by the Commission on the basis of tests made in its laboratory. One class is radio equipment used aboard ship for protecting life and property. During the year one improved shipboard auto alarm was tested and approved. Another class of type-approved equipment is the modulation and frequency monitoring equipment used by broadcast stations. There were seven submissions of such equipment for test, on which four type approvals were granted.

Numerically, the largest class of type-approved equipment consists of devices which employ radio frequency energy for purposes other than communication but which interfere with radio communication unless careful attention is given to design details. Following is a summary of type-approval activity for the year in this class of equipment:

Kind of equipment	Number of submissions for test	Number of type approvals granted
Medical diathermy	4	3
Medical ultrasonic	8	5
Industrial ultrasonic	5	2
Epilator	6	3
Ship radar [1]	9	8
Electronic ovens and ranges	11	6
Industrial electronic oven	1	0
Low-temperature asher	3	2

[1] Ship radars are type approved as devices which may interfere with shipboard radio communications. Their merits as aids for navigation are not tested by the Commission.

Sampling of Type-Accepted Devices

Certain other classes of equipment are type accepted by the Commission on the basis of certificates of test by the manufacturers (see also "Type Acceptance of Equipment"). During the year the laboratory made limited sampling tests of such devices, selected on the basis of reports of possible noncompliance. These included several TV sets and FM tuners, four TV translators, and two citizens band transmitters.

710-451—64——12

Frequency Allocation and Use

NATIONAL FREQUENCY ALLOCATIONS

During the year the Commission made several changes in national frequency allocations. Some of these were to satisfy the ever-increasing demands of radio users while others were necessary to further implement the international radio regulations adopted at Geneva in 1959.

On October 4, 1963, the Commission made TV channel 37 (608–614 Mc) available for the exclusive use of radio astronomy in the United States for a period of 10 years—to January 1, 1974. This means that during that time no TV broadcast stations will be permitted to use that channel. (See also "International Frequency Allocations.")

Changes accomplished in the microwave region of the spectrum included the allocation of bands to the domestic fixed public service and to the international control and operational fixed services. Educational TV was given access to frequencies in the 2000-Mc band and frequency bands were allocated to private mobile users.

Other changes provide additional use of the 1800–2000-kc band by amateurs, an increase in power by amateurs in the 420–450-Mc band, and the Radio Amateur Civil Emergency Service (RACES) is allocated frequencies in the 7- and 14-Mc bands for use in Alaska, Hawaii, Puerto Rico, and the Virgin Islands.

In the aeronautical service a new type of station was authorized to communicate with aircraft, other than for the actual operation of the plane, such as for handling communications pertaining to agriculture, ranching, forest-fire fighting, etc., and an additional frequency was provided the Civil Air Patrol.

On July 1, 1963, certain microwave bands were reallocated for common carrier and private mobile use and, on September 10 thereafter, additional frequency bands were assigned radio astronomy.

Changes in the national allocation structure to conform with the Geneva regulations included minor shifts in frequency bands allocated to the marine and aviation services and, in addition, new emission designators for all services.

Under study is a petition by the Electronic Industries Association to reallocate UHF TV channels 14 and 15 to the land mobile service, a petition of the University of Illinois for UHF TV channel 37 for exclusive radio astronomy use, continuation of studies to reduce the separation between assignable frequencies in the 25–42-Mc band and further consideration of similar reductions in the 450–470-Mc band.

It has been proposed that stations in the operational fixed service be assigned reduced separations between frequencies in the 72–76-Mc band to partly compensate for allocating part of this band to radio astronomy.

Nonbroadcast services—specifically land mobile—will receive considerable study in an effort to relieve part of their critical frequency needs. A joint Government-industry committee is being formed to develop methods of expanding the utilization of the land mobile services. Vehicular radio communication, as a valuable tool of industry, demands increased effort to meet its growing frequency requirements.

NATIONAL FREQUENCY COORDINATION

The radio spectrum above 25 Mc is divided domestically for Federal use, non-Government use, or for their shared use. The FCC licenses non-Government users and the Interdepartment Radio Advisory Committee (IRAC), under Presidential authority, assigns frequencies for Federal departments and agencies. Close coordination is provided by the Frequency Assignment Subcommittee of the IRAC whose members represent Government users of radio, with the FCC representing non-Government users.

Problems of national policy in connection with domestic frequency allocation were formerly handled jointly by the FCC, IRAC, and Office of Emergency Planning. However, since the President established an Office of Director of Telecommunications Management (DTM) with broad authority over executive branch telecommunication policy, the Commission coordinates policy matters having national implications with both IRAC and DTM.

NATIONAL NON-GOVERNMENT FREQUENCY LISTS

The various printed frequency lists showing non-Government assignments continued to increase in volume. During the year, 38 separate lists were printed. These lists are used in domestic frequency management, both by industry and Government. The general public and business users obtain these lists through purchase of reprints from a commercial firm under contract for that purpose.

In addition to the regularly published frequency lists, many special lists were compiled for specialized study of frequency occupancy. In an effort to improve the situation in the crowded land mobile portions of the spectrum and in cooperation with the Electronic Industries Association, the FCC made available to that organization 300,000 duplicate punchcards from its files. These cards are to be used in computer studies looking toward better utilization of the spectrum by the land mobile users.

The entire FCC punchcard frequency assignment file has now reached the 500,000 mark. This is almost seven times the number a decade ago.

CALL SIGNS

The Commission assigns call signs, or makes them available for assignment, to all U.S. radio stations. These are derived from the ITU Table of Allocation of International Call Sign Series. The Commission's call sign records of U.S. Government radio stations is maintained through liaison with each of the agencies concerned.

INTERNATIONAL FREQUENCY ALLOCATIONS

Space Radio-Communication Allocations

Space communication frequency allocations is treated in the chapter on "Space Communication."

Radio Astronomy

The 1959 Geneva Conference made provisions for the radio astronomy service in a number of bands by means of footnotes to the frequency allocations table. Since this arrangement required sharing with other radio services, it was unsatisfactory and domestic planning contemplated modification of the international regulations to improve the allocation status for radio astronomy.

An opportunity to accomplish this has now presented itself. The Extraordinary Administrative Radio Conference to be convened in Geneva on October 7, 1963, will consider frequency allocations for both radio astronomy and space radio communication. The U.S. proposals for that Conference, transmitted to the ITU on June 1, 1963, contain recommendations for exclusive allocations to the radio astronomy service in eight bands above 73 Mc. The first of these, 73–74.6 Mc, is proposed for use throughout the Americas. The remaining seven bands are proposed on a worldwide basis, as are two other bands for shared use with meteorological aids in one case and meteorological satellites in the other.

(See also "National Frequency Allocations.")

Congested High-Frequency Spectrum

The "panel of experts" created by the 1959 Geneva Conference to devise ways and means of relieving severe congestion in the portion of the radio spectrum between 4 and 27.5 Mc submitted an interim report to member administrations of the ITU for comment. The FCC is directly concerned with this problem and is represented on the panel's advisory committee. Preliminary review of the panel's recommendations has already resulted in a large number of domestic frequency adjustments, thus contributing toward a more realistic international

frequency list. A report of a second meeting of the panel has been submitted to the ITU administrative council and, if adopted, would offer numerous recommendations designed to relieve congestion in the high-frequency region of the spectrum.

INTERNATIONAL FREQUENCY NOTIFICATION

By arrangement with the Department of State, the Commission makes all frequency notifications on behalf of U.S. stations to the International Frequency Registration Board of the ITU. The Board examines each notification to see if it is in accordance with international regulations and whether it will cause or receive interference.

As part of its work, the board has been emphasizing to administrations the importance of certain principles of high-frequency conservation as, for example, utilizing UHF instead of HF wherever possible and avoiding multiple notifications of frequencies of the same order for the same circuit. At the same time, administrations were advised to reconsider frequency notifications if it appeared, from technical examination, that the circuit concerned was unlikely to work satisfactorily.

Because of this effort, the board has subjected frequency notices by the United States and other countries to critical examination. All of this has increased the work of international notifications. The Commission, for its part, scheduled many meetings between Government and non-Government users during the year to work out problems engendered by the new procedures.

The Commission is also responsible for collecting and forwarding the data for all of the various documents on international telecommunication matters which are published by the ITU. These include detailed information on U.S. ship, aeronautical, standard frequency, meteorological, and many other stations.

INTERNATIONAL FREQUENCY COORDINATION

Growing radio communication needs require more intensified international frequency coordination. This is emphasized by the fact that the high-frequency spectrum affords a limited number of channels using present techniques and the decreasing sunspot activity continues to drive international communication into the lower portion of that region.

The Commission's frequency coordination program with Canada, involving mobile as well as fixed radio services, continues to expand and represents the biggest volume of such cases. The concentration of Canada's population along its southern border brings many operations in both countries in close proximity. It is necessary to examine

practically each proposed operation along the border prior to either country making an assignment. The success of this mutual effort is evident from the small number of interference cases (eight) occurring during the year. It has also greatly reduced the need for expensive frequency shifts. This border coordination produced an agreement (TIAS 5205) with Canada during the year which set up several new "rules of the road" and increased the number of frequencies to be coordinated.

The Commission exchanged comments on several proposed assignments with other countries for the purpose of eliminating objections to new domestic frequency assignments or to avoid interference resulting from changes in frequency assignments of foreign stations.

INTERNATIONAL INTERFERENCE AND INFRACTIONS

As the U.S. agency responsible for radio matters affecting this country under the terms of the ITU convention, the Commission is the medium for contact with foreign administrations and domestic radio licensees, as need arises, for resolving harmful international interference to or from stations in the United States. Since interference can jeopardize life and property at sea and in the air, and disrupt oversea radio communication, it is important to curb it as quickly as possible.

International interference procedures deal primarily with general considerations rather than the rights of individual stations. Consequently, such cases cannot be handled on a production-line basis. A mutually satisfactory solution is desirable but not always possible.

During the year, the Commission handled 318 cases of international interference involving its licensees and foreign stations. Approximately 305 were resolved and correspondence with foreign administrations continues on the remainder. The Commission also received 48 complaints from foreign governments about interference from U.S. Government stations. These were referred to the appropriate Federal agencies. Approximately 1,600 pieces of correspondence were originated by the FCC in pursuing solutions to international interference cases.

The Commission participates with other countries in the exchange of infraction reports of technical and operational deficiencies by radio stations detected by monitoring. It sent abroad over 4,800 reports of such infractions by foreign stations. The fact that all members of the ITU do not ratify its conventions and regulations at the same time means that each infraction report must be examined on the basis of treaties in force with the country concerned to avoid implication that foreign stations should observe radio regulations to which they are not yet a party.

INTERNATIONAL FREQUENCY USAGE DATA

The Commission and some 34 other countries furnished the International Frequency Registration Board with data used in publishing a monthly summary of monitoring information for studying frequency occupancy over the range 2850 to 27,500 kc. Data furnished on operational dates, times, emissions and other facts are useful to the communications industry in efforts to locate channels for new operations in the high frequencies, determining whether stations are actually using their frequencies, and planning which frequencies might be employed during selected hours under varying sunspot conditions.

The approximately 72,000 monitoring observations by the Commission's 18 monitoring stations and 16 private monitoring stations accounted for nearly one-fourth of all monitoring data submitted to the IFRB by participating countries.

INTERNATIONAL CONFERENCES

The Commission prepared for 39 international telecommunications conferences, including 28 multilateral, 2 trilateral and 9 bilateral meetings, and on some of these there is continuing followup work. This participation is under Department of State sponsorship or with its concurrence.

The Commission furnished 50 delegation members to 26 conferences during the fiscal year. These members included five delegation chairmen, one vice chairman, and nine U.S. spokesmen for conference meetings. In addition, although the Commission did not provide delegates to 14 other conferences, it was involved in related preparatory and followup work.

Appendix

FCC LOG HIGHLIGHTS OF 1963 FISCAL YEAR

The following notations are based primarily upon releases of the Federal Communications Commission during the 1963 fiscal period—July 1, 1962, to June 30, 1963. The dates shown are largely those of covering releases and do not necessarily indicate the dates on which the actions were taken.

1962

July 3—— Revised telephone separation procedures recommended by FCC enable States to initially reduce intrastate telephone rates by about $36 million annually (approximating $4.3 million by 1963).

July 5—— Curbs grants of VHF translators to TV broadcast stations.
Proposes changes in rules governing broadcast station emergency operation.

July 10—— First communications satellite, "Telstar," launched.

July 11—— All-channel TV receiver law, enacted July 10, will require reasonable transition period.

July 12—— Testifies on legislation to amend section 315 concerning political broadcasts.

July 13—— Navigational aid denial phase of CONELRAD system mooted by changed military requirements.
Proposes tightening broadcast multiple-ownership overlap rules.
Proposes rules to open broadcast network affiliation contracts to public inspection.

July 18—— Issues report on broadcast licensee responsibility concerning Dr. Carlton Fredericks' program "Living Should Be Fun."
Abandons proposals for UHF pool plan and dual VHF–UHF TV operation.
Amends rules to make U.S. nationals eligible for commercial operator licenses.

July 19—— Court of appeals affirms FCC deintermixture rulemaking deleting TV channel 10 from Bakersfield, Calif.
Makes Springfield, Ill., TV allocations all UHF (after *de novo* rulemaking).
Announces letter to Newburgh, N.Y., city manager who complained about NBC–TV program "The Battle of Newburgh"; also one to Massachusetts house speaker who complained about CBS–TV program "Biography of a Bookie Joint."

July 25—— Issues landing license for telephone cable to connect Panama Canal Zone with Jamaica and Colombia.
Establishes new aeronautical multicom radio stations.
Proposes reallocation of microwave bands for common carrier and private mobile uses.

July 26—— Revises FM broadcast rules and proposes channel assignment table.
Revises TV table of assignments to reflect United States-Mexican agreement.
Proposes new auxiliary service to promote educational TV.
Proposes relaxing radio operator requirements for certain AM–FM broadcast stations.

Aug. 1—— Half interest in WTAE(TV), Pittsburgh, sold for $10.6 million (largest price paid for half interest in any broadcast station).
Warns about broadcast of controversial foreign matter without indicating foreign sponsorship.

Aug. 2—— Testifies on bill to permit granting reciprocal privileges to foreign governments for operating radio transmitters at their embassies in Washington. (Further testimony Aug. 29.)

Aug. 3—— Testifies on space satellite communications bill.

Aug. 27—— Testifies on bill to relieve Western Union of statutory requirement to divest itself of its international telegraph operations.

Aug. 31—— President signs Communications Satellite Act of 1962.

Sept. 12—— Proposes all-channel TV receiver rules, for compliance by Apr. 30, 1964.
Terminates 8 TV deintermixture proceedings.
Terminates proceeding which contemplated relaxing broadcast multiple-ownership rules.

Sept. 18—— Authorizes Guam-Okinawa link in Pacific telephone cable system.

Sept. 19—— Eliminates oath requirement on all radio applications.

Sept. 25—— *Proposes additional channel-splitting in nonbroadcast radio* services.

Sept. 28—— Amends rules concerning signatures on broadcast applications filed by corporations.

Oct. 2—— Commissioner Henry takes office.

Oct. 3—— Amends broadcast application "local notice" rules.
Amends broadcast rules to permit automatic program logging.
Authorizes second pay-TV test (KTVR, Denver, Colo.).
Issues revised "Use of Broadcast Facilities by Candidates for Public Office."

Oct. 4—— Waives sponsorship identification requirement for certain program material broadcast on behalf of nonprofit organization.

Oct. 10—— Donates UHF test antenna to New York City.

Oct. 11—— Advises broadcasters that noncommercial spot announcements are not to be considered program material in computing program percentages by types.

Oct. 15—— Act amended to permit 30-day waiver of requirement for annual inspection of radio installation on foreign ships visiting U.S. ports.

Oct. 17—— Inquires into frequency needs for pilot-to-weather forecast.

Oct. 25—— Issues 3d notice of inquiry setting forth draft U.S. proposals for 1963 international space frequency allocation conference.
Increased telegraph message rates to tieline customers become effective.

Nov. 1—— Warns that broadcast of lottery advertisement is illegal even if lottery is legal where conducted.
Gives tentative ruling on amended CBS–TV incentive compensation plan.
Discontinues series of public notices titled "Commission Instructions in Docket Cases."

Nov. 7—— To query networks and stations about 1962 political broadcasts at request of Senate subcommittee (questionnaire sent Nov. 23).

Nov. 14—— Reports on New York UHF project receiver installations.
Proposes tightening citizens radio rules.

Nov. 20—— First FCC announcement of proposed conference with NAB on AM growth.

Nov. 21—— Adopts all-channel TV receiver rules.
Invites comments on proposals to change common carrier accounting for investment incentive tax credits made available by Revenue Act of 1962.
Institutes proceeding on marine telegraph rates.

Nov. 23—— Reaffirms 1961 AM broadcast clear-channel decision.
Selects Omaha as scene of 2d inquiry into local live TV programing.
Proposes rules for local inspection of broadcast applications and records.
Amends rules to require single signature only on broadcast applications by corporations.
Adopts new application forms for AM–FM–TV noncommercial educational broadcast stations.

Nov. 28—— Proposes regulations for authorizing common carriers to buy stock in Communications Satellite Corporation.
Proposes limited amount of pre-sunrise operation by daytime AM broadcast stations.

Nov. 29—— Establishes position of Executive Director.
Asks networks about local TV programing of net-owned stations.
Exempts existing FM broadcast stations from new power and antenna height limitations.
Proposes clarifying rules to assure that FCC is kept informed of material changes in applications.

Dec. 7—— Announces policy concerning requests for additional time to complete construction of UHF–TV broadcast stations.

Dec. 11—— Makes public staff report on "Television Network Program Procurement."

Dec. 12—— Proposes rules for Business Radio Service microwave TV relay to CATV systems.
Holds ABC–TV Nixon program within net-station discretion.

Dec. 17—— Adopts rules for authorizing common carriers to buy Communications Satellite Corporation stock.
Adopts revised broadcast annual financial report form.
Places partial "freeze" on FM broadcast applications.

Dec. 18—— Initiates inquiry into ojectionable loudness of broadcast commercials.

Dec. 21—— Proposes FM broadcast assignment table.

1963

Jan. 3—— Denies TV translator station request for waiver of rules to permit partial financial support by regular TV station.
Amends procedural rules to increase number of copies of pleadings required to be filed.

Jan. 9—— Amends rules to permit more flexibility for emergency and other operations of remote pickup broadcast stations.

Jan. 10—— Warns broadcasters of danger of obscene or profane remarks on telephone interview programs.

Jan. 16—— Authorizations in Industrial Radio Services reach 100,000.

Jan. 18—— Terminates a citizens radio operation because of 42 rule violations; reiterates warning about abuse of class D privileges.

Jan. 23—— Proposes rules to extend frequency advisory plan to Local Government Radio Service.

Jan. 28—— Commissioner Henry opens Omaha inquiry into local live TV programing (concluded Feb. 5).

Jan. 29—— Issues final decision in common-carrier "private line" case (stayed Mar. 13 pending further order).
Announces plan for reduced "after 9" nighttime interstate telephone rates (effective Apr. 4).

Jan. 30—— Adopts rules to implement nonbroadcast forfeitures.

Jan. 31—— Tells broadcasters that combination advertising rate arrangements are not in public interest.

Feb. 6—— Proposes lifting licensed operator requirements for certain land and fixed public safety stations.

Feb. 7—— Proposes joint committee to promote development of UHF–TV broadcasting (further announcement Feb. 21; meeting held Mar. 12; executive committee named Mar. 22; progress report Apr. 5).

Feb. 13—— Department of Defense and FCC request National Industry Advisory Committee to study use of broadcast stations to alert public in emergencies.
Issues report on New York UHF–TV project mobile measurements.
Proposes rules to bar broadcast applications under multiple-ownership rules unless applicant first disposes of conflicting holding.

Feb. 18—— Gives Senate subcommittee a review of space communication developments since enactment of Communications Satellite Act.

Feb. 20—— Proposes rules to enable railroad radio facilities to also handle public telegrams.
Removes all oath requirements in Safety and Special Radio Services.
Recommends legislation to permit grant of special temporary authorizations for 60 days (instead of 30) for certain nonbroadcast operations.

Feb. 21—— Revises automatic logging rules, effective Apr. 8 (later stayed to July 18).

Feb. 26—— FCC delegated certain national defense functions by Presidential order.

Feb. 27—— Authorizes Communications Satellite Corporation to borrow funds pending stock issuance.
Testifies before Senate subcommittee on common carrier rate regulation.
First revocation by Safety and Special Radio Services Bureau under delegated authority.

Mar. 4—— Testifies on bill to suspend section 315 for President and Vice President nominees during 1964 campaign.

Mar. 6—— Proposes rules to require additional data by wire line common carriers in Domestic Public Land Mobile Radio Service.

Mar. 13—— Testifies before House subcommittee on concentration of ownership of mass media of communication.

Mar. 14—— Recommends legislation to require that petitions for intervention be filed within 30 days after publication of hearing issues.
Amends rules to provide for denial of international communication services to foreign governments which do not reciprocate with like services to U.S. Government.
Adopts initial decision in wide-area data service (WADS) proceeding.

Mar. 20—— Imposes first nonbroadcast monetary forfeiture under May 11, 1962, act amendment.
Amends broadcast rules to permit dual transmission over single STL channel.

Mar. 22—— Makes exception to "freeze" on microwave applications by CATV systems in Business Radio Service where system would solely transmit off-the-air signals of educational TV stations.

Mar. 26—— Commissioner Cox takes office.

Mar. 27—— Proposes rules to limit broadcast use of UHF channel 37 temporarily to protect University of Illinois radio astronomy operation.
Extends frequency advisory plan to Local Government Radio Service.

Mar. 28—— Commission looks toward action on excessive broadcast advertising.
Amends rules to relax technical requirements for UHF broadcast stations.
Proposes rules to discontinue "simplex" operation by FM broadcast stations.

Apr. 10—— Expands use of radio facilities by special industrial licensees.
Inquires into frequency needs for ship bridge-to-bridge communication.

Apr. 11—— Proposes rules to curb horserace broadcasts which aid illegal gambling.
Recommends legislation to make unapplicable conflict-of-interest provisions to persons in FCC unit of National Defense Executive Reserve; also to require filing of tariffs by connecting common carriers.

Apr. 17—— "Freezes" international broadcast station applications pending rulemaking proceeding.

May 1—— Authorizes second telephone cable to Hawaii.

May 6—— Amends broadcast sponsorship identification rules to conform with act amendments; issues interpretative notice on "Applicability of Sponsorship Identification Rules" for guidance of broadcasters.

May 8—— Adopts schedule of filing fees for licensing services, to become effective Jan. 1, 1964.
Proposes rules for single sideband emission in maritime radiotelephone services.
Transmits to House FCC interpretation of relationship of second sentence of sec. 315 of act to "fairness doctrine."
Authorizes highest antenna (2,000 ft. above ground) to KXGO–TV, Fargo, N. Dak.

May 14—— President accepts resignation of Chairman Minow, effective June 1; announces intention to designate Commissioner Henry as Chairman and appoint Lee Loevinger as Commissioner.

May 15—— Authorizes increased marine telegraph rates.

May 16—— Proposes basic changes in AM broadcast station assignment rules, including consideration of relationship to FM broadcast.

May 17—— Proposes rules to curb excessive broadcast advertising.

May 22—— Terminates inquiry into marine safety aspects of ship stations.
Proposes rules to allocate frequencies for use by high-altitude balloons employed for astronomical observations.
Amends rules to make 88–108 Mc available for 1-way communication by low-power telemetering devices and wireless microphones.
Amends telephone accounting systems rules.

May 23—— Court of appeals upholds FCC denial of microwave facilities to serve CATV systems.

May 24—— Effects organizational changes to carry out national defense obligations of Presidential order of Feb. 26; creates Office of Emergency Communications and abolishes CONELRAD, effective July 1.

May 28—— Makes public letter to Senator Magnuson concerning broadcasting of horseracing information pending outcome of rulemaking proceeding.

May 29—— Adopts rules prohibiting TV "option time."
Holds amended CBS–TV incentive compensation plan violates FCC rules.
Removes stay on effectiveness of private-line case decision except press rates which are made subject of new inquiry.
Revokes license of AM station KWK. St. Louis, Mo., for fraudulent contests.
Affirms VHF channel drop-in for Oklahoma City and denials of short-spaced drop-ins for 7 other markets.
Approves sale of KTTV–TV, Los Angeles, for $10,390,000 (largest price yet paid for single TV station).

May 31——— Exempts "in-school" TV sets temporarily from all-channel receiver requirements.
Proposes conferences with TV networks on ways to make programs available for UHF stations in intermixed markets.

June 2——— Commissioner Henry becomes Chairman.

June 5——— Rejects proposal to establish regular 2-way public air-ground radiotelephone service but holds door open for development of acceptable system.

June 10——— Submits to Senate FCC survey of political broadcasting during 1962 primary and general election campaigns.

June 11——— Commissioner Loevinger takes office.

June 13——— Cautions licensees about improper use of broadcast ratings.
Testifies on bill to establish U.S. Administrative Conference.

June 14——— Comments on reported proposal by U.S. citizen to operate superpower broadcast station in Costa Rica.
Proposes rules for radio operation of intruder alarms.

June 19——— Announces U.S. proposals for space and radio astronomy for international consideration.
Proposes rules for radio operation of intruder alarms.

June 20——— Testifies on broadcast rating services.

June 26——— Testifies on legislation to amend sec. 315 concerning political candidates.
Inquires into aeronautical mobile (R) frequency needs.

June 27——— Denies telephone companies requests to charge contributions to operating expenses.
Recommends legislation to repeal restriction against considering other than assignee in transfer and assignment of licenses.
Delegates authority to Office of Opinions and Review to act on uncontested requests for extension of filing time in adjudicative hearing cases.
Appeals court affirms Springfield, Ill., deintermixture but remands Terre Haute, Ind., channel 2 case to permit filing of competing applications.

○