Federal Communications Commission

31st Annual Report

For the Fiscal Year 1965

With summary and notation of
subsequent important developments

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COMMISSIONERS

Members of the Federal Communications Commission

(As of June 30, 1965)

E. WILLIAM HENRY, *Chairman*
(Term expires June 30, 1969)
ROSEL H. HYDE
(Term expires June 30, 1966)
ROBERT T. BARTLEY[1]
(Term expired June 30, 1965)
ROBERT E. LEE
(Term expires June 30, 1967)
KENNETH A. COX
(Term expires June 30, 1970)
LEE LOEVINGER
(Term expires June 30, 1968)
JAMES J. WADSWORTH
(Term expires June 30, 1971)

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

[1] Reappointed for a 7-year term to June 30, 1972.

LETTER OF TRANSMITTAL

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

To the Congress of the United States:

The 31st Annual Report of the Federal Communications Commission for the fiscal year 1965 is transmitted herewith.

It contains information required by sections 4(k) and 315(2)(b) of the Communications Act of 1934, as amended; also by section 404 (c) of the Communications Satellite Act of 1962 concerning the Commission's responsibilities in the field of satellite communication.

Of particular significance during the year was a reduction of $100 million annually in interstate telephone rates, the largest in history. Consideration of broadcast matters ranged from interpretations of the fairness doctrine to action to reduce the loudness of commercials. Mushrooming nonbroadcast radio services posed "housing" and operational problems for mobile and other users, and mounting radio violations—especially by individuals—taxed enforcement efforts. The overall electronic interference situation caused the Commission to ask for additional regulatory legislation.

Because of the wide interest in community antenna television (CATV) systems, the report contains a separate chapter on that subject, also one on the Commission's relation to international telecommunications appropriate to the United Nations observance of 1965 as "International Cooperation Year."

Highlights of the Commission's fiscal year are summarized in the opening chapter of the report.

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. 2, 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–Dec. 31, 1965
Chairman			Mar. 15, 1960–Mar. 1, 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–
James J. Wadsworth	Rep.	N.Y.	May 5, 1965–

*Deceased.

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Report Summary

GENERAL

United States leadership in the use of radio is evidenced by the now more than 5 million transmitters licensed by the Federal Communications Commission. They are employed for a host of purposes which range from probing the ocean depths and for discovering underground oil deposits to relaying communication services by satellites and for exploring outer space.

Domestic electronic communication has advanced a long way from the wire and "wireless" days of a half-century ago when news was made by such events as President Wilson opening the Panama-Pacific Exposition with a radio signal, inauguration of the first transcontinental telephone line, the sending of the first transatlantic radiotelephone call, testing radio for police use, David Sarnoff envisioning a "radio music box," and Marconi predicting "visual telephone."

Today radio has become an invaluable tool to the Nation's commercial and public services, as well as its scientific endeavor. Nearly 1.5 million non-Government radio stations operate on or above the earth's surface, for which over 3 million radio operator authorizations are required.

Highlights of FCC activities, by categories, during the year follow:

NATIONAL DEFENSE

Under Presidential direction, the Commission is charged with coordinating its licensed communication services to the national defense program. Chief among these is an emergency broadcast system which furnishes a means of speedily reaching the general public in time of national attack or other emergency. The President is provided 63 points throughout the United States from which to broadcast to the Nation in time of crisis. More than 2,300 broadcast stations are participating. Over 200 stations have been furnished fallout shelters.

The FCC defense program also covers emergency operation by nonbroadcast radio services, common carrier systems, protection of

communication facilities and, in substance, developing "a state of readiness in these areas with respect to all conditions of national emergency."

In this work it cooperates with other Federal agencies concerned and is assisted by industry advisory committees (national, 8 regional and 50 State), also by an FCC unit of the National Defense Executive Reserve.

INTERNATIONAL COOPERATION

Review of FCC participation in international telecommunication matters, in connection with the 1965 "International Cooperation Year," showed that U.S. teamwork with other nations ranges from coordination of frequency allocations for mutual radio usage, and exchange of related data, to supporting and strengthening international pacts for orderly operation. This collaboration now extends to satellite communication.

During the year, the Commission prepared for 42 related international conferences and participated in 28, furnishing chairmen for U.S. delegations to 7 sessions.

SATELLITE COMMUNICATION

Satellite communication developments saw the inauguration of the first commercial service, via Early Bird, positioned over the Atlantic, after the Commission had authorized overseas carriers under its jurisdiction to lease channels for that purpose. Previously, Syncom III stationed over the Pacific was used to bring live TV broadcast from the Olympic Games in Tokyo.

Pending an investigation of tariffs of the Communications Satellite Corporation, the Commission ordered revenues from satellite operation placed in a deferred credit account.

The Commission gave interim authority to the Corporation to operate three initial earth stations and initiated inquiry whether noncommon carriers can be satellite customers.

By the yearend, seven communication satellites were in orbit, including the pioneer Echo balloon and other early test space vehicles.

Nearly 50 countries had signed pacts to participate in a global commercial communications satellite system.

An Interim Communications Satellite Committee, responsible for planning of the design, development, construction, establishment, maintenance and operation of the space segment of the system, has been established, with ComSat as the U.S. designated member.

COMMON CARRIER

Telephone

As an outgrowth of the Commission's regulatory surveillance of the telephone industry, substantial reductions were effected in evening "after 8 p.m." and all day Sunday rates for interstate long-distance telephone calls, resulting in saving the public more than $100 million annually. This is the largest such rate reduction to date.

On the 50th anniversary of transcontinental telephone service, construction of a blast-resistant coast-to-coast telephone cable was completed.

The first Bell System commercial electronic central office was opened.

The number of telephones reached 88 million.

The Bell System's total earnings in 1964 amounted to $1.8 billion, representing a return of 7.6 percent on a net investment of $23.8 billion.

The Western Electric Co., Bell's manufacturing subsidiary, as well as the Automatic Electric Co., manufacturing subsidiary of the General Telephone System, reduced substantially the prices on their manufactured products which they sell to their respective systems.

In 1964, plant investment of the telephone industry increased by $3.1 billion, 4.3 million additional telephones were installed, long distance calling increased by about 9 percent over the previous year and approximately 53 percent of all such calls were being dialed directly. Pushbutton dialing (Touch-tone) was provided in about 200 communities and is now used by about 450,000 subscribers.

The Commission authorized about 350-telephone-construction projects, amounting to almost $353 million.

The Commission received new A.T. & T. tariff schedules providing changes in rates applicable to calls between Alaska and the rest of the continental United States, which will result in overall savings to users of about $1.1 million annually.

Telegraph

Western Union expanded its new transcontinental microwave system.

The Commission's domestic telegraph investigation progressed to the point of preparing recommendations for the consideration of the Telephone and Telegraph Committees.

Notwithstanding the continued public message volume decline, total operating revenues of Western Union in 1964 reached almost $300 million, exceeding those of the previous year by over $12.5 million.

Western Union's gross plant increased to $635 million as compared to about $597 million in 1963.

The telegraph company further expanded the Autodin system for the Department of Defense, and it has nearly completed installation of the Advanced Record System for the General Services Administration, to serve the civilian agencies of the Federal Government.

Western Union's new Broadband Exchange Service was inaugurated in 20 major cities. This service enables its subscribers to select from several transmission bandwidths to meet voice, facsimile or high-speed data requirements. Other new services were an intercity private line business telephone service ("Hot Line"), "cigargram" and "dollygram" services, a floral order service, and a flat-rate greeting message service.

Overseas

New records were set in revenues from overseas telephone and telegraph services.

Additional ocean cables were authorized—one to connect the Virgin Islands with Venezuela and another to link Guam with the British Pacific cable system.

A special intragovernmental committee is studying U.S. external telecommunications.

During the year, the Commission also authorized A.T. & T. and several international common carriers to lease voice channels in the satellite "Early Capability System" and to provide over such satellite channels their regularly authorized services.

The Commission in June 1965 authorized A.T. & T. to extend its voice-data service to Hawaii, enabling users to transmit data over regular telephone circuits at the same rates as telephone calls.

Western Union International, Inc., was authorized to acquire facilities in the new Pacific cable systems in order to serve the Philippines directly rather than through London or Australia, as heretofore.

The Commission consented to the transfer of control of Press Wireless, Inc., to ITT World Communications, Inc.

CATV SYSTEMS

The Commission tentatively concluded that it has jurisdiction over all CATV operations and proposed to extend certain requirements on microwave-served CATV systems to those not using radio relay. It also initiated an inquiry into various questions posed by the rapid development of CATV.

It reaffirmed its view that CATV is not a common carrier operation, to which a court appeal was later taken.

A separate inquiry into joint ownership of CATV systems and TV stations did not disclose abuses to warrant a ban on such cross-owner-

ship but the Commission warned of future action if individual cases warrant.

It published a special economic survey of CATV operations which showed about 1,700 such systems serving over 4½ million customers.

BROADCAST

During the year the Commission:

Enforcement

Revoked the license of 1 broadcast station and denied renewals to 12 others; held 38 stations liable for forfeitures and put 21 stations on short-term probationary licenses.

Received more complaints about programing than any other broadcast subject with advertising a close second.

Programing

Announced a policy which requires stations and advertising producers to take steps to curb objectionably loud commercials.

Proposed rules to limit network interest in TV programs, and to make network programs more widely available.

Revised its aural broadcast application form to require more information about programing intent and practice; one for TV is in preparation.

Formed an advisory committee on the broadcast of horse racing information.

Published the second part of its staff study of TV network program procurement.

Issued a supplement to its political broadcast primer, reported about $35 million spent in the 1964 campaigns, and handled various complaints on political and other fairness issues involving broadcast.

Monopoly

Amended its rules to ban common interest in aural and TV stations which have specified signal overlap.

Proposed to limit common ownership of TV stations in the top 50 markets.

Instituted inquiry into whether corporate licensees have interest in more than the allowable number of stations.

General

Issued a policy statement on criteria considerations in competitive broadcast hearings.

Adopted rules requiring stations and applicants to maintain public files locally.

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Other Matters

TV.—The all-channel TV set requirement has spurred new UHF station applications and is otherwise contributing to UHF development. Commission promotion of UHF is aided by a special industry advisory committee. The Commission revised its table of UHF channel assignments. It also proposed a new low-power "community" type station to operate on the upper UHF channels. It took steps to get "idle" UHF permittees to operate or vacate.

Nearly every major city now has at least one educational TV station. Channels reserved for education have increased to 621. A special service on nonbroadcast bands is assisting ETV by relaying instructional material. Though denying a request by the Midwest trial airborne ETV operation for regular service on TV channels, the Commission indicated that the activity could be accommodated in the nonbroadcast band now used for instructional purposes.

The Commission extended the test subscription-TV authorization of WHCT(TV), Hartford, the only station offering such service over the air. A petition looking toward nationwide pay-TV broadcast is under consideration. The Commission does not now license or otherwise regulate cable pay-TV but is studying those activities.

Aural.—Applicable to jointly owned FM and AM stations in large cities, the Commission limited duplication of AM programs by the FM stations to not more than 50 percent of the FM stations' broadcast time.

The AM station assignment rules were revised to lift the interim "freeze" on applications for new or changed facilities in that service.

Interest in and expansion of FM broadcast continued under the 1963 rules which established an assignment table for commercial channels. That portion of the proceedings which contemplate an assignment plan for educational stations will be culminated shortly.

Miscellaneous.—The Commission, in cooperation with the Federal Aviation Agency, proposed establishing "antenna farms" for grouping tall transmitting antennas which might endanger air navigation. Over 175 TV towers, present or proposed, exceed 1,000 feet in height. The tallest operating antenna is the 2,063-foot shaft of KTHI–TV, Fargo, N. Dak.

The highest price yet paid for a single broadcast station—$20.5 million—was involved in the sale of WIIC(TV), Pittsburgh.

SAFETY AND SPECIAL RADIO

Radio usage in the nonbroadcast services (other than common carrier) reached a new high of nearly 1.5 million licensees and over 5 million transmitters.

Because of such extensive operations, rule violations were many. Revocation proceedings were instituted against over 200 safety and special licenseees and nearly 200 others incurred forfeiture actions.

The citizens radio service, with about 745,000 licensees, had the most violators.

The problem of finding more frequencies for expanding mobile operations resulted in more channel splitting and received intensive attention by a special advisory committee.

Eligibility in the local grovernment radio service was broadened.

Railroad radio was being automated with tone transmitting devices.

The amateur year featured the orbiting of a satellite for "ham" use exclusively.

FIELD ENGINEERING

The Commission's monitoring network furnished nearly 900 bearings on ships and planes in distress, identified over 70,000 questionable signals, reported on 13,000 interference and other cases and issued over 24,600 discrepancy notices.

There was field investigation of over 25,000 interference and other cases.

Nearly 950 unlicensed radio operations were uncovered by monitoring and investigative means.

Inspection made of more than 18,000 radio stations (7,100 ship, 2,100 broadcast and 9,000 other) resulted in approximately 10,000 violation notices.

Field offices issued more than 175,000 radio operator authorizations and processed 28,700 antenna proposals, of which latter number nearly 27,000 were for the nonbroadcast services.

Field contractual work was performed for other Federal agencies on a reimbursable basis.

INTERFERENCE

In connection with interference from the plethora of radio frequency devices, the Commission proposed further controls for such operated garage-door openers and intruder alarms. In one area nearly 300 garage-door openers had to be removed from service because their uncontrolled emissions invaded and jeopardized aviation radio communication.

The Commission continued its preventative program of giving type approval (after tests at its laboratory) and type acceptance (on submission of technical data) of certain equipment prior to its manufacture and use.

LEGISLATION AND LITIGATION

Purchasers of radio and TV sets and users of long-distance telephone service benefited from repeal of the excise tax. FCC legislative proposals included request for authority to regulate devices which cause radio interference, and to require marking or dismantlement of abandoned transmitting towers in the interest of air navigation safety. It also testified on a previous proposal to curb electronic eavesdropping.

The Commission was a party to 91 cases in the Federal courts.

The Commission referred to the Department of Justice seven forfeiture cases—including one refusal of a broadcasting station to pay; also eight cases for criminal prosecution.

COMMISSION

Commissioner James J. Wadsworth succeeded Frederick W. Ford, resigned, and Commissioner Robert T. Bartley was reappointed.

The Commission operated with a budget of nearly $17 million and almost 1,500 regular employees.

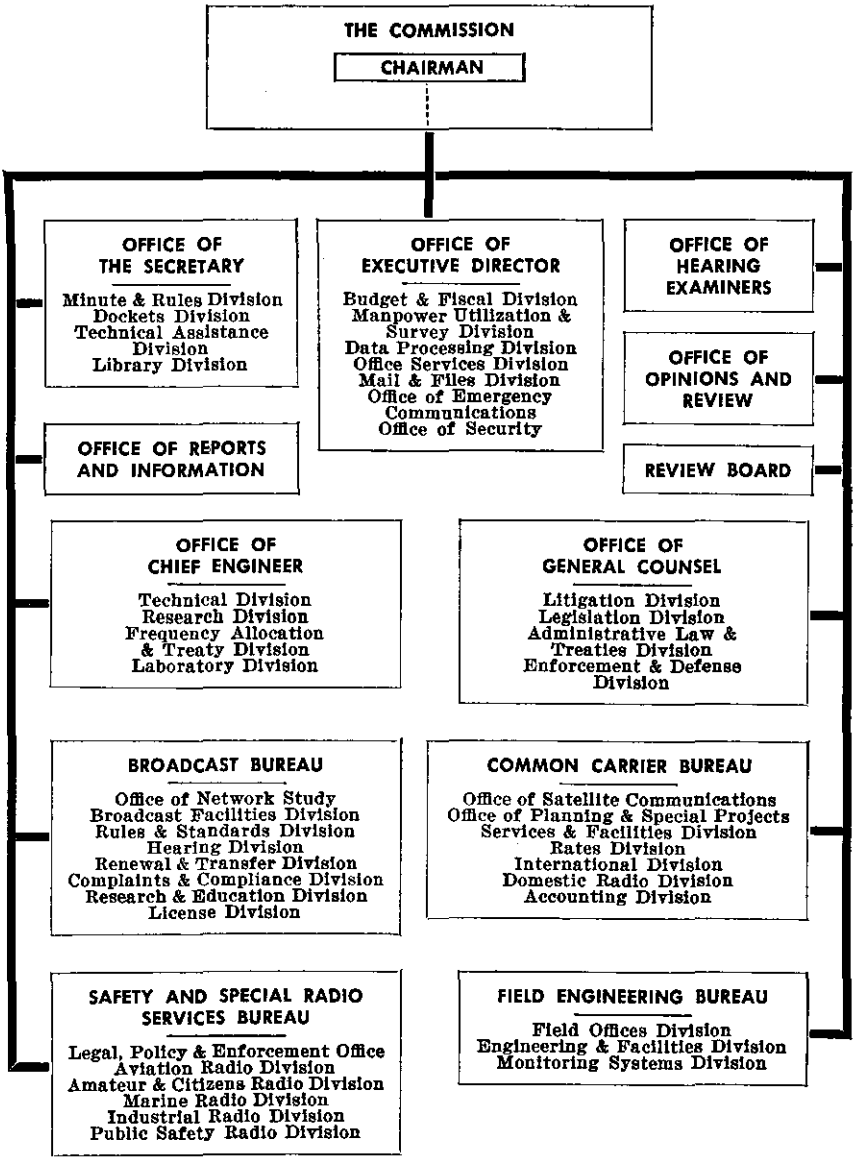
Since being instituted in March 1964, FCC application fees in excess of $4.6 million were collected.

In its first full year of operation, the Commission's electronic computer speeded the processing of certain applications and furnishing engineering and other data.

At the yearend, outstanding radio station and operator authorizations together totaled nearly 4¼ million. Applications received during the year exceeded 775,000.

FEDERAL COMMUNICATIONS COMMISSION

Organization Chart as of June 30, 1965



Commission

REGULATION

The Federal Communications Commission regulates all non-Government radio operations, also interstate and overseas communication common carrier services. It was created by Congress in 1934 to unify then divided Federal supervision in this field. Subsequent added responsibilities given the FCC now include extension of its authority over common carriers to satellite communication relay.

In general, the Commission assigns frequencies for the different radio services, licenses radio stations and the operators of their transmitters, regulates overseas and long-distance (but not intrastate) telephone and telegraph services, promotes new and more effective use of radio, with emphasis on its utilization to protect life and property and harnesses radio and wire facilities to the national defense program.

The Commission derives its main authority from the Communications Act of 1934, as amended, augmented by the Communications Satellite Act of 1962 with respect to space communication. Its practices conform to the Administrative Procedure Act and other applicable laws.

COMMISSIONERS

The seven FCC Commissioners are appointed by the President subject to Senate confirmation. They supervise all Commission activities, with delegations of responsibilities to boards and committees of Commissioners, individual Commissioners, and staff units. The Chairman, who is so designated by the President, is responsible for administration of the internal affairs of the Commission. All policy determinations are made by the Commissioners as a body.

Commissioner Frederick W. Ford resigned as of December 31, 1964, and James J. Wadsworth was, on March 25 thereafter, nominated by President Johnson to fill out Commissioner Ford's unexpired term ending June 30, 1971. Confirmed by the Senate on April 28, 1965, Commissioner Wadsworth took office on May 5.

On August 23, 1965, Commissioner Robert T. Bartley was renominated by President Johnson for another 7-year term, from June 30, 1965. He received Senate confirmation on September 2.

April 17, 1965, marked attainment by Commissioner Rosel H. Hyde of 19 years of service as an FCC Commissioner, the longest in the Commission's history.

COMMISSION STAFF

The Commission's staff is organized into functional bureaus and offices. There are four operating bureaus—Broadcast, Safety and Special Radio Services, and Common Carrier, administering to those respective services, and Field Engineering, for monitoring, inspection, investigation and other technical duties in the field.

Hearing examiners preside at hearings and issue initial decisions. A Review Board acts on certain adjudicatory cases and appeals from interlocutory rulings of hearing examiners, also their initial decisions. An Office of Opinions and Review drafts decisions for and at the direction of the Commission as a body.

Other FCC units are the Offices of Secretary, General Counsel, Chief Engineer, and Reports and Information, with duties as implied in their titles.

FCC staff activities are coordinated and expedited by an Executive Director. An organization chart of the Commission and its bureaus and offices, including their divisions, precedes this chapter.

PERSONNEL

The Commission had 1,541 employees at the close of fiscal 1965. Included were 36 employed for the summer months only and 43 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 1,477.8. This represents an increase of 28.5 over 1964. The average employment for the various organization units was:

	Washington	Field	Total
Commissioners' Offices	46.7	0	46.7
Review Board	29.8	0	29.8
Office of Opinions and Review	15.8	0	15.8
Office of Hearing Examiners	33.5	0	33.5
Office of Reports and Information	4.9	0	4.9
Office of Executive Director	179.0	4.0	183.0
Office of Secretary	35.5	0	35.5
Office of General Counsel	45.5	0	45.5
Office of Chief Engineer	72.8	17.0	89.8
Common Carrier Bureau	136.2	26.2	162.4
Safety and Special Radio Services Bureau	156.1	15.8	171.9
Broadcast Bureau	252.9	0	252.9
Field Engineering Bureau	64.5	341.6	406.1
Total	1,073.2	404.6	1,477.8

APPROPRIATIONS AND EXPENDITURES

The Commission's appropriation for fiscal 1965 was $16,985,000. Personnel compensation plus personnel benefits accounted for 70 percent of the total budget. A breakdown follows:

Item	Amount
Personnel compensation	$13,929,171
Personnel benefits	1,018,689
Travel	223,286
Transportation of things	77,016
Rents, communication, and utility services	452,757
Printing and reproduction	159,911
Other services	233,390
Supplies and materials	204,673
Equipment	521,048
Land and structures	53,321
Total amount obligated	16,911,434

The source of these funds and the authority for expenditures thereunder is Public Law 88–511, 88th Congress. Expenditure details and their justification are set forth at length in the FCC budget presentation to Congress.

ELECTRONIC COMPUTER SYSTEM

The Commission's electronic computer system has been operating for a full year in processing citizens and amateur radio applications, printing authorizations for those services, and providing complete, up-to-date licensee information for monitoring, surveillance and management information purposes. The computer is also performing broadcast engineering computations, producing automatic plots of service contours, and developing and maintaining optimum assignments of UHF television.

Plans for fiscal year 1966 call for further mechanization of the Commission's paperwork and engineering workload, i.e., processing of marine and aviation radio applications, maintenance and retrieval of information pertaining to broadcast station and individual ownership, and computation of various AM, FM, and TV engineering problems.

The computer is a UNIVAC III purchased and installed in November 1963.

APPLICATION FILING FEES

Up to June 30, 1965, the Commission had collected $4,641,231 in application filing fees. This is the sum total since the FCC fee system was inaugurated on March 17, 1964. It includes $998,601 collected during the initial 3½-month period (to June 30, 1964). These fee collections are turned over to the U.S. Treasury.

The Commission's fee charging is in compliance with Government policy to charge for certain Federal services. The FCC's fee charge was contested in court but, on July 10, 1964, the court of appeals affirmed the right of the Commission to exact fees. On January 18, 1965, the Supreme Court declined to review that decision.

Present FCC fees range from $2 to $100, depending upon the type of application and the service concerned. In connection with its continuing review of the charges and procedures involved, the Commission on March 17, 1965 (exactly 1 year after it established fees) proposed to amend the fee schedule in some particulars (docket 15881).

HEARING EXAMINERS

The Commission's Chief Hearing Examiner and 15 hearing examiners were appointed pursuant to the provisions of section 11 of the Administrative Procedure Act of 1946, as amended. They serve as presiding officers in formal hearing proceedings instituted by the Commission, and prepare and issue initial decisions based upon the evidence adduced in these proceedings.

During fiscal 1965, the Chief Hearing Examiner, acting under special authority delegated to him by the Commission, issued 420 orders and memorandum opinions and orders on interlocutory and other similar matters arising in adjudicatory proceedings. The hearing examiners held formal hearings in 103 such proceedings, requiring sessions on 434 days; completed 75 hearings; released 79 initial decisions disposing of 125 applications; and issued 966 orders and memorandum opinions and orders on interlocutory matters.

DOCKETS

A total of 591 cases were designated for hearing during fiscal 1965, of which 266 were for broadcast facilities and 232 involved the safety and special services. More than half (282) of the 502 docket cases pending at the close of the year concerned broadcast. The following docket statistics refer to individual applications in hearing status.

	Total pending July 1, 1964	Designated for hearing	Disposed of without hearing			Disposed of following hearing			Total pending June 30, 1965	Initial decisions issued	Applications covered by initial decisions
			Granted	Dismissed	Removed [1]	Granted	Denied	Dismissed			
Broadcast dockets:											
AM broadcast:											
New stations	80	57	2	10	4	25	17	7	72	18	31
Major changes	45	30	2	5	3	18	8	1	38	16	20
Subtotal	125	87	4	15	7	43	25	8	110	34	51
Assignments and transfers	3			1				2			
Renewals	11	11	1		1	6	2		12	1	2
Licenses	1	1							2		
All others	2	2		2		1	1				
Total AM broadcast dockets	142	101	5	18	8	50	28	10	124	35	53
FM broadcast:											
New stations	37	80	10	18	10	14		6	59	19	25
Major changes	5	4		2	3	1			3	1	1
Subtotal	42	84	10	20	13	15		6	62	20	26
Assignments and transfers	2							2			
Renewals	2					1			1		
Licenses											
All others		1							1		
Total FM broadcast dockets	46	85	10	20	13	16		8	64	20	26
TV broadcast:											
New stations	65	46	4	19		8	18		62	5	6
Major changes	10	7	3	2			2	1	9	1	1
Subtotal	75	53	7	21		8	20	1	71	6	7
Assignments and transfers	5					1		2	2	1	2
Renewals	5	5				3	2	1	4		1
Licenses		1							1		
All others	2	18				14	5	1			
Total TV broadcast dockets	87	77	7	21		26	27	5	78	7	10

UHF-VHF boosters-repeaters:											
New stations	1			1							
Major changes											
Subtotal	1			1							
Assignments and transfers											
Renewals											
Licenses											
All others											
Total dockets	1			1							
Other broadcast services	18	3	4	1					16		
Total broadcast dockets	294	266	26	61	21	92	55	23	282	62	89
Other than broadcast dockets:											
Field engineering	1	4		2					3	3	3
Safety and special radio services [2]	101	232	14	229				2	88	7	11
Common carrier services	76	29	8	10	7	25	2	4	49	6	11
Joint and general matters	36	23	16	4		4			35		
Total other than broadcast dockets	214	288	38	245	7	29	2	6	175	16	25
Petitions, cease and desist orders, rules, etc	50	37	29	7			3	3	45	1	3
Total Dockets	558	591	93	313	28	121	60	32	502	79	117

[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 station and radio operator authorizations, collectively, totaled nearly 4½ million as of June 30, 1965. Comparative figures for fiscal 1964 and 1965 follow:

Class	June 30, 1964	June 30, 1965	Increase
Broadcast services	17,231	18,544	1,313
Safety and special radio services	1,418,526	1,456,911	38,085
Common carrier services	8,343	10,015	1,672
Experimental	698	747	49
Commercial radio operators	2,613,875	2,711,837	97,962
Amateur radio operators	256,237	258,881	2,644
Total	4,315,210	4,456,935	141,725

The radio station authorizations represent the use of about 5.3 million fixed, mobile and portable transmitters.

APPLICATIONS

The number of applications for service groups other than broadcast decreased in fiscal 1965. The 777,153 total was 183,972 less than the year previous. Comparative figures were:

Class	1964	1965	Increase or (decrease)
Broadcast services	15,727	16,812	1,085
Safety and special radio services [1]	582,511	494,723	(87,788)
Common carrier services	9,667	10,654	987
Experimental	1,559	1,520	(39)
Commercial radio operators	351,661	253,444	(98,217)
Total	961,125	777,153	(183,972)

[1] Applications for amateur radio operators are included in the amateur service total.

Reduction in the application total is attributed to such factors as the application fee charge, tightened curbs on Citizens radio and some other users and changes in the rules governing operator grade requirements. However, there were increases in applications for radiotelephone operator licenses and restricted operator permits.

RULES ON EX PARTE COMMUNICATION

On July 7, 1965, the Commission adopted rules governing ex parte communication in adjudicatory and rule making proceedings designated for hearing which are required by statute to be decided on the record (docket 15381). The rules spell out restrictions upon communication with members of the Commission, their personal staffs

and other "decision-making Commission personnel." In proceedings which have been designated for hearing, all oral ex parte presentations are prohibited, and "interested persons" and non-decision-making Commission personnel are prohibited from making written ex parte presentations. These rules, among other things, implement section 409(c)(1) of the Communications Act.

TECHNICAL ASSISTANCE TO FOREIGN EXPERTS

During the year, the Commission arranged training for 62 participants from 22 foreign countries as its contribution to the U.S. technical assistance program. Twenty-two visitors from six additional countries were received in Commission offices and given technical assistance while another 18 participants from 11 countries were addressed by Commission personnel.

This program is a joint effort of the Department of State, the Agency for International Development and the International Telecommunication Union. With the cooperation of operating companies, equipment manufacturers, institutions for technical training, and Federal, State, and local government agencies, it affords an opportunity for foreign key communications personnel to study and observe telecommunication systems in the United States.

The FCC monitoring station at Laurel, Md., provides on-the-job training in radio frequency monitoring and direction finding to those foreign visitors interested in that particular communication activity.

CORRESPONDENCE

More than 4.7 million pieces of mail were handled by the Commission's Washington office (exclusive of its Field Engineering Bureau) during the course of the year. Of this total, over 3 million was incoming and over 1.7 million outgoing. The mail volume in fiscal 1964 amounted to over 4.6 million pieces.

RELEASES AND PUBLICATIONS

The Commission does not maintain mailing lists for its public notices and formal documents. However, the text of its major decisions appear in weekly pamphlets which can be subscribed to at the Government Printing Office. On July 9, 1965, the Commission announced that, beginning with fiscal 1966, these weekly pamphlets would contain "all decisions, reports, memorandum opinions, orders, statements of policy, public notices, and all other official utterances and acts which are or may be of precedential value or public interest, together with the separate, concurring or dissenting statements." In addition, the Com-

mission plans to publish material issued in prior years, not previously published, which has continuing interest or significance in relation to its work.

The Government Printing Office also sells, on a subscription basis, copies of FCC rules and regulations; also sells annual and other reports, the Communications Act and amendments, etc. A list will be furnished by the Commission on request. In addition, all Commission hearing orders and rule making (both as proposed and as adopted) are given official promulgation in the Federal Register which can also be subscribed to at the Government Printing Office.

Total paper usage by the Commission in fiscal 1965, for all purposes, amounted to 27.9 million sheets, requiring 36,345,000 offset page prints. This is an increase of 1.8 million sheets and 3.1 million prints over the previous year.

Law and Enforcement

LEGISLATION

Legislative Activity

No legislation amending the Communications Act was enacted during fiscal year 1965.

The Commission's recommendation to the President in his consideration of a bill to repeal excise taxes on various items was substantially incorporated in Public Law 89-44, which was signed on June 21, 1965. This law repealed the following provisions of the Internal Revenue Code of 1954:

Subchapter C of chapter 32, part I, relating to the manufacturer's excise tax on radio and TV sets, and their components, effective as of June 22, 1965.

Subchapter B of chapter 33, relating to the user's tax on communications, effective as to the telegraph tax and 7 percent of the 10 percent excise tax on local and long-distance telephone service, including teletypewriter service, on January 1, 1966, and phased reductions of 1 percent each year thereafter until complete elimination by January 1, 1969.

FCC Legislative Program

Commission proposals to amend the Communications Act introduced in the 89th Congress and pending at the end of the fiscal year were:

An amendment to section 4 to remove inequities imposed by conflict-of-interest provisions thereof on Commissioners and employees, and to exempt therefrom members of the Commission's Executive Reserve and "Special Government Employees" (S. 1948, H.R. 7790).

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. 1284, H.R. 5867).

An amendment to section 204 to 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 to place the burden of proof on the carrier to justify all new or revised tariff schedules (S. 2141, H.R. 8777).

An amendment to sections 214(b) and 222(c)(1) to substitute the Secretary of Defence (rather than the Secretaries of the Army and Navy) as the person entitled to notice of the filing of certain common carrier applications (S. 1554, H.R. 6482).

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 (S. 903).

An amendment to conform the Communications Act to the Convention on Safety of Life at Sea, London, 1960 (S. 1949, H.R. 7954). Signed Aug. 13, 1965.

To add a new section 302 to give the Commission authority to prescribe regulations pertaining to the manufacture, import, sale and interestate shipment of devices which cause harmful interference to radio reception (S. 1015, H.R. 5864).

A Commission legislative proposal awaiting clearance by the Bureau of the Budget at the end of the fiscal year was:

To add a new section 223 to give the Commission regulatory authority over the charges and other terms and conditions in arrangements between communications common carriers for the interchange of their facilities or the furnishing of facilities or service by one communications common carrier to another.

Other Bills Affecting the FCC

During those parts of the 2d session of the 88th Congress and the 1st session of the 89th Congress covered by fiscal 1965, 133 other bills were introduced which affected the Commission's functions directly or indirectly. Requests for comments were received on 62 of these bills.

Congressional Hearings

During fiscal 1965 the Commission appeared and testified before congressional committees on such matters as:

Independent Offices Appropriation bills.

Review of FCC activities in major areas of current interest.

Electronic eavesdropping.

Limiting height of antenna towers (H.J. Res. 261).

Safety of Life at Sea (H.R. 7954).

Community antenna television (H.R. 7715).

Six bills on the FCC legislative program (S. 903, S. 1015, S. 1284, S. 1554, S. 1948, and S. 1949).

Establishing a Federal Boxing Commission (H.R. 8635, H.R. 8676, H.R. 9140, H.R. 9196, and H.R. 9426).

LITIGATION

Decisions of Special Significance

The following decisions, in the U.S. Supreme Court and the Court of Appeals for the District of Columbia Circuit, are noteworthy. In addition to involving important principles of law, the cases affect subject matter of particular interest to Congress and to the general public.

Federal Communications Commission v. *Taft B. Schreiber and MCA, Inc.*, 33 U.S.L. Week 4492, —— U.S. ——. In the Commission's annual reports to Congress, the history of this case through the U.S. Court of Appeals for the Ninth Circuit was recounted. That court affirmed a decision of the U.S. District Court for the Southern District of California refusing to enforce a subpoena issued by the Commission in connection with the Commission's network TV programming investigation. The subpoena, *inter alia*, had called for public disclosure of all network television programs from the broadcast of which Music Corporation of America received compensation. It was resisted on the ground that the material requested constituted trade secrets.

The Supreme Court upheld the Commission's rule requiring public disclosure except where the proponents of a request for confidential treatment have demonstrated that the public interest, the proper dispatch of business, or the ends of justice require nonpublic sessions. The court held that it is for the Commission, and not the courts, to decide whether material subpoenaed in an investigation is to be kept confidential, and that if the Commission's judgment is reasonable it cannot be supplanted. The court found that the Commission did not abuse its discretion in applying the rule in this case. Accordingly, it remanded the proceeding to the District Court with directions to enforce the Commission's orders and subpoena without qualification.

Aeronautical Radio, Inc. v. *United States and Federal Communications Commission*, 335 F. 2d 304 (C.A. 7, 1964), *cert. den.* 379 U.S. 966. During 1964, the Commission began charging fees for application filings in connection with most of its licensing activities. The petitioners charged that title V of the Independent Offices Appropriation Act of 1952, 5 U.S.C. 140, represented an unconstitutional grant of legislative power and that the fee schedule adopted by the Commission was arbitrary.

The Court of Appeals rejected both of these assertions. It held that the statute contained a valid delegation of authority, since the Congressional objective was plain, the method of achievement was prescribed and the guiding standards were adequate. Reviewing the fee schedule in light of the record before the Commission, the court found that the Commission had taken into account the standards prescribed by the statute and that the fee schedule adopted was a reasonable one. The Supreme Court denied certiorari.

Wilson & Co. v. *United States and Federal Communications Commission*, 335 F. 2d 788 (C.A. 7, 1964), *cert. den.* on the merits 380 U.S. 951,

cert. granted on the questions of restitution, 380 U.S. 950. This appeal was brought from the decision in the so-called "private line case," an investigation begun in 1955 into rates being charged for private line communications services. The final order of the Commission resulted in an aggregate decrease in A.T. & T.'s rates for private line telephone service and an aggregate increase in rates for private line telegraph service furnished by A.T. & T. and Western Union. The decision was challenged on both procedural and substantive grounds.

Procedurally, the court's decision held that the notice of the proceeding published in the Federal Register was as specific as the Commission could have made it at the time, and adequately served to inform interested parties of the nature of the proceeding as required by the Administrative Procedure Act, even though it did not specify every aspect of the final decision. The court also sustained participation in the decision-making process by members of the Commission's Common Carrier Bureau who were counsel of record in the hearing, on the ground that such participation is proper in rule making and that it does not deprive the parties of due process.

On the merits, the court held that the Commission gave appropriate weight to the various factors entering into a determination of a fair rate of return. It rejected the contention that apportionment of the carrier's costs as found by the Commission was not supported by the evidence, and affirmed the Commission's determination that the cost of providing service should primarily control rates. The Court of Appeals, however, refused to include in its final decree a provision for restitution to those adversely affected by an interlocutory injunction which had stayed the effect of the Commission's order pending the appeal. The Supreme Court granted the Government's petition for certiorari on this issue on March 29, 1965.

American Broadcasting-Paramount Theatres, Inc., v. *Federal Communications Commission*, —— F. 2d ——, (C.A.D.C., 1965). This case has been before the Commission in various aspects for many years. Radio station KOB, Albuquerque, N. Mex., was originally assigned to operate nondirectionally on the frequency 770 kilocycles on a temporary basis in 1941, after the North American Regional Broadcasting Agreement, 55 Stat. 1005, made it impossible for KOB to continue to use its then assigned frequency at 1180 kilocycles. In 1951, the court ordered a hearing on this status on the complaint of WABC, the clear channel station on 770 kilocycles in New York City, and directed the institution of further proceedings looking toward permanent resolution of the problem. *American Broadcasting Co.* v. *Federal Communications Commission*, 191 F. 2d 492.

In 1958, the Commission adopted a decision amending its rules to permit class I–B operation by both KOB and WABC on 770 kilocycles, each to operate with directional antennas so as to protect the other from interference at night. This would increase primary service in the under-served Southwest. ABC appealed from that decision, claiming that the Commission had erred in considering only two channels as possible frequencies for KOB, and that KOB should be accommodated on some frequency other than 770 kilocycles to avoid an adverse effect on ABC's competitive position vis-a-vis other networks. The court affirmed

the Commission's decision. *American Broadcasting Co.* v. *Federal Communications Commission,* 280 F. 2d 631. Its opinion stated, however, that in a proper proceeding brought before the Commission by ABC, or *sua sponte,* the Commission should seek to afford the ABC network channel facilities on a fair basis with the other networks.

In 1961, in a proceeding involving, *inter alia,* WABC's application for renewal of license, the Commission reopened the previous proceeding and invited ABC to submit additional evidence with respect to its network position. At the conclusion of this proceeding in 1963, the Commission held that ABC had not demonstrated that the curtailment of WABC's service area would substantially prejudice ABC's competitive position as a network with resultant public injury. WABC was directed to file an application consistent with the conditions of operation specified in 1958.

The court held, however, that the Commission could not require a directionalized operation by ABC without "compelling public interest reasons". Terming irrelevant a Commission finding that this mode of operation would not adversely affect ABC's network operation, the court's opinion stated that absent such compelling reasons, ABC must be allowed to operate on an equal basis with the New York stations of the Columbia Broadcasting System, Inc., and the National Broadcasting Co., which operate nondirectionally and need not protect any other stations on their frequency.

The Commission has filed a conditional petition for certiorari, pending a request for clarification of the mandate of the Court of Appeals in connection with further proceedings proposed by the Commission to examine the current state of radio service in the Southwest and the impact of the denial to ABC of comparable facilities with the other networks in New York City.

Lafayette Radio Electronics Corp. v. *The United States of America and the Federal Communications Commission,* 345 F. 2d 278 (C.A. 2, 1965). Lafayette Radio Electronics Corp. sought review of a Commission regulation which prohibits the use of Citizens Radio Service stations as a hobby or diversion. The rule was adopted after a proceeding in which hundreds of licensees and interested members of the public submitted comments. The rule was challenged as violating the first amendment to the Constitution, and section 326 of the Communications Act, 47 U.S.C. 326, which precludes the Commission from censoring radio communications.

The court denied Lafayette's petition for review, indicating that section 326 of the act must be read together with section 303, 47 U.S.C. 303, which authorizes the Commission to classify radio stations and to prescribe the nature of each station within any class. The court pointed out that the absence of restrictions on the number of users in the Citizens Radio Service demands restrictions on use of the frequencies, and upheld the Commission's power to prohibit communications which serve no purpose other than as a hobby. The court also found no merit in Lafayette's argument that the Commission's rule was void due to vagueness. The court held that the rule was not invalid simply because borderline cases could be imagined where a conscientious licensee might have fair doubt whether his communications are banned or not. The

court pointed out that such doubts could be clarified through inquiry and that except for the most flagrant cases, the Commission invokes sanctions only after a warning and an opportunity to correct violations.

(A petition for review raising similar issues has also been filed in the Ninth Circuit. *California Citizens Band Association, Incorporated* v. *United States of America and Federal Communications Commission,* Case No. 20030.)

Statistics

During the fiscal year, the Commission was a party to 91 cases in the Federal courts. Sixty-seven new appeals were instituted during that period—8 on petition for writ of certiorari in the Supreme Court; 53 in the Court of Appeals for the District of Columbia Circuit; 3 in the Court of Appeals for the Ninth Circuit; 1 in the Court of Appeals for the Eighth Circuit; and 1 in the Court of Appeals for the Second Circuit. Additionally, the Commission filed a memorandum as *amicus curiae* in the United States Court for the Southern District of California, Central Division.

At the beginning of fiscal 1965, 24 cases were pending in the Federal courts. One of these cases was in the Supreme Court; 20 were in the Court of Appeals for the District of Columbia Circuit; 2 were in the Court of Appeals for the Seventh Circuit; and 1 was in the United States District Court for the Northern District of Ohio.

At the fiscal 1965 yearend, 28 cases were pending in the Court of Appeals for the District of Columbia Circuit; 2 in the Court of Appeals for the Ninth Circuit; and 1 in the Court of Appeals for the Eighth Circuit. One petition for certiorari was before the Supreme Court.

Five of the eight petitions for certiorari filed by private litigants during the fiscal year were denied by the Supreme Court. Two petitions for certiorari, filed by the Commission, resulted in writs being granted, one of which achieved a remand to the District Court for the Southern District of California in accordance with the position urged by the Commission.

In the courts of appeals, of the 53 new appeals filed, the Commission was affirmed in 10 cases; 4 cases were remanded, and 13 were dismissed.

The following is set forth in regard to the previously noted 24 cases pending at the start of fiscal 1965: The petition for certiorari pending in the Supreme Court was denied. Of the 20 cases in the Court of Appeals for the District of Columbia Circuit, the Commission was affirmed in 4 cases, 4 were remanded, 7 dismissed and 5 remain pending. Of the 2 cases in the Court of Appeals for the Second Circuit, 1 petition to set aside an order of the Commission was denied and, in the

other case, the Commission was affirmed. The pending case in the District Court for the Northern District of Ohio was dismissed.

The following is a tabulation of cases decided and pending in the courts for the fiscal year 1965:

	Supreme Court	Court of Appeals for the District of Columbia Circuit			Other courts of appeals	District courts	Total
		402(a)	402(b)	402 (a) [1] and (b)			
Total	9	11	60	2	7	2	91
Decisions affirming the Commission	1	2	14		3		20
Decisions remanding cases to the Commission		1	8				9
Cases dismissed on jurisdictional grounds, by agreement, or remanded without decision		1	17	2	1	1	22
Denial of certiorari	6						6
Cases pending June 30, 1965 [2]	2	7	21		3	1	34

[1] Cases under "402 (a) and (b)" were cases where the same party sought review of the same Commission order under secs. 402(a) and 402(b) of the statute.

[2] Cases which have been adjudicated on the merits, but in which 1 of the parties has sought a rehearing, have not been included in this category.

ENFORCEMENT

An important precedent in defining sponsorship identification requirements not only for political programs but for all other announcements required by section 317 of the Communications Act should grow out of the Commission's decision of July 1, 1964, to impose a $1,000 forfeiture on a TV station in Louisville, Ky., for willful failure to identify the true sponsor of a program designed to support one of the candidates for Governor of Kentucky. The licensee declined to pay the forfeiture and the case was referred to the Department of Justice for collection. Four other cases involving a sponsorship identification requirement and also the construction of the words "willfully or repeatedly" as used by Congress in section 503 of the Communications Act are awaiting trial in the U.S. District Court for the District of Minnesota.

During fiscal 1965, seven civil forfeiture cases (an increase of four over the previous year) and eight criminal cases were referred to the Department of Justice. In addition, three civil suits are pending in Federal district courts to enjoin violations of the Communications Act.

In April of 1965, the U.S. Court of Appeals for the District of Columbia unheld the convictions in May 1964 of two of the three private detectives for operating an unlicensed radio transmitter known as a "bug" or eavesdropping device at the Mayflower Hotel in Washington, D.C. The conviction of the third detective was reversed on the grounds that immunity offered to him by the Government mooted his conviction.

National Defense

GENERAL

The Communications Act of 1934 creating the Federal Communications Commission has "the purpose of the national defense" as one of its major objectives and gives the President important wartime powers over telecommunications.

The Commission's participation in national defense activities increased substantially during the year. It is 1 of some 30 agencies made responsible for civil emergency preparedness in their respective program areas by a series of Executive orders.

Executive Order 11092, issued February 26, 1963, directed the Federal Communications Commission, subject to the policy guidance of the Director of the Office of Emergency Planning, to:

> prepare national emergency plans and develop preparedness programs covering provisions of service by common carriers, broadcasting facilities; and the safety and special radio services; assignment of radio frequencies to Commission licensees; and the protection, reduction of vulnerability, maintenance, and restoration of facilities operated by its licensees in an emergency. These plans and programs shall be designed to develop a state of readiness in these 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 with common carriers or of exclusive Government use or control of communications services or facilities, when authorized by law.

In coordinating broadcast, common carrier and other of its licensed communication services to the defense effort, the Commission is assigned specific functions. These include controlling electromagnetic radiation of radio stations, furnishing advice and guidance for protecting essential communication facilities, providing resource data, making damage assessments, stimulating plans for conservation and salvage of communications equipment, restoring service after attack, establishing priority systems for emergency communications, and fostering or conducting research in the emergency matters for which it is responsible.

In being given the initiative for the development of such plans and programs, the Commission maintains close cooperation with the industries and the Federal agencies concerned, including the Department of Defense in connection with the latter's civil defense program.

The Commission's preparedness activities are directed by Defense Commissioner Bartley, with Commissioners Loevinger and Henry as Alternate Defense Commissioners.

EMERGENCY BROADCAST SYSTEM

The first, and perhaps most important, emergency communications plan to be developed is the Emergency Broadcast System (EBS). Following adoption by the Commission last year, a series of meetings was held to indoctrinate its Industry Advisory Committees at the State and regional level. There followed a great deal of work on the part of the broadcasters in each State leading to development of recommended EBS (AM and FM) plans. Plans were submitted for each of the 50 States and the District of Columbia, Puerto Rico, and the Virgin Islands. They were coordinated with the Canadian Department of Transport in a 2-day meeting in Washington in March 1965. Similar coordination with Mexico is in prospect.

Late this year, the Broadcast Services Subcommittee of the National Industry Advisory Committee (NIAC) reviewed these plans and recommended to NIAC that they be concurred in as interim plans. After concurrences by the Office of Emergency Planning and the Department of the Army (Office of Civil Defense), these plans will be presented to the Commission for adoption and placed into interim effect pending further review and recommended revisions to include additional volunteer stations.

The Emergency Broadcast System is based upon both White House and Office of Civil Defense requirements and was devised to provide the President and other Federal officials, as well as State and local authorities, with a means of speedily reaching the general public through broadcast stations in the emergency network preceding, during and following an enemy attack or other national emergency.

The President requires a 5-minute capability, regardless of his whereabouts, to address the Nation following an Emergency Action Notification. Prepositioned orders will permit him to feed the national networks from any 1 of 63 points throughout the United States. FM and TV (aural only) stations are designated to provide a backup program circuit for all types of emergency information.

A special NIAC working group is engaged in a study looking toward recommendation of a new set of transmission standards for AM, FM, and TV stations to produce an alerting signal replacing the present

carrier-break signal. This system, when perfected, will turn on muted broadcast receivers to permit the reception of emergency information from appropriate officials.

The U.S. Weather Bureau cooperates in the use of the EBS facilities to broadcast warnings of serious storm threats to life and property. A special NIAC working group has been appointed to study the possibility of extending this arrangement on a voluntary basis to other disasters such as floods, fires or local emergencies.

At year's end, 1,677 AM, 490 FM and 194 TV broadcast stations had been issued National Defense Emergency Authorizations for participation in the EBS.

FALLOUT PROTECTION FOR AM AND FM STATIONS

By the close of the fiscal year, 238 broadcast stations holding National Defense Emergency Authorizations had been provided with fallout shelters under the civil defense program. An additional 225 stations are expected to be so equipped in the new year; and the ultimate goal is 658.

Initiated in fiscal 1962, the project is now known as the Broadcast Station Protection program and is financed by the Office of Civil Defense, Department of the Army. In addition to furnishing shelters protected from nuclear fallout, the program includes emergency power generating and other equipment.

The equipment after installation is transferred to the FCC, which in turn assigns the equipment to the station under an equipment loan agreement between the licensee and the FCC.

Participating stations are selected by the Office of Civil Defense on the basis of their relation to the Emergency Broadcast System.

COMMON CARRIER PRIORITIES

Last year the Commission assumed custody of all certifications under the present Priority System for the Resumption of Intercity Private Line Service. This file is being maintained currently pending final decision in this broad area.

During the current year there was continued activity by two NIAC subcommittees to develop a new Priority System for the Resumption of Intercity Private Line Service and a Precedence System for Telephone and TWX Messages, which must necessarily be compatible with the Priority System of the National Communication System (NCS) approved by the President. This effort has the benefit of informal coordination with related Federal agencies.

RESOURCE DATA

Under the policy guidance of the Office of Emergency Planning (OEP), the Commission continued to update data on AM, FM, and TV stations maintained by its National Resources Evaluation Center (NREC). As an extension of this activity, the staff of the OEP spearheaded a project to identify needs of all Federal agencies for resource data on communication common carrier facilities and to develop a uniform, common format designed to provide better utilization and exchange of these data from a central repository at the NREC. This will greatly reduce the multiple demands on industry to supply this information.

SAFETY AND SPECIAL RADIO SERVICES

FCC staff has participated with NORAD, DOD, and FAA in reviewing a draft SCATANA plan and the SARDA plan developed by FAA for emergency use at the State level.

The appropriate subcommittees of NIAC are engaged in developing draft plans for emergency communication systems for use by or for licensees in the following radio services in an emergency: Amateur, Aviation, Citizens, Industrial (petroleum, natural gas, electric power, and manufacturing), Land Transportation, and Public Safety.

FCC INDUSTRY ADVISORY COMMITTEES

The National Industry Advisory Committee (NIAC) was created by the Commission under the provisions of Executive Order 11007, to advise and assist in its defense communication planning. On June 17, 1964, the Commission, pursuant to requirements of Executive Order 11007, determined that the continued functioning of FCC National, Regional and State Industry Advisory Committees is necessary in discharging its national defense obligations. In addition to the national committee, 8 regional, 50 State, and 3 insular committees are now operating. Subject to concurrence of the FCC and other Federal agencies concerned, various NIAC units study and make recommendations concerning the Emergency Broadcast System and backup circuits and communications systems and arrangements for emergency use.

Regional Industry Advisory Committees (RIAC), one in each of the eight OEP/OCD regions, are composed of representatives of State Industry Advisory Committees (SIAC). State Industry Advisory Committees act as liaison between civil defense officials and FCC licensees in their respective States. Also, subcommittees of the State groups perform the same service locally.

OTHER EMERGENCY PLANNING COOPERATION

The Commission participates in various phases of national emergency planning with five Federal interagency groups—the Interagency Civil Defense Committee of the Office of Civil Defense, the Interagency Emergency Planning Committee of the Office of Emergency Planning, the Federal Agency Representatives at the Office of Emergency Planning's National Government Relocation Site, the Interagency Committee of the National Defense Executive Reserve, and the National Resources Evaluation Center. The FCC Defense Commissioner is the Commission's Defense Coordinator; the Executive Director is his alternate.

The draft example State Plan for Telecommunications prepared by the Office of Emergency Planning was reviewed by the FCC staff and was promulgated by OEP at year's end. It is limited to common carrier facilities, leaving to State Industry Advisory Committees the administration of approved plans for emergency communications system by and for other FCC-licensed facilities.

NATIONAL DEFENSE EXECUTIVE RESERVE

Executive Order 10660, February 15, 1956, provided for the establishment of the National Defense Executive Reserve program in the executive branch of the Government. The purpose of the program is to provide supplementary executive manpower to assist in the execution of essential Government functions in an emergency.

The FCC unit of the Executive Reserve is presently comprised of nearly 20 members who are experts in various branches of the telecommunications industry and are geographically dispersed throughout the country. Certain of the reservists are designated as the Chairmen of the Regional Industry Advisory Committees and participate in the development of emergency preparedness plans and programs for recommendation to the National Industry Advisory Committee.

Executive Order 11179, issued September 22, 1964, limits membership in the National Defense Executive Reserve to a term not to exceed 3 years and further provides for prospective and redesignated members of the reserve to be approved by the Director, OEP. The issuance of the order, together with other related factors, has caused the FCC to commence an evaluation of its entire Executive Reserve program with the objectives of determining the extent of the FCC need for reservists and defining their specific duties.

FCC MOBILIZATION PLANNING OFFICER

The FCC Mobilization Planning Officer was established during the year in a reorganization and realinement of existing responsibilities in the Office of Emergency Communications. The FCC Mobilization Planning Officer has responsibility, pursuant to Executive Order 10346, as amended, for the preparation of plans, for recommendation to the Defense Commissioner, for the maintenance of the Commission's essential functions at the seat of Government, and elsewhere, during a national emergency.

One of the initial tasks undertaken, pursuant to such responsibility, has been the development of a statement of essential functions and personnel requirements for one of the larger organizational elements of the FCC. These are stated in accordance with the national planning assumptions of international crisis, limited war, and general war.

The FCC Essential Records program was maintained during the year. Bureaus and offices of the Commission review, add to, and revise such records periodically as required.

FCC emergency personnel have been given instructions as to automatic readiness actions required to be taken upon receipt of alert warning. The cascade telephone calling system for disseminating alert warning information both day and night was maintained current.

The Defense Coordinator and Alternate Defense Coordinator participated during the year in the deliberations of the OCD Interagency Civil Defense Coordinating Committee and the OEP Interagency Emergency Planning Committee.

International Cooperation

INTRODUCTION

Observance of 1965 as "International Cooperation Year," coincident with the 20th anniversary of the United Nations, focuses attention to international teamwork in knitting the globe more firmly with speedy and efficient electronic communication. It brings governments, businesses, and individuals throughout the world in closer contact which, in turn, contributes to better mutual understanding.

International cooperation in the telecommunication field has been fostered primarily through the effective functioning of the International Telecommunication Union (ITU), a specialized agency of the UN. It is noteworthy that the ITU, which is considered the world's oldest continuously functioning international organization, is celebrating its centennial this year.

In consultation with the Department of State, the Federal Communications Commission works closely with the ITU and other world and regional groups in telecommunication matters of common concern.

International telephone and telegraph services have undergone vast improvement and expansion in the past two decades and now employ the most modern ocean cable and radio facilities, and there is joint participation to establish a regular system of satellite relay for all forms of radio communication, including television and other broadcast.

Since there is only one radio spectrum, it must be shared by all nations. Hence, international agreements are necessary on the allocation of frequencies for a multitude of recognized radio services, as well as uniform operating practices thereon.

Bands allocated for public radiotelephone and radiotelegraph services have to be used by such stations of all nations, and the marine and aviation bands must likewise be shared, and so must the broadcast bands. A French plane over New York City, for example, must be able to communicate with the local airport on the same frequency that

an American plane over Paris contacts the airport there. By the same token, ships the world over communicate on frequencies common to marine use.

The international aspects of radio have developed to such an extent that almost no major frequency allocation can be made anywhere without considering its worldwide usage. In consequence, the primary allocation of frequency bands is now determined by international treaty, and assignment of individual channels within those bands to designated services is made by the member nations accordingly. This now applies to frequencies for new developments such as satellite relay and astronomy observation.

Even the letters of the alphabet and numbers must be shared by nations to distinguish the call signs of stations in different countries. These calls have a triple purpose. They identify the nationality of the station, the type of station and the individual station. They are, in effect, the "license plates" for communication traffic on the radio highways. Under international agreement, the alphabet has since 1927 been apportioned among the nations for basic call sign use.

In addition, and for a more obvious reason, there is world agreement on the use of special calls for ships and aircraft to send when in distress. The familiar letters "SOS" have been used for that purpose by marine radiotelegraphy since 1906. The spoken word "Mayday" has been employed to summon aid for both ships and aircraft using radiotelephony since 1927.

Although the allocation of frequency bands for stated purposes furthers the orderly use of the radio spectrum by nations generally, it is also necessary to employ other jointly agreed-to means to curb harmful interference to radio operations throughout the world. In general, this is accomplished by international procedures for the notification of frequency assignments by the different nations and for resolving cases of interference and other infractions when they occur. Additionally, there is continuing cooperation to promote better technical standards and more efficient use of the now crowded spectrum.

INTERNATIONAL CONFERENCES

Under the auspices of the Department of State, the Federal Communications Commission engages in preparatory work for and helps represent the United States at many international telecommunications conferences each year. These range from general sessions to meetings on specialized subjects. In addition, the Commission is charged with carrying out domestically the provisions of various conventions, treaties and other agreements to which the United States is a party.

The current major international treaty on telecommunication matters is the ITU Convention and annexed Radio Regulations. Others to which the United States is a party pertain to particular radio services, such as broadcast, marine, aviation, etc. Some of these are regional in scope.

Commission participation in ITU activities is reflected in

Plenipotentiary Conferences.
Ordinary Administrative Radio Conferences (OARC),
Extraordinary Administratvie Radio Conferences (EARC),
International Telegraph and Telephone Consultative Committee (CCITT),
International Radio Consultative Committee (CCIR), and
Panels of telecommunications experts to study technical questions.

It likewise participates in the work of other international organizations including:

International Special Committee on Radio Interference (CISPR),
International Civil Aviation Organization (ICAO),
International Scientific Radio Union (URSI), and
International Electrotechnical Commission (IEC).

The Commisison also participates in bilateral and multilateral meetings between the United States and other countries, as, for example, coordination of frequency allocations and station assignments along the Canadian and Mexican borders.

INTERNATIONAL TELEPHONE AND TELEGRAPH

FCC cooperation in international telephone and telegraph common carrier matters is in two major areas: (1) Directly, through attendance at related international conferences and participation in activities concerning such services between the United States and foreign points, and, (2) indirectly, through regulation of telecommunication carriers furnishing these services. Foreign telecommunications relations take on increased importance with expansion of the new ocean cable system and the advent of satellite communication.

In addition, there are numerous exchanges of technical information between Commission engineers and foreign industry and government engineers. These informal exchanges, by correspondence or conferences, tend to create a common understanding of technical problems and to provide mutual assistance in solving them by use of the most advanced technology available, regardless of its country of origin.

Before any company may lay a submarine cable touching the United States, or establish a radio or cable circuit between the United States and any foreign point, it must obtain FCC authority. Necessarily,

arrangements are made between the United States carrier and the foreign entity involved prior to making application to the Commission. FCC authority does not end with a grant of an application; all activities undertaken thereunder concerning rates and practices are also subject to its jurisdiction. These include contracts by the carrier with its foreign correspondents for the mutual handling of traffic, the rates charged the domestic public, the filing of tariffs, and the division of tolls between the participating carriers.

SATELLITE COMMUNICATION

The Communications Satellite Act of 1962 stressed the necessity for international cooperation in establishing satellite communication to additionally link peoples throughout the world. It states:

> . . . it is the policy of the United States to establish, in conjunction and in cooperation with other countries, as expeditiously as practicable a commercial communications satellite system, as part of an improved global communications network, which will be responsive to public needs and national objectives, which will serve the communication needs of the United Stats and other countries, and which will contribute to world peace and understanding . . . In effectuating this program, care and attention will be directed toward providing such services to economically less developed countries and areas as well as those more highly developed . . .

The entity chosen to achieve these aims is the Communications Satellite Corporation (ComSat), which is "subject to appropriate governmental regulation." The FCC is given certain powers and duties in this connection, including approval of the technical characteristics of the system and the rates to be charged by ComSat. It also cooperates with other Federal agencies, ComSat and industry to effectuate arrangements with foreign participants necessary to implement the act's policy and purpose.

The Commission was represented on the United States delegation to the Extraordinary Administrative Radio Conference held by the ITU at Geneva in 1963 which allocated frequencies for commercial satellite and other space communication services in anticipation of such needs up to about 1975.

During 1963–64, FCC representatives participated in various international discussions looking to the establishment of a global commercial communications satellite system. Preliminary meetings were held in London, Rome and other cities to arrange for foreign participation. A conference at Washington in 1964 concluded two separate agreements. The first agreement, signed by the participating governments, establishes interim arrangements for joint ownership and operation of

the space segment of the global commercial satellite system. The second agreement, signed by designated communications entities of the participating countries, provides the working procedures for cooperatively operating the system.

INTERNATIONAL MARINE RADIO

Non-Government radio stations employed for marine safety and navigation purposes under U.S. jurisdiction are, in general, required to be licensed by the Commission. This includes transmitters on vessels in international as well as domestic service.

The Safety of Life at Sea Convention requires radio installations on all passenger ships and cargo vessels of 300 gross tons or over engaged in international voyages. Pursuant to that convention, the Commission, on request, inspects radio stations on foreign ships signatory to that convention when they call at ports in this country. Title III, part II of the Communications Act also makes FCC inspection applicable to visiting foreign ships of countries not signatory to the convention.

The Communications Act extends the inspection requirement to United States ships navigated in the open sea, also to yachts of 600 gross tons and upwards, and fishing and sailing craft. At least one inspection is required each year of a U.S. ship radio station.

Since 1954, an agreement with Canada applies to most ships of 500 gross tons or over and to passenger vessels over 65 feet in length while they are being navigated on the Great Lakes.

INTERNATIONAL AERONAUTICAL RADIO

Commission regulation of non-Government use of radio for aeronautical communication, navigational and other related operations also has international aspects.

The Commission participates in ITU and ICAO meetings on global aeronautical frequency and operational needs, and assists the Interagency Group on International Aviation (IGIA) in coordinating international aviation matters affecting the United States for the various Federal agencies concerned.

The Commission licenses radio equipment and operators on U.S. aircraft including those engaged on international flights. Aircraft of member nations of the ICAO may, while flying in or over the United States, carry radio transmitting apparatus authorized by the country in which the aircraft is registered, and be operated by members of flight crews licensed by their home governments.

INTERNATIONAL AMATEUR RADIO COMMUNICATION

The international radio regulations permit radio amateurs throughout the world to communicate with one another except in the case of four countries which object to such participation. In addition, arrangements with a score of nations enable amateurs to transmit international messages (without compensation) on behalf of third parties, such as contact between relatives and servicemen overseas, etc.

INTERNATIONAL BROADCAST

Three private international broadcast stations are licensed by the Commission to serve particular foreign areas. Facilities used by the "Voice of America" to broadcast to different parts of the world are not under FCC jurisdiction, being operated by the U.S. Information Agency. Radio receivers in the United States do not require a license and there is no restriction on the use of short-wave sets to pick up any foreign broadcast.

SEARCH AND RESCUE ASSISTANCE

The Commission's monitoring and direction-finding network patrols the radio spectrum to detect technical violations and unauthorized operations, and identifies the nonconforming transmissions or determines the geographic location of sources of unidentified signals.

Its monitoring system additionally aids planes and ships in distress by taking bearings on their transmissions to furnish "fixes" that enable instructions to be furnished or, when necessary, speed search and rescue missions. This emergency assistance extends to foreign craft, often far distant from our shores.

SPECIAL MONITORING PROGRAMS

The ITU, through the IFRB, requests administrations to participate in special monitoring programs to identify operations in specific bands which may be detrimental to use of the bands in question, or to provide the IFRB with data pertinent to the use of such bands.

Reports made by the Commission in this connection have dealt with out-of-band operations in the distress and calling band 2170–2194 kc which might endanger safety of life at sea and in the air, and usage of the high-frequency broadcast and aeronautical mobile bands.

In addition, the FCC provides special monitoring service directly to individual nations on request.

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INTERNATIONAL INFRINGEMENT REPORTS

Pursuant to the provisions of the international radio regulations, the Commission furnishes other countries with infringement reports which indicate that the emissions or operations of radio stations under their jurisdiction are not in accordance with the international radio technical and operational provisions. These reports are furnished to various foreign administrations to assist them in improving techniques to enhance use of the radio spectrum.

INTERNATIONAL INTERFERENCE CASES

The Commission also cooperates in handling cases of harmful interference between foreign and domestic stations. In this regard, it performs extensive monitoring to provide pertinent data and makes technical evaluations and recommendations which help resolve such cases.

INTERATIONAL FREQUENCY USAGE DATA

Commission monitoring observations submitted annually to the IFRB constitute about 20 percent of all such data furnished by ITU members participating in this program which concerns occupancy of certain frequency bands. The monitoring observations reflect what actually takes place in the radio spectrum, particularly changes in frequency usage because of seasonal and sunspot propagational conditions. Consequently, the summaries are useful in locating current vacancies in crowded portions of the spectrum which may be used to meet new or augmented requirements.

TECHNICAL ASSISTANCE TO FOREIGNERS

The Commission is an active participant in the technical assistance program element of this country's foreign aid policy. It cooperates with the Department of State, the Agency for International Development and the ITU to develop and implement, in this country, training in telecommunications for foreign administrative and technical personnel. In addition to study offered within the Commission itself, it relies on American industry and educational institutions, and other Federal, State and local government agencies, for fulfillment of this objective.

Beyond this, the Commission assists in the recruitment of American experts for positions abroad in international and other administrations and is called upon frequently to provide staff consultants or advise otherwise on specific projects in other countries.

Because the United States is the world's biggest user of radio, the FCC also furnishes much technical and other information to comparable regulatory agencies in other countries.

RADIO OPERATION BY ALIENS

Though the Communications Act, in general, limits FCC licensing to citizens of the United States, there are several exceptions:

In 1964 Congress enabled the Commission to authorize amateur radio operators of other countries, under reciprocal arrangements, to engage in amateur operation while in the United States. There was already such an agreement with Canada.

A 1958 law allows the Commission to issue radio operator permits to certain alien pilots while flying aircraft in the United States.

By a 1962 statute, the President, under reciprocity agreements, can authorize foreign governments to operate radio stations at their embassies or legations in Washington, D.C., for transmitting their messages to points outside of the United States. The FCC cooperates with other Government agencies regarding the assignment and use of frequencies for this purpose.

Satellite Communication

GENERAL

The fiscal year 1965 was an eventful year in the field of satellite communication. The Commission authorized the Communications Satellite Corporation (ComSat) to begin commercial operation and approved applications from the international communications common carriers for authority to lease channels in the new system. Commercial service was inaugurated June 28, when President Johnson talked with European officials over the facilities of the Early Bird satellite, positioned in synchronous orbit 22,300 miles above the equator in the mid-Atlantic.

This beginning was actually the culmination of a three-phase program. In the first phase the Commission authorized ComSat to construct the satellite and test it from the ground, and to make necessary equipment changes in the earth station at Andover, Maine, which ComSat had leased from the American Telephone & Telegraph Co. The second phase consisted of granting authority to place the satellite in orbit and continue the tests but with foreign earth stations participating. The third phase, or the commencement of commercial operation, was authorized only after the tests indicated that all of the circuits were functioning satisfactorily, the Corporation had filed the necessary tariff, and the international common carriers had requested and received authority to lease channels in the system. The Commission had previously sought and received the advice of the National Aeronautics and Space Administration regarding the technical characteristics of the communications satellite system.

The Commission has also been involved in various activities and functions delegated to it by the Communications Satellite Act of 1962, including promulgation of rules (now subject to petition for reconsideration) concerning interim ownership of ground stations by ComSat; administration of rules relating to the procurement of equipment and services so as to insure effective competition among eligible bidders; and drafting rules for a system of accounts and for developmental

operations. The latter rules, when issued, will delineate eligibility provisions, etc., for persons desiring to develop equipment to be used in the communication-satellite service.

COMMERCIAL COMMUNICATIONS SATELLITE SYSTEM ESTABLISHED

The most significant accomplishment during the year was the inauguration of commercial communications via the Early Bird satellite. This is the name given to an active satellite positioned over the Atlantic Ocean and designed to accommodate 240-voice-grade channels or to provide one television channel and some voice-grade channels.

Early Bird was launched on April 6, 1965, and, after allowing a few days for positioning maneuvers, extensive tests were started between earth stations in the United States, Great Britain, France, Western Germany, and Italy. As soon as the tests indicated that all of the circuits were operating properly, ComSat on May 28, 1965, filed the tariff required by law and applied for a license to begin commercial operation. All of the international communications common carriers filed applications, in accordance with section 214 of the Communications Act, for authority to lease channels from the Corporation.

The Commission granted the applications and authorized the commencement of commercial operation including transmission and reception of voice, record data, telephoto, facsimile and television, to commence Sunday, June 27, 1965. The following day, President Johnson formally inaugurated the world's first commercial telephone service via communications satellite in a conference call with European officials in London, Paris, West Germany, Italy, and Switzerland.

Ten days prior to the beginning of commercial operation there was a break of the cables in the North Atlantic. The Commission granted emergency authorization for 1 week to two international communications common carriers to lease facilities in the satellite to provide commercial service.

COMSAT REVENUES PLACED IN "DEFERRED CREDIT" ACCOUNT

On May 28, 1965, ComSat filed with the Commission its first tariff (FCC No. 1) to apply to an "Early Capability System" which ComSat contemplated would remain in operation until a global communications satellite system was established at the beginning of the year 1968. By the terms of ComSat's tariff, the service offered was between its earth terminal station in Andover, Maine, and a communications satellite but did not cover service from the satellite to European earth terminal stations.

Pursuant to the tariff, ComSat offered to provide two-way voice channels and television to the international carriers. The Commission examined the tariffs and the supporting data supplied by ComSat. The rate charges proposed by ComSat were based on variables such as satellite life time, launch failure, usage of the circuits, rates of return, etc.

On June 22, 1965, at the same time it authorized commercial service over Early Bird, the Commission instituted an investigation of the lawfulness of ComSat's tariffs (docket 16070). Meanwhile, the Commission required that revenues obtained during the early capability period be placed by ComSat in a deferred credit account. This would permit the Commission to examine ComSat's revenue requirements on the basis of experience and to dispose of the accumulated revenues in a manner that will be fair to the customers and stockholders of ComSat and consistent with the public interest.

EARTH STATION OWNERSHIP

On August 13, 1964, ComSat petitioned the Commission to institute a rule making proceeding looking toward a rule which would limit to ComSat the ownership and operation of the initial earth stations in the United States for use in connection with the proposed global commercial satellite system. The petition was directed toward the implementation of section 201(c)(7) of the Communications Satellite Act which provides, in part, that the Commission shall grant appropriate authorizations for the construction and operation of each satellite terminal station either to ComSat, or to one or more authorized carriers, or to the Corporation and one or more such carriers jointly.

The Commission found that the rule as proposed by ComSat was too limited in scope to provide a basis for reaching a determination of the issues involved; therefore a proceeding was instituted on December 9, 1964 (docket 15735) to afford interested parties the opportunity to advance detailed arguments concerning the merits of the issues surrounding the ownership and operation of earth stations.

Extensive comments were received and, after careful consideration, the Commission on May 12, 1965, adopted an interim policy under which ComSat will assume the sole responsibility for the design, construction and operation of three stations to be located in the northeastern and northwestern parts of the conterminous United States and in Hawaii and the terrestrial facilities used to transport the satellite traffic between the point of interface (with the carriers) and the earth station. The interim policy is limited to the critical early years of the basic system.

Several carriers protested the Commission's decision in the matter and asked for reconsideration. The proceeding was still in progress at the end of the fiscal year.

AUTHORIZED USER-AUTHORIZED ENTITY PROCEEDINGS

On June 16, 1965, the Commission released a notice of inquiry (docket 16058) in which it invited the views and comments of interested persons in reference to the extent to which, as a matter of law, entities in the United States other than communications common carriers might or, as a matter of policy, should be authorized under the Communications Satellite Act to obtain telecommunications services directly from ComSat. The provisions of the satellite act are not explicit with respect to these matters nor does it specify who, with the exception of the U.S. Government, those other persons or entities may be, or the services which they may be authorized to obtain. The extent to which the Corporation may engage in furnishing channels of communication or the services of the communications satellite system directly to users in the United States can, of course, have significant and far-reaching effects upon the structure, economics and operations of the commercial telecommunications systems.

PROCUREMENT ACTIVITIES

The Communications Satellite Act requires the Commission to insure maximum competition in the provision of equipment and services required by the global commercial communications satellite system, including satellite terminal stations, and to maintain close liaison with the Small Business Administration to the end that small business concerns may be given equitable opportunity to share in the procurement program.

In the relatively short life of the Commission's procurement regulations (adopted Feb. 24, 1964), prime contracts totaling almost $19 million were let, of which $3.5 million was paid to the National Aeronautics and Space Administration for launching and associated services of HS–303 ("Early Bird"). The balance or approximately $15.5 million was subject to the procurement rules and 85 percent of these contracts was awarded through competitive negotiations and bidding involving companies solicited in every major area of the country. These prime contracts included Early Bird, the basic global commercial communications satellite system, and the lease and modification of the satellite terminal stations at Andover, Maine, and Point Mugu, Calif., for "Early Bird" and the 1964 Japanese Olympics, respectively.

In addition, there were subcontracts totaling $1.3 million of which the majority were competitively negotiated and bidded and in which small business participation totaled $485,000 or 37.3 percent.

The Commission's procurement regulations are not self-enforcing and require active staff work to insure their implementation. The Commission periodically reviews the procurement policies and procedures of the corporation and of its principal prime contractors and subcontractors.

It would appear on the basis of our experience that with the cooperation of the Small Business Administration the regulations have been effective in effectuating the policies and objectives of the Communications Satellite Act.

LIVE TV BROADCAST OF OLYMPIC GAMES FROM TOKYO

Following a tentative agreement between ComSat and the Naval Missile Center, Point Mugu, Calif., the Commission granted an application by the Corporation requesting authority to modify the existing antenna at the missile center so that TV signals could be relayed from Tokyo to the United States' mainland via Syncom III, a communications satellite positioned over the Pacific Ocean at an altitude of 22,300 miles. The purpose of the project was to bring live TV broadcast of the Olympic Games in Tokyo to the Western World. After the signals were received at the naval center ground station, they were sent by microwave to Los Angeles for distribution over the domestic TV networks and to Canada. The program was recorded on video tape and flown by jet aircraft to Europe.

COMMISSION ENDS RESTRICTION ON SALE OF STOCK

The Commission adopted rules effective August 5, 1964 (docket 15495), under which the common carriers were prohibited from selling any of their stock in the Communications Satellite Corporation, prior to June 1, 1965, to entities other than authorized common carriers without prior consent of the Commission. The basic purpose of these rules was to prevent the carriers from profiting from their preferred position in procuring stock by selling it shortly after issue at prices considerably in excess of the issue price. The Commission believes the rules accomplished the intended purpose and there appeared to be no need to extend the prohibition beyond June 1, 1965; however, the Commission is maintaining close surveillance over the stockholdings of the carriers in the Corporation.

OVERSEAS CARRIERS USE OF EARLY BIRD CHANNELS

In its June 22, 1965, action opening Early Bird for commercial use, the Commission authorized four international communications carriers (American Telephone & Telegraph Co., ITT World Communications Inc., RCA Communications, Inc., and Western Union International, Inc.) to lease voice channels in the system for providing their regularly authorized overseas services, subject to placing any sums refunded to them by ComSat in a deferred credit pending the outcome of the Commission's investigation of ComSat's tariffs. Thereafter, on July 15, these carriers were granted special temporary authorization to provide television service over the satellite in rotation under a joint tariff offering.

TECHNICAL DEVELOPMENTS

In addition to Early Bird, there were seven communications satellites in orbit and still functioning at the end of the fiscal year. They are: Relay I and II, Telstar II, Syncom II and III, Echo I and II. Satellites of the Relay and Telstar series are medium altitude random orbit types. The Syncoms are positioned at synchronous altitude 22,300 miles above the earth. The Echo satellites are large balloons without transmitting or receiving equipment. Signals are reflected from the surface. Relay I and Echo I showed considerable deterioration during the year; however, it is interesting to note that in nearly every case the useful lifetime of the satellite exceeded expectations at the time of launch.

Personnel of the Office of Satellite Communications of the Commission's Common Carrier Bureau are members of the Technical Working Committee of the Interim International Committee which is presently engaged in the development of general international standards for earth stations. They have attended many meetings here and abroad.

INTERNATIONAL NEGOTIATIONS

On August 20, 1964, the negotiations for cooperative operation and ownership of a global commercial communications satellite system (in which representatives of the Commission participated) were successfully concluded by the opening for signature of two international agreements. The first, an agreement between the governments of the countries participating in joint ownership and operation of the space segment of the global system is entitled "Agreement Establishing Interim Arrangements for a Global Commercial Communications Satellite System". It establishes the basic ground rules under which

this system is to be owned and operated until such time as more definitive arrangements can be developed. The other agreement, the "Special Agreement," is between the various communications operating entities of the participating countries. The United States entity designated to sign the Special Agreement is the Communications Satellite Corporation. As of July 15, 1965, 46 countries from the Western Hemisphere, Africa, the Middle East, Europe and Asia had signed the agreements.

Arbitration Agreement

Article 14 of the special agreement provides for arrangements to be made drafting a supplementary agreement which would establish an impartial tribunal to which legal problems, not otherwise resolved, involving the rights and obligations of the signatories to the special agreement, could be submitted. After several meetings of a group of legal experts representing the signatories, including ComSat, a "Supplementary Agreement of Arbitration" was approved and opened for signature at Washington on June 4, 1965. By its terms, this agreement goes into effect when signed by all the signatories to the special agreement. As of July 15, 1965, there were 33 signatories.

Interim Committee

The agreements establish an Interim Communications Satellite Committee which is responsible for the "design, development, construction, establishment, maintenance and operation of the space segment of the system." ComSat is the U.S. designated member on this committee.

Other countries represented in the committee either by themselves or in conjunction with other countries are the United Kingdom, Australia, Brazil, Canada, France, Germany, Italy, Japan, Switzerland, The Vatican City, Monaco, Denmark, Sweden, Norway, Ireland, Spain, Portugal, the Netherlands, and Belgium. This committee has held monthly meetings and plans are now under consideration by the committee and its various advisory subcommittees which will implement the development of the global system with the view of achieving "basic global coverage in the latter part of 1967; . . ." as provided by the intergovernmental agreement.

Common Carrier Services

DOMESTIC TELEPHONE

General

The $100 million annual reduction in interstate long-distance telephone rates, the largest to date, which was announced in November 1964, became effective early in 1965. Three-fourths ($75 million) of that reduction, effective February 1, 1965, was of benefit principally to residential users in that the reductions were applicable to calls after 8 p.m. and on Saturdays and Sundays. The remaining $25 million reduction, effective April 1, 1965, was designed to mainly benefit small business users by reducing station-to-station day rates. The rate for a 3-minute station-to-station call across the Nation was reduced from $2.25 to $2 with corresponding reductions for lesser distances beginning with 601 miles.

The California Public Utilities Commission petitioned for reconsideration, questioning the propriety of the FCC's "continuing surveillance" conferences with A.T. & T., as well as the FCC public notice announcing the rate reduction. Subsequently, the California commission petitioned the U.S. Circuit Court of Appeals for the Ninth Circuit to review the Commission's action denying the petition for reconsideration.

In calendar 1964 the Bell Telephone System's total earnings were $1.8 billion which produced a return of 7.6 percent on a net investment of $23.8 billion. Bell's earnings on interstate operations were $481 million, representing a return of 8.1 percent on a net investment of $5.9 billion, compared to 1963 interstate earnings of $425 million, or a return of 7.6 percent on a net investment of $5.4 billion.

The prices, earnings and costs of Western Electric and certain General Telephone affiliated manufacturing companies have continued to be the subject of cooperative reviews by the Commission and the National Association of Railroad and Utilities Commissioners (NARUC). During the fiscal year there have been substantial price reductions by Western Electric and the Automatic Electric Co. (manufacturing subsidiary of General Telephone & Electronics Corp.).

Telephone Services and Facilities

The telephone industry, during the last fiscal year, continued to expand its facilities and services. Plant investment increased by $3.1 billion, some 4.3 million telephones were added, new developments in transmission technology and Bell System's commercial electronic switching were introduced, and customer services were expanded. Long distance calling increased by about 9 percent, and by the year's end approximately 53 percent of all such calls were being dialed directly. Direct dialing service for person-to-person, collect, coin, credit card and other special long-distance calls, previously requiring the services of an operator, was extended by the Bell System to subscribers in six States.

The Bell System's first commercial electronics central office was placed in operation at Succasunna, N.J., by the New Jersey Bell Telephone Co. Electronic and computer switching techniques are expected to gradually replace all of the electromechanical dial offices over the next 35 years, or so.

Pushbutton dialing (touch-tone) was provided during the year in some 200 communities and is used by about 450,000 subscribers.

The Bell System's average speed of service for completing long distance connections continued to improve with an average delay of 48 seconds, as compared to 51 seconds in 1963.

The blast-resistant transcontinental cable was completed in December 1964, adding about 9,000 circuits to the number of telephone circuits spanning the country.

During fiscal 1965, telephone construction projects to extend or supplement interstate facilities authorized by the Commission numbered nearly 350 and amounted to $352.9 million, of which $123.5 million represented additional radio relay facilities. The largest single project was the construction of a hardened coaxial cable (20 tubes) between Massachusetts and Illinois, estimated to cost $68.6 million. An application to construct a similar cable between Boston and Miami at a cost of $147.9 million was filed by the American Telephone & Telegraph Co. (A.T. & T.) during the latter part of the year.

In considering applications by communications common carriers to extend or supplement facilities under section 214 of the Communications Act, the Commission's function is to determine whether the facilities proposed are excessive, deficient or adequate to meet the indicated needs for expeditious and efficient communication, whether they will result in wasteful duplication of facilities, and whether the costs of such facilities are reasonable and prudent.

Informal Service Complaints and Docket Cases

More than 350 informal complaints involving telephone services or facilities were received. About a third of these pertained to local exchange or intrastate toll service and were referred to the appropriate State regulatory commissions. The remainder were investigated and resolved through correspondence with the telephone companies involved. In addition, a complaint was filed by a mobile radio carrier against a telephone company alleging refusal to permit interconnection of facilities. It was designated for hearing but was later dismissed by agreement by the parties and establishment of the interconnection.

Acquisitions

The Commission granted five applications filed by carriers pursuant to section 221 of the act for authority to consolidate or to acquire the telephone plant and property of other carriers. One application was designated for hearing upon the filing of a petition for reconsideration of the grant. Hearing was held in Kansas City, Kans., and the matter is awaiting decision. Also approved were seven applications filed under section 214 of the act for carriers to acquire communications facilities by purchase.

Tariff Docket Cases

Private line (dockets 11645 and 11646).—As previously reported, the Commission in January 1963 issued a final decision in which the Western Union Telegraph Co. (WU) and A.T. & T. were ordered generally to raise rates for their private line teletypewriter services and to lower rates for private line telephone services and channels. Appeal was taken by three Chicago meatpackers. On July 31, 1963, the U.S. Court of Appeals for the Seventh Circuit stayed the Commission's order but, on August 14, 1964, affirmed the Commission's decision on its merits. The applicable tariffs became effective October 1, 1964. However, the court did not order the carriers to make restitution to users for the higher charges collected while the order was stayed, so the Commission asked the Supreme Court to review this particular phase of the decision. On March 29, 1965, the Supreme Court granted the Commission's petition for a writ of certiorari and a concurrent appeal by the meatpackers on the merits was denied.

WATS (docket 13914).—Hearings were previously completed in the investigation of A.T. & T.'s Wide Area Telephone Service (WATS), and a September 3, 1964, decision by the Chief of the Commission's Common Carrier Bureau recommended that the investigation be ter-

minated and that the rates be permitted to remain in effect pending further study. The Commission adopted this decision on March 3, 1965, and on June 16, 1965, denied a petition by Western Union for a rehearing. The latter appealed to court.

TELPAK (docket 14251).—The Commission on March 20, 1964, issued a tentative decision which found that an unlawful discrimination exists as between certain users to whom TELPAK rates apply and those taking service at regular private line rates. The Commission's final decision affirming the tentative decision was issued on December 23, 1964, and petitions for reconsideration by various parties were denied on May 3, 1965. A.T. & T. and various TELPAK users petitioned the Court of Appeals for the District of Columbia Circuit to review this decision. The court stayed the Commission's order pending final decision on the merits.

TWX (docket 15011).—The record in the WADS proceeding (docket 14154) previously reported raised certain questions with respect to the relationship between proposed WADS rates and A.T. & T.'s Teletypewriter Exchange Service (TWX) rates. Accordingly, the Commission on March 13, 1963, instituted an investigation into the charges, practices, classifications, and regulations applicable to TWX. In November 1964, A.T. & T. filed a revised tariff for such service, which is described hereinafter. Twenty-three days of hearings were held in May and June 1965. The Chief of the Common Carrier Bureau will prepare a recommended decision.

Press private line rates (docket 15094).—The Commission, on May 27, 1963, instituted an investigation into the rates for private line telegraph and private line telephotograph services furnished to the press. This was an outgrowth of the private line case in which the Commission prescribed or authorized higher private line telegraph and telephotograph rates. A recommended decision by the Chief of the Common Carrier Bureau on April 1, 1965, concluded that the proposed higher rates would not impair the widespread dissemination of news. A final decision is pending.

New Tariffs

In November 1964, A.T. & T. filed revisions in the regulations and rates for Teletypewriter Exchange Service (TWX) to become effective February 1, 1965. These revisions made material changes in the TWX offering. Among other things, 1-minute initial period charges were substituted for the 3-minute initial period charges and the number of mileage steps in the rate schedules was reduced from 26 to 11. Basic monthly service charges, which depend on the type

of station equipment furnished, were introduced and the $10 a month fixed service charge for interstate service was eliminated. The revised tariff additionally contains charges for certain items of equipment which theretofore had been filed only in intrastate tariffs. The revised tariff provisions did not become effective on the planned date due to suspension by the Commission and subsequent voluntary deferment by the telephone company. The impact of the revised tariff, should it become effective, could be far reaching as to various subscribers in view of the specific increases and reductions in charges proposed.

The Commission conducted another comprehensive examination in connection with its continuing reviews of the interstate earnings of the Bell System and announced, on November 25, 1964, that the telephone company would submit tariff revisions so as to reduce the interstate message telephone rates charged the public by about $100 million annually, the largest such reduction to date. One new rate schedule, which became effective February 1, 1965, primarily affected Saturday and Sunday rates as well as evening and night rates in the station-to-station category. This initial phase resulted in a reduction of about $75 million a year. The second phase, amounting to about $25 million annually, became effective April 1, 1965, and consisted of certain station-to-station daytime rate reductions, designed to benefit primarily small businesses pursuant to recommendations by the Commission.

Revised rates applicable to telephone calls made between Alaska and the rest of the continental United States became effective June 1, 1965. They established station-to-station service for the first time with the 3-minute initial period rates approximately 20 percent below the previously unclassified rates. In turn, person-to-person initial period rates are approximately 20 percent above the previously unclassified rates. The additional minute rates were reduced. These changes are expected to result in overall savings to users of about $1.1 million annually.

Within the fiscal year, 10,242 revised or new pages of 798 tariffs were filed with the Commission. Pursuant to continuing efforts of A.T. & T. to reduce the bulk of its tariffs, 2 tariffs were completely revised, reducing the number of their pages from 168 to 38.

Depreciation

Depreciation rates and depreciation expense are gradually but continually increasing with accelerating technological change. Evaluations are currently being made of general overall plans for the replacement of crossbar electromechanical switching equipment with electronic switching equipment. Although crossbar equipment will

be installed in greater quantity than the electronic equipment for at least another 5 years, its eventual complete displacement is indicated.

The evaluation of these general replacement plans and their interpretation into specific depreciation rates for the particular plant in many different companies must be accomplished as rapidly and as accurately as possible. As a demonstration of rapid technological change, although the electronic switching system introduced commercially by the Bell System in 1965 has been termed "the large immortal machine", a superseding machine is expected by Bell to be developed by the 1980's.

Lives and salvages were re-evaluated for the plant of each of nine Bell companies during fiscal 1965, leading to re-prescriptions of depreciation rates in each case. Overall, this resulted in an increase in annual depreciation expense of $29 million, or approximately 6 percent.

In continued cooperation with the National Association of Railroad and Utilities Commissioners, two new sections of a proposed depreciation manual were prepared during fiscal 1965.

Action was taken during the year to remove a restriction in the Commission's rules which limited the retroactivity of the effective date of revised depreciation rates to 6 months prior to the date of filing. The revised rules permit retroactivity to January 1 of the year of filing regardless of how late in the year the revised rates are filed.

Accounting

Rule changes.—The Commission, on September 9, 1964, amended its accounting rules for large telephone companies to permit accrual accounting, by charges to an operating expense account, for death benefits for active and retired employees, similar to the accounting now provided for service pension costs (docket 15494).

On June 9, 1965, the accounting rules for telephone companies were amended by deleting crossarms, pole stubs and pole butts from the list of retirement units for pole lines (docket 15851).

Shortly after the close of fiscal 1965, the Commission amended its rules (docket 15963) to shorten certain retention periods and to make other changes in its preservation of records requirements. The reduced retention periods had been requested by A.T. & T. The Commission has under consideration another A.T. & T. proposal to remove cable terminals from the list of retirement units in the accounting rules.

The Commission is also considering a change in its rules regarding classification of the cost of disposing of salvaged station apparatus (docket 16083).

The propriety of the accounting being performed by Bell companies for the following items is still under consideration: (1) general office expenses assigned to intercompany billings for removal and maintenance work; (2) operating costs of data-processing centers; and (3) transfers of telephone plant and related reserves for depreciation between State areas in multistate operations.

Other accounting matters.—Five Bell companies and one independent company were visited in order to review certain of their accounts, records and accounting procedures. This was done by the Common Carrier Bureau field offices in New York, St. Louis, and San Francisco as well as by the headquarters staff. Among the matters reviewed were plant accounting for station apparatus and station connections, the establishment and maintenance of continuing property records and company internal audit reports.

Pursuant to the Commission's accounting requirements, 14 journal entries recording acquisitions of telephone plants at original cost were submitted during the year. Approval was given to the accounting for 34 acquisitions which in certain instances involved the disposition of amounts in excess of original cost. Twenty-one telephone plant acquisitions were pending of which 16 involved correspondence to resolve questions regarding 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 related theoretical reserve requirements.

In 1964 certain Bell companies, at the request of the Commission, made credit adjustments to the depreciation reserve of $4,585,000 in connection with retirements of private mobile radio equipment.

Relief and pensions.—As of December 31, 1964, the balance in Bell System service pension funds exceeded $3.6 billion and the balance in death benefits funds was almost $45 million. Bell payments to trust funds for employees' service pensions during 1964 amounted to $273.8 million, an increase over 1963 of $51.4 million, or 23.1 percent. Death benefits payments were $45.8 million.

Revised service pension and death benefit accrual rates were adopted by the Bell companies retroactive to January 1, 1965, to reflect changes in several of the determinative actuarial factors. These consisted of revised wage scales and the use of more current separation and active mortality rates and the use of more current mortality rates after retirement. The estimated effect of these changes is to increase service pension accrual charges for 1965 by about $30 million and to reduce death benefits accrual charges by about $5 million. The trend in the Bell System in the last few years indicates that its employees are re-

tiring earlier and living longer and this is reflected in the revised accruals.

DOMESTIC TELEGRAPH

General

Notwithstanding the continued decline in public message volume, total operating revenues of the Western Union Telegraph Co. (WU) in calendar 1964 reached a new high of almost $300 million, exceeding the previous high in 1963 by over $12.5 million. Telex revenue in 1964 amounted to over $13.1 million, or more than $5.4 million over 1963; private line revenue was almost $92.8 million, a gain of more than $7 million from the previous year.

Revenue from domestic public messages, which remain the company's biggest revenue producer, amounted to somewhat over $144 million, or 48 percent of the total 1964 revenue. This is a decline of about $1.3 million or less than 1 percent as compared with 1963 when it was 51 percent of the total. In 1964 the company's public message volume declined 7 percent to a total of 76 million messages as compared with a decline of 6.5 percent in total message volume to a total of 97.4 million messages.

Net income from landline operations in 1964 was almost $17 million as compared with about $7.4 million in 1963. The latter figure reflects a net charge of almost $9.5 million resulting from a loss on the sale of the ocean cable system. The 1964 figure reflects a negative income tax liability of $1.2 million due principally to the effect of the use of accelerated depreciation by Western Union for tax purposes.

Western Union's continued expansion of its plant facilities resulted in gross plant as of December 31, 1964, of $635 million as compared with $597 million at the end of 1963. At the close of 1964 the company had 13,441 offices, of which 1,673 were company-operated and the remainder were agency offices operated by railroads, small telephone companies and small businesses. From October 31, 1963, to October 31, 1964, there was a decline of 1,408 employees to a total of 26,607 employees, reflecting the company's continued efforts to effectuate economies in the light of dwindling message volumes.

Domestic Telegraph Rate Increase

On September 9, 1964, the Commission announced that it would permit increased rates for additional words in domestic telegrams to become effective September 4 and 11 for different message classifications. These increases are estimated to produce about $4,089,000 additional annual net operating revenue on a systemwide basis, of which amount about 17.5 percent would be realized from intrastate rate increases.

Telegraph Services and Facilities

Modernization and expansion.—In November 1964, Western Union inaugurated its new 7,500-mile transcontinental microwave system extending from Boston, New York, and Washington to San Francisco and Los Angeles, the construction of which was authorized by the Commission in 1960. The Autodin system, installed by Western Union for the Department of Defense in 1963, is being expanded from 5 major switching centers and 350 outstations to 9 switching centers and 2,000 outstations. The company has nearly completed installation of the Advanced Record System (ARS) for the General Services Administration to serve the civilian agencies of the Federal Government. Several other government private line teleprinter, facsimile and data networks were installed during the year.

Western Union has inaugurated a major program to expand its business in the communication systems field by offering management information services. The company will design, procure and install all necessary hardware for fully integrated data processing and communications systems, and provide the total management service for such systems. The company has also informed the Commission of plans to open computer service centers to meet requirements of small business concerns for access, on a part-time basis through communications links, to data processing facilities for records processing, problem solving, or information storage and retrieval.

Extension of lines and curtailment of service.—The Commission approved 36 Western Union applications for suppmentation and extension of facilities. The requests involved the equipping of Western Union's transcontinental microwave system to provide an additional 640,000 channel miles, and the leasing from Bell System companies of approximately 400,000 telegraph, 38,671 data, 30,686 voice and 344 facsimile channel miles.

Western Union's applications to curtail service result primarily from the continuing decline in public message volume. The Commission granted 737 applications to close or reduce hours at public telegraph offices. Thirteen requests were withdrawn, 1 was denied, and 82 were pending at the end of the year.

The applications granted involved discontinuance of telegraph service provided in small communities by 380 railroad-operated and 250 agency offices operated by business establishments. Of these closures, 334 were caused by circumstances beyond the control of the telegraph company in that either the agent canceled his contract or the railroad station was closed, and other agency representation was not feasible because of the inadequate return from the small volume of traffic

handled. The remainder of the agency closures, for the most part, involved railroad-operated agency offices in communities where railroad service remained, but the volume of telegraph traffic handled at the agencies was insufficient to warrant continued operation or to attract other handlers. Such agency closures generally result in discontinuance of direct telegraph service, although service remains available by telephone.

The Commission authorized the replacement of company-operated offices in 55 communities by agency offices operated by local business establishments to handle the limited volume of messages involved. These agency offices generally provide open hours equal to or longer than those observed by the former company-operated offices. Authorizations also permitted closure of 12 company-operated branch offices in large cities with alternate service provided through nearby offices in the same city. The bulk of the remaining authorizations involved reductions in office hours, the majority of which complied with specified standards and conditions prescribed in the Commission's rules.

According to Western Union, annual savings resulting from curtailments of service in calendar 1964 amounted to approximately $791,000.

Speed of service.—The Commission is concerned that Western Union provide at all of its offices a quality of service acceptable to its users, and requires the telegraph company to conduct daily studies and report monthly summaries of the origin-to-destination speed (time filed at point of origin to time delivered, or first attempt, at the point of destination) of its domestic message full-rate traffic terminating in the 75 largest cities. The company's minimum speed of service requirements call for the completion of the handling of 95 percent of messages delivered by telephone or tieline within 60 minutes from time of filing, and within 75 minutes for 95 percent of business messages delivered by messenger.

Reports by the company revealed a progressive deterioration in the speed of service from June through August 1964. During the latter month, message telegraph service was the slowest since 1958, with only about one half of the reporting offices achieving service performance as high as 90 percent of company objectives. This deterioration resulted primarily from the company's application of expense controls. In the latter part of 1964, the Commission advised Western Union to take remedial action in the matter. In September, the company began to halt the downward trend in service performance, which showed an overall improvement through April 1965, but sharp declines were again reported in May and June. At the year's end, Western

Union was far from achieving its own minimum speed of service requirements.

Increased efforts are being made by the Commission to obtain a satisfactory level of service performance. The company has informed the Commission that major changes in methods of operation to improve service are planned and that it has embarked on a 5-year program of modernization of its public message system and use of computer techniques for message switching.

To the extent that the Commission's budget permits, on-the-spot investigations are made of telegraph service conditions. A limited number of such field inspections were made to determine speed and quality of telegraph service in general, to investigate curtailment proposals, and to study service conditions following authorized service curtailments. Complaints received by the Commission from users involving speed, quality and adequacy of telegraph service are brought promptly to the company's attention for its investigation, report to the Commission and corrective action. During the year, the Commission investigated a total of 103 message telegraph service complaints, the bulk of which related to delayed handling of telegrams and slow telephone answering service.

Expanding services.—Western Union's Telex service continues to have a high rate of growth. During 1964, it was expanded to 102 cities. This service is available between subscribers in the United States, Canada, and Mexico and, through the facilities of the international carriers, to subscribers in Hawaii and 100 foreign countries. Revenue therefrom in 1964 of over $13.1 million exceeded the 1963 figure by 71.6 percent. There were 9,900 subscribers at the end of 1964, 36 percent more than at the end of 1963.

Private-line service revenue amounted to $92.8 million in 1964 as compared with $85.7 million in 1963, an increase of 8.3 percent. Private-line and Telex services together accounted for 35.4 percent of Western Union's total revenue in 1964 as compared with 32.6 percent in 1963.

Western Union's share of the total domestic telegraph communications revenues amounted to 80.7 percent in 1945, declined to 56.9 percent in 1961 and climbed back to 60.9 percent in 1964. This is attributable to the decline in the Bell System's private-line telegraph service revenue from about $121 million in 1961 to around $109 million in 1964, due to the advent of TELPAK service.

New Domestic Telegraph Services

Broadband Exchange Service.—Effective August 1, 1964, Western Union established a new service known as Broadband Exchange Serv-

ice, for an experimental period of 1 year. This new service enables subscribers to transmit data or facsimile signals to another subscriber or to communicate orally with another subscriber on an alternate record-voice basis.

The service provides for 2 and 4 kc bandwidth channels although the company contemplates adding 8, 16, and 48 kc bandwidths to the offering. Major switching centers are located in Chicago, Detroit, Kansas City, Los Angeles, New York, San Francisco, and Washington and there are 12 minor switching centers or concentrators at intermediate points. A system capacity of 500 stations was engineered at these cities when the service was initially offered. To complete the first phase of the program, estimated to be concluded in 2 or 3 years, concentrators will be located at 9 additional intermediate points to increase the overall capacity to 1,000 stations. Western Union estimates that when this 1,000-station system reaches a customer fill of 85 percent, the company will have annual revenues of around $4 million, annual expenses of about $3.6 million and a return of 5.5 percent before Federal income taxes on a rate base estimated at about $9 million.

Short Period Voice Transmission Service.—Effective June 20, 1965, Western Union inaugurated another new service known as Short Period Voice Transmission Service (or "Hot Line" business telephone service), also for an experimental period of 1 year. It provides for the joint utilization of intercity trunk channel facilities by a number of private line subscribers. Subscribers are enabled to share a dedicated group of voice grade trunk channels between New York City and Chicago. Subscribers do not have access to all other subscribers, as in Telex and other exchange services, but are connected in such fashion that communications can only be exchanged between a subscriber's station in one of these cities with his station in the other city.

Flat-Rate Greeting Message Service.—Effective January 15, 1965, Western Union offered, also on a 1-year experimental basis, a new message telegraph classification called Flat-Rate Greeting Message Service. It applied to the transmission and delivery of a telegraphic message priced at 85 cents filed in the test cities of Buffalo, Lockport and Niagara Falls, N.Y.; Oklahoma City and Norman, Okla., and Spokane, Wash. In each of these 6 cities (comprising 3 metropolitan areas) Western Union offers a 15-word sender's composition message limited to an expression of greetings, congratulations, or best wishes. The messages must be destined to a point in the continental United States. Delivery will be made at the company's convenience but not later than midnight of the day following the date of acceptance. Flat-Rate Greeting Messages will be accepted only on a prepaid basis.

Other services introduced during the year included a "cigargram" service, "dollygram" service, a floral order service, and Western Union in now conducting marketing tests to determine the feasibility of entering the telephone answering service field.

Tariff Schedules

During the fiscal year, 1,043 pages of domestic telegraph material were filed by Western Union.

Accounting Matters

Field review.—Continued studies and reviews were made by the Common Carrier Bureau field office in New York of certain Western Union accounting practices and procedures.

Premature plant retirements.—The Commission allowed Western Union to follow regular plant retirement accounting procedures for outside plant disposed of to railroads during 1964 and to treat, commencing January 1, 1965, plant sold to railroads, or otherwise disposed of, through depreciation reserve account pending Commission review to determine final accounting.

In connection with Western Union's proposed equipment moderization program, premature retirements of plant of around $47 million are estimated with an unprovided-for loss in service value of about $15 million. The accounting for the $15 million, i.e., whether depreciation charges should be increased over the remaining life of the plant involved or the amount should be amortized after the plant is retired, is under consideration.

Income taxes.—Western Union's request for special accounting authority to permit it to perform "normalization" of Federal income tax accruals applicable to accelerated depreciation to be claimed for tax purposes in respect to its "Autodin" installation was denied.

Investigation of Domestic Telegraph Service

The presentation of evidence and the examination of witnesses in the Commission's domestic telegraph investigation (docket 14650) was completed early in 1965. The participants have submitted their initial comments and replies were due August 26, 1965. The staff is preparing its recommendations for submission to the Telephone and Telegraph Committees of the Commission.

During the course of this investigation, the Commission requested A.T. & T. to make cost studies showing revenues, expenses, earnings and net investment assignable to interstate message-toll telephone service, teletypewriter exchange service (TWX), wide-area telephone

service, private line telegraph service, private line telephone service, TELPAK, and all other interstate services, as a group. The report was scheduled to be submitted to the Commission in September 1965.

DOMESTIC COMMON CARRIER RADIO FACILITIES

Common Carrier Microwave Radio Services

The use of point-to-point microwave radio by communication common carriers to provide reliable telephone, telegraph, data transmission and video transmission services continues to accelerate rapidly. This expansion has resulted in increasingly complex problems involving frequency conservation, interference-free operations, and improvement of circuit reliability. This is so despite the progress made in more efficient utilization of common carrier radio assignments through use of improved techniques and equipment. For example, applications filed with the Commission near the end of the fiscal year propose initial tests of new equipment, capable of doubling the number of voice-type transmission circuits on a single radio channel, which ultimately would replace certain existing equipment on the backbone routes of the Bell System.

Problems caused by increasing demands upon common carrier microwave radio bands are further compounded by the fact that such bands are now shared with global communication satellite systems. Due to the great power of earth terminal stations and the ultra-sensitive systems they utilize to receive satellite station transmissions, the potential for severe interference between satellite communication systems and conventional line-of-sight terrestrial microwave systems is great. Since common carrier microwave circuits are used for important national defense and other Government needs as well as non-Government communication purposes, it is essential that they operate on an interference-free basis. Indications are that satellite communication will also play a vital role and should be similarly protected. To insure that such operations will be compatible, it is necessary that proposed assignments in both services be coordinated to a distance of several hundred miles from each earth terminal station. (See separate chapter on "Satellite Communication".)

Use of common carrier microwave systems to relay the signals of television stations to community antenna television (CATV) systems is treated in a separate "CATV Systems" chapter to this report.

Domestic Public Land Mobile Radio Service

A substantial improvement in Commission procedures affecting the Domestic Public Land Mobile Radio Service was achieved by the stand-

ardization of technical data that wire line common carriers and miscellaneous common carrier (nonwire line) must submit with their applications in this service. Heretofore, wire line common carriers were not required to submit the same technical data that the Commission required from the miscellaneous common carriers.

The amended section 21.15(1) of the Commission's rules requires all carriers to submit the same engineering information, pertinent to electrical interference calculations, in their applications. Additionally, the wire line carriers must now submit, as miscellaneous carriers have done in the past, certain message traffic load data to support an application for additional frequencies. Rule section 21.516 now provides for the submission of data whereby systems that do not provide message relay service can support the showing of need for additional frequencies in a standardized manner. This approach provides the Commission with better information on which to base determinations pertinent to the equitable assignment of radio frequencies in the subject service and gives recognition to technological advancements in the land mobile radio services.

Applications of several wire line common carriers in the Domestic Public Land Mobile Radio Service were designated for hearing because of mutual exclusivity. In the past, wire line common carriers operating with the benefit of exclusive local franchises have been able to coordinate their frequency requirements. However, due to the limited frequency spectrum allocated to common carriers, situations are developing wherein wire line carriers have to compete for desired frequencies. It appears that in the immediate future such carriers will face a greater likelihood of competitive hearings.

Air-Ground Radiotelephone Service

After several years of experience with developmental air-ground radiotelephone service, the Commission determined that the currently operating system would be inadequate for the establishment of a regular service. Therefore, rather than permit expansion and undue reliance on the limited capabilities of the existing service, the Commission instituted proceedings (docket 16073) which call for comments on the proposed establishment of a system using single sideband emission, capable of accommodating many more aircraft utilizing the same allocation that is now used by the present developmental (FM) public air-ground system. It is anticipated that after comments are filed the Commission will be able to make a determination which will achieve the most efficient utilization of the allocable frequencies and, possibly, provide for a regular air-ground radiotelephone service on a nationwide basis.

Domestic Common Carrier Forms

A positive approach to more expeditious processing of applications for construction permits in the Domestic Public Radio Services was initiated in September 1964 with the required use of a new FCC Form 401. Utilization of the new form has resulted in the filing of more complete applications and has reduced the number of requests for additional information regarding applicants' proposals. Special attention has been given to the improvement of all forms utilized by the domestic common carrier radio services in an effort to achieve greater clarity and efficiency.

OVERSEAS TELEGRAPH AND TELEPHONE

General

The communications explosion taking place throughout the world has resulted in substantial expansion of U.S. external telecommunications. In calendar 1964 new records were set in the revenues received from overseas telegraph and telephone services. Additional ocean cables were authorized and in June 1965 the overseas carriers were authorized to commence commercial services via satellite.

Financial Position of Industry

Spurred by the strong demand for Telex and leased channel customer-to-customer services, total operating revenue from overseas telegraph services continued upward to $107,560,000, or 10 percent over 1963. At the same time net operating revenue also advanced to $16,451,000, a gain of 29.3 percent. Telex and leased channel services produced over $33 million in revenue, up about 23 percent from 1963. Telex accounted for over $17 million, an increase of almost 26 percent, and leased circuit revenue was almost $16 million, an increase of over 20 percent. Message telegraph revenue was up about 5 percent to over $66.5 million, principally due to higher volumes of inward bound messages.

Overseas telephone business also continued to expand. Total operating revenue from overseas telephone service (including the leasing of channels for alternate voice and nonvoice use) rose 23.5 percent to about $81 million. During the year a total of over 5.6 million overseas telephone calls were handled, as compared with a total of about 4.5 million in 1963.

Intra-Governmental Telecommunications Study

The Commission, together with the Director of Telecommunications Management and other interested Government agencies, formed a committee to make a study of U.S. external telecommunications. The

study is designed to identify existing problems, to evaluate future demands and goals, and to make appropriate recommendations to Congress. Its basic purpose is to develop policies which would provide the most efficient and economical system capable of meeting national defense and other governmental requirements as well as those of business and other non-Government users.

The cochairmen of the committee, called Intra-Governmental Committee on International Telecommunications (IGC), are the Director of Telecommunications Management and the Chairman of the Commission.

The IGC decided that, in view of other demands on its staff, it should engage a private consultant to assist preparing a data base. The IGC expects to make its report to Congress early in the next session.

Services and Facilities

New cables authorized.—The Commission authorized the construction and landing of two additional submarine cables during the year. The first will connect the island of St. Thomas in the Virgin Islands with Venezuela. St. Thomas is now linked to the U.S. mainland by a cable which was installed during the year. British interests were authorized to land a cable on the island of Guam, which cable will extend to the south to New Guinea and Australia and to the west to Hong Kong, and thence to Singapore, via North Borneo.

Proposed abandonment of cables.—Western Union International, Inc., requested authorization to abandon the use of its North Atlantic telegraph cables, citing the fact that such cables were old, of low capacity, and increasingly subject to interruption. WUI would replace such with facilities presently acquired in the new submarine cables between North America and Europe.

Use of cables by telegraph carriers.—Western Union International, Inc. (WUI), was authorized to acquire facilities in the new Pacific cable systems so as to serve the Philippines directly, a point it formerly served via London or Australia. In addition, WUI was authorized to operate in Hawaii and in Guam for the limited purpose of providing leased circuits for alternate voice-record use.

ITT World Communications Inc., was authorized to supplement its radio facilities serving the Philippines and Japan by acquiring circuits in the Pacific cables extending to those points, and was also authorized to operate in Guam for the limited purpose of providing leased circuits for alternate voice-record use.

Press Wireless, Inc., was authorized to serve Japan directly by cable, by means of two teleprinter channels leased from ITT World Communications.

The telegraph carriers continued to acquire (through purchase of indefeasible right of user or lease) additional circuits in existing submarine cables most of which are owned in part by A.T. & T.

Reorganization of American Cable & Radio Corp.—The reorganization of those operating subsidiaries of the American Cable & Radio Corp. which operate at American points is complete. The net assets and operations in the United States of All America Cables and Radio, Inc., Globe Wireless Ltd., and The Commercial Cable Co. have been transferred to ITT World Communications Inc., whose name had been changed from Mackay Radio & Telegraph Co. All overseas telegraph operations of AC&R in mainland United States, Puerto Rico, the Virgin Islands and Hawaii will be conducted solely by ITT World Communications. Two other AC&R subsidiaries—ITT Cable and Radio, Inc.-Puerto Rico and ITT Communications, Inc.-Virgin Islands—provide the overseas telephone service in these respective islands.

Transfer of control of Press Wireless.—On July 28, 1965, the Commission approved transfer of control of Press Wireless, Inc., to ITT World Communications Inc. It involved an exchange of stock with an estimated value of nearly $4 million. Conditions relating to the protection of the employees concered, as well as providing for the continuation of press services now being provided by Press Wireless, were incorporated into the authorization.

Lease of satellite channels.—See separate chapter on "Satellite Communication."

High frequency radio circuits.—The following radiotelephone and radiotelegraph circuits in the high frequency band (3 to 30 Mc) were authorized during the year for regular public service:

Telephone: New York with Dakar, Senegal, and Monrovia, Liberia; both opened for service.

Telephone and telegraph: Guam with Saipan, Mariana Islands; opened for telegraph service and expected to be soon available for telephone service.

Telegraph: New York with Montevideo, Uruguay; expected to be opened shortly. Competing companies have been operating telegraph circuits with this point for many years.

Because of the general increase in worldwide communications, frequencies in the high-frequency range continue to be heavily used for traffic with points served only by radio as well as providing emergency and alternate routes with many points served primarily by the expanding high-capacity submarine cable systems. However, in a few cases where adequate submarine cable facilities are available, radio operations have been reduced or placed on a standby basis.

Rates and Revenue Matters

Rates for overseas services.—The level of rates for overseas telegraph and telephone services generally remained unchanged during the year. The reduction in the minimum period from the 3 minutes to 1 minute for fully automatic (customer-dialed) Telex service, instituted on an experimental basis with Belgium and the Netherlands during June and July 1964, was placed on a permanent basis and extended to most of the principal European countries.

Overseas rate study.—As a part of the Commission's review of existing levels and structures of rates for overseas telecommunication services, the carriers have submitted their views on methods for allocating plant and other investment and related reserves, revenues and expenses among the geographical operating areas and the several services offered. The Commission's staff has studied these submissions and is currently engaged in informal discussions with the interested carriers with a view toward establishing uniform allocation principles and procedures applicable to all carriers providing overseas services. The carriers will begin cost and revenue allocation studies after determination of appropriate allocations.

Voice-data service with Hawaii.—A.T. & T. and the Hawaiian Telephone Co. filed tariff revisions, effective June 11, 1965, providing for the introduction of Data-Phone service between the U.S. mainland and Hawaii. Three major overseas record carriers requested that the tariff revisions be suspended. Noting that A.T. & T. had previously been authorized to provide record service between the mainland and Hawaii, and that the record carriers did not contend that the proposed rates were unreasonable or unjustly discriminatory, the Commission on June 9, 1965, denied the petitions for suspension. ITT World Communications Inc., one of the objecting record carriers, subsequently filed an application requesting modification of its existing authorizations permitting it to serve Hawaii so as to provide a voice-data service similar to A.T. & T.'s Data-Phone service.

Pan American complaint.—The international record carriers have agreed to settle the complaint for damages filed against them by The Pan American Union and the Pan American Sanitary Bureau (docket 14198). The hearing examiner, therefore, on October 2, 1964, granted the complainants' petition to dismiss the complaint, thus terminating the proceeding.

ITT matters.—Shortly after authorizing ITT World Communications to operate in Guam and to acquire circuits in the transpacific cable

system, the Commission, on November 13, 1964, on its own motion, stayed the authorization until such time as the Commission approves the division of toll agreements between ITT and its foreign correspondent carriers relating to operations in Guam. RCA communications, already operating on Guam, was ordered not to change its existing division of tolls, which was based on traditional division patterns, without firt securing Commission approval. This action was taken to insure that U.S. carriers would not enter into a division of tolls agreement with foreign correspondents involving leased channel service which might be prejudicial to the interests of the United States.

ITT, on April 7, 1965, and RCA, on April 12, 1965, submitted to the Commission for approval proposed divisions of tolls based on a complex of leased channels centered on Guam and consisting of one leased channel each between Guam and Hawaii, Guam and Japan, and Guam and the Philippines. Oppositions were filed by WUI, A.T. & T. and the Hawaiian Telephone Co. The matter is under consideration.

On November 27, 1964, ITT filed a complaint requesting a revision of the formula for the distribution of outbound international traffic. Comments were received from other parties to the formula, and a reply thereto from ITT.

WUI matters.—On January 22, 1965, Western Union International requested a ruling from the Commission that, under the formula prescribed pursuant to section 222 of the Communications Act for the distribution of outbound international message traffic, it is entitled to all overseas messages filed by tielines terminating in offices of the Western Union Telegraph Co. in Washington, D.C. Comments were received from the other record carriers and the Commission is preparing a decision.

On August 6, 1964, WUI filed a petition requesting that the Commission authorize without a hearing an increase of from 21 to 25 cents per full-rate word in the rates for the telegraph message traffic from the mainland United States to the United Kingdom, Eire, and the West Indies including Puerto Rico, and from Puerto Rico to the mainland United States. The Commission on March 31, 1965, dismissed the petition, finding that the petitioner had failed to adequately demonstrate a need for the requested revenue relief.

WUI, by tariff revisions filed May 3, 1965, proposed to extend its international Telex service to persons within the corporate limits of San Francisco, Calif., by furnishing tieline connections between such persons and the Western Union Telegraph Co. main San Francisco

office. RCA Communications and ITT World Communications filed petitions requesting suspension of these tariff revisions. Subsequently the Commission granted unopposed applications by WUI and WU to amend the tariff revisions to provide for their termination on November 15, 1965; denied the RCA and ITT petitions insofar as they requested suspension of the tariff revisions; ordered WU and WUI to keep complete records of traffic involved therein; and retained jurisdiction in all other respects.

Western Union Telegraph Co. petition.—The Western Union Telegraph Co. on August 3, 1964, petitioned for an upward revision in the division of charges for the landline handling of international messages. Comments were received from the several international telegraph carriers. At yearend the Commission was awaiting financial data requested of the overseas carriers which will aid it in evaluating the pending petition.

Tariff schedules.—During the year, carriers filed 3,849 pages of international tariff material and 175 applications for permission to file tariff schedules on less than statutory notice.

Accounting Matters

Review of carriers' practices.—To effect compliance with the accounting rules and regulations of the Commission, continued reviews were made on a limited basis of the accounting practices and procedures of the international carriers.

WUI accounting practices.—As previously reported, WUI, in 1963, acquired Western Union Telegraph Co.'s international telegraph operations, which involved operation of certain owned and leased transatlantic cable facilities. An informal agreement, subject to periodic review, was reached on the accounting for certain phases of this transaction. In summary, WUI will, for accounting purposes, retroactive to October 1, 1963, compress into a 19-year period (*a*) certain provisions for rental payments to be actually paid over 25 years for the lease of the cables; (*b*) the amortization of a lump sum payment made to secure certain modifications in such lease, and (*c*) net charges for depreciation on cable and amortization of the credit acquisition adjustment to provide for the unrecovered book cost of cable plant. Normal depreciation accounting is being accorded all plant other than cable.

The Commission also approved a plan for amortizing successful research and development costs by WUI which would effect a charge

against income in the year in which the research and development costs are incurred, equivalent to the Federal income tax saving in that year resulting from such expenditures. The remaining balance would be amortized over the succeeding 10 years.

Depreciation.—Prescription of depreciation rates in accordance with section 220(b) of the Communications Act is expected to be consummated in early 1966 for one large overseas carrier, RCA Communications, Inc. Reviews were made of the depreciation-accounting practices, depreciation-expense charges, and the previously prescribed depreciation rates of other carriers, but no new depreciation rates were prescribed by the Commission in fiscal 1965.

Rules changes.—The Commission on September 2, 1964, amended its rules (docket 15489) for radiotelegraph and for ocean-cable carriers regarding the accounting to be performed in connection with acquisitions of interests in ocean cables.

STATISTICS

General

Annual reports were filed by 674 common carriers and 7 controlling companies for the calendar year 1964. 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. Summaries of these data are published quarterly by the Commission.

Telephone Carriers

Annual reports were filed by 665 telephone carriers, including 274 carriers engaged in general landline telephone service and 391 miscellaneous common carriers engaged only in providing land mobile radiotelephone service. Seventy-seven of the 274 telephone carriers were subject to the comprehensive landline telephone reporting requirements of the Commission and the remaining 197 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 1964 as compared to 1963.

Telephone carriers [1]

Item	1963	1964	Percent of increase or (decrease)
Number of carriers	60	60	
Book cost of plant (as of Dec. 31)	$32,289,935,688	$34,959,501,619	8.27
Depreciation and amortization reserves	6,839,062,611	7,443,262,056	8.83
Net book cost of plant	25,450,873,077	27,516,239,563	8.12
Local service revenues	5,742,358,830	6,011,156,620	4.68
Toll service revenues	3,951,759,818	4,447,293,514	12.54
Total operating revenues	10,157,661,346	10,948,813,422	7.79
Operating expenses and operating taxes	6,884,774,967	7,495,689,488	8.87
Provision for Federal income taxes	1,443,115,336	1,450,393,788	.50
Net operating income after all taxes	1,829,771,043	1,925,546,910	5.23
Net income	1,537,846,913	1,726,682,309	12.28
Dividends declared	970,754,234	1,125,516,446	15.94
Company telephones at end of December	73,790,785	77,486,223	5.01
Business	19,547,732	20,419,008	4.46
Coin	1,308,008	1,342,093	2.61
Residence	52,935,045	55,725,122	5.27
Number of calls originating during the year:			
Local [2]	112,035,198,927	117,916,029,777	([2])
Toll [2]	4,851,651,053	5,309,651,873	([2])
Number of employees at end of December	611,190	630,956	3.23
Male	271,531	280,163	3.18
Female	339,659	350,793	3.28
Total compensation of employees for the year	$3,784,301,959	$4,023,376,774	6.32

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

[2] 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 1964 increases of 4.48 percent in local conversations and 9.81 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 2,500 telephone companies in the United States. There are also additional very small connecting rural or farmer lines and systems in considerable number. Telephone industry estimates are that its operating revenues in 1964 totaled $12.1 billion, with book cost of plant at December 31, 1964, of $39.7 billion and 707,000 employees.

Land mobile radiotelephone service is offered in more than 560 areas (each usually comprising a city or town but sometimes covering adjacent cities or towns) by 38 of the 77 telephone carriers reporting to the Commission as "fully subject" carriers, with revenues for the year 1964 amounting to $10.5 million, an average of over $18,000 per area. This service is also offered in 260 areas by 197 other carriers engaged in general landline telephone service and in 692 areas (not all different because one-way and two-way systems often serve the same area) by 391 miscellaneous common carriers. Their 1964 revenues were $0.9 million and $6.0 million, respectively, or $3,500 and $8,700, respectively, average per area. The low average revenue per area served of the 197 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 1964. 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 Western Union Telegraph Co. for the calendar year 1964 as compared to 1963.

The Western Union Telegraph Co.[1]

Item	1963	1964	Percent of increase or (decrease)
Book cost of plant (as of Dec. 31)	$596,587,306	$634,635,599	6.38
Depreciation and amortization reserves	198,929,797	221,782,859	11.49
Net book cost of plant	397,657,509	412,852,740	3.82
Message revenues	176,654,437	176,315,368	(.19)
Teleprinter exchange service revenues	7,651,614	13,133,575	71.64
Leased-circuit revenues	84,687,222	91,922,323	8.54
Total operating revenues	286,822,217	299,410,249	4.39
Operating expenses, depreciation and other operating revenue deductions	266,659,860	278,324,217	4.37
Net operating revenues	20,162,357	21,086,032	4.58
Provision for Federal income taxes [2]	1,000,000	(1,200,000)	(220.00)
Net income [3]	24,930,601	16,973,571	(31.92)
Net income (landline and cable systems)	7,418,689	16,973,571	128.79
Dividends (landline and cable systems)	10,490,373	10,500,498	.10
Number of revenue messages handled [4]	104,220,311	97,448,219	(6.50)
Number of employees at end of October	28,015	26,607	(5.03)
Total compensation of employees for the year	$160,649,507	$161,129,268	.30

[1] The Western Union Telegraph Co.'s ocean-cable system was sold to Western Union International, Inc., as of Sept. 30, 1963. Figures covering Western Union's cable operations for the period Jan. 1, 1963, to Sept. 30, 1963, are included in the next table.

[2] Reflects estimated net reductions in Federal income tax expense of $4,160,000 and $5,500,000 in 1963 and 1964, 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. Also reflects estimated net increases in Federal income tax expense of $195,000 and $123,000 in 1963 and 1964, 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, 1964, of liberalized depreciation and 5-year amortization income tax differentials accounted for on the "flow through" basis was $27,866,000. Investment tax credits were not used in 1962, 1963, and 1964 due to the absence of tax liability for those years (the $1,000,000 tax expense in 1963 is the result of an accounting allocation). The estimated unused investment tax credit carryover amounted to $2,500,000 at Dec. 31, 1964.

[3] The decrease in net income from 1963 to 1964 is in considerable part attributable to the fact that the $8,250,000 tax credit arising from the loss on sale of the ocean-cable system in 1963 was tabulated as an extraordinary income credit of the landline system.

[4] Includes domestic transmission of transoceanic and marine messages (about 11,582,000 in 1963 and 10,894,000 in 1964).

Overseas Telegraph Carriers

Financial and operating statistics relating to the U.S. overseas telegraph carriers for the calendar year 1964 are shown below as compared to similar figures for 1963.

Overseas telegraph carriers

Item	1963	1964	Percent of increase or (decrease)
Number of carriers	8	8	
Book cost of plant (as of Dec. 31)	$153,464,873	$191,412,422	24.73
Depreciation and amortization reserves	66,939,045	71,451,786	6.74
Net book cost of plant	86,525,828	119,960,636	38.64
Message revenues:			
Domestic [1]	3,321,063	3,608,521	8.66
Transoceanic [2]	56,406,818	58,122,073	3.04
Marine	2,250,346	2,678,969	19.05
Teleprinter exchange service revenues	13,691,874	17,206,025	25.67
Leased-circuit revenues	12,098,159	14,646,831	21.07
Total operating revenues	97,821,724	107,560,162	9.96
Operating expenses, depreciation and other operating revenue deductions	85,101,934	91,109,156	7.06
Net operating revenues	12,719,790	16,451,006	29.33
Provision for Federal income taxes [3]	3,611,450	5,439,352	50.61
Net income	[4](8,637,500)	9,158,285	([5])
Dividends declared [6]	2,991,350	3,532,436	18.09
Number of revenue messages handled:			
Domestic [7]	53,069	61,524	15.93
Transoceanic	25,545,580	27,423,194	7.35
Marine	1,073,910	1,101,771	2.59
Number of employees at end of October	9,968	9,041	(9.30)
Total compensation of employees for the year	$51,905,482	$53,130,805	2.36

[1] Includes revenues 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., $1,631,684 in 1963 and $2,298,591 in 1964, are not included.

[3] All America Cables, Commercial Cable Co., and ITT World Communications had for the year 1964 net reductions totaling $300,000 in Federal income tax expense arising from 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 1962 through 1964 was $1,110,000. The liberalized depreciation income tax differentials accumulated in the accounts of All America and Mackay (now ITT World) during 1954 through 1960, in the amount of $885,000, are being amortized in equal amounts over 10 years beginning Jan. 1, 1962, to provision for Federal income taxes. RCA Communications had for 1964 net reductions in Federal income tax expense of approximately $750,000 arising from utilizing the 1954 liberalized depreciation method. The accumulated amount of liberalized depreciation income tax differentials accounted for since 1957 on the "flow through" basis was $3,287,000. ITT World Communications had investment tax credits in 1964 amounting to $206,392, RCA Communications had investment tax credits amounting to $300,000 and Western Union International had investment tax credits amounting to $68,000. The full amounts of these credits were accounted for on a "flow through" basis.

[4] The loss in 1963 is attributable to tabulating gross book loss of $18,126,223 incurred by Western Union Telegraph Co. on sale of its cable system as an extraordinary income charge of the cable system while the related Federal income tax credit of $8,250,000 is tabulated as an extraordinary income credit of the domestic telegraph system.

[5] Not comparable.

[6] All dividends declared by Western Union Telegraph Co. for 1963 have been reported in the previous table and excluded from this table, although data pertaining to Western Union's cable operations prior to date of sale to Western Union International (Sept. 30, 1963) are included in this table.

[7] Represents domestic classification messages (primarily Canadian and Mexican)

Overseas Message Telecommunications Services

During the calendar year 1964 the international telegraph carriers handled 24,509,000 messages going out of and coming into the United States. In the outbound direction 12,290,400 messages were transmitted, while 12,218,600 were inbound. In addition, 2,415,700 Telex messages were handled, including 1,060,900 outbound and 1,354,800 inbound. There were also 5,900,800 telephone calls handled during the year including 3,443,700 outbound and 2,457,100 inbound calls. The foregoing figures include traffic between continental United States and Hawaii and overseas territories. The number of telegraph mes-

sages, Telex messages and telephone calls between the United States and overseas points during the calendar year are set forth in the following table:

U.S. overseas message telecommunications services, 1964—Includes traffic transiting the United States

[Units in thousands]

Country	Telegraph messages		Telephone calls		Telex messages	
	Outbound from United States	Inbound to United States	Outbound from United States	Inbound to United States	Outbound from United States	Inbound to United States
EUROPE, AFRICA, AND NEAR EAST						
Europe:						
Albania	1.6	1.1				
Austria	61.5	66.4	13.6	5.9	3.7	7.5
Azores	2.7	2.4	.5	.2		
Belgium	179.2	180.8	29.5	23.0	35.6	61.6
Bulgaria	4.1	4.6	.1	(1)	.7	.2
Cyprus	5.0	5.4	.4	.8		
Czechoslovakia	17.3	28.8	1.2	.8	1.0	2.0
Denmark	93.0	88.3	21.1	14.2	9.3	16.5
Finland	29.8	37.2	3.7	1.9	1.4	3.9
France	601.7	602.9	146.2	102.4	60.6	109.5
Germany—East	} 680.5	633.3	285.5	124.9	94.5	112.8
Germany—West						
Gibraltar	1.5	1.5	.2	.2	(1)	(1)
Greece and Greek Islands	104.3	87.0	18.4	12.3	3.7	4.5
Greenland	1.2	.4			(1)	.1
Hungary	16.3	25.2	3.2	1.0	1.0	2.3
Iceland	8.1	9.0	2.5	1.8	.8	.8
Ireland	55.0	61.0	20.1	14.6	1.3	.9
Italy	573.8	507.4	99.9	49.7	31.6	49.3
Luxemburg	7.1	7.6	1.8	1.4	1.7	2.2
Malta	3.0	2.2	.1	.4	.1	.1
Netherlands	324.6	324.6	43.0	35.0	41.1	82.2
Norway	116.9	104.0	16.3	10.0	24.3	31.8
Poland	29.4	55.9	1.8	3.6	1.6	4.3
Portugal	60.9	55.6	4.0	3.1	1.8	3.0
Roumania	7.5	8.4	.5	.4	1.7	2.3
Spain	210.4	189.0	39.2	22.9	8.4	11.7
Sweden	169.0	179.4	31.7	23.6	17.6	24.2
Switzerland	366.3	347.8	70.5	43.0	50.9	69.8
Turkey	54.7	48.6	2.5	1.9		
U.S.S.R.	45.5	45.6	1.3	3.9	(1)	
United Kingdom	1,693.0	1,817.0	360.0	313.9	149.4	174.7
Vatican City State	2.5	3.6	(Included with Italy)			
Yugoslavia	35.7	37.0	2.2	1.7	3.7	4.5
All other places	1.6	9.1	1.1	.5	(1)	(1)
Total Europe	5,564.3	5,578.1	1,222.3	819.2	547.6	782.6
Africa:						
Algeria	4.5	4.2	.5	.4	.5	1.0
Angola	4.6	4.3	(1)	(1)		
Basutoland	.1	(1)				
Bechuanaland	.1	.1		(1)		
Burundi	2.2	2.2	.1	.1	(1)	.1
Cameroon	2.7	1.7	.1	(1)	(1)	.2
Canary Islands	7.2	7.4	.2	1.1	(1)	(1)
Cape Verde Islands	.8	.5	(1)			
Central African Republic	.8	.5	(1)	(1)	(1)	(1)
Chad, Republic of	.4	.2	(1)	(1)		
Comores (Comoro Islands)	.2	.1				
Congo (Brazzaville)	1.5	1.3	.1	.1	.1	.1
Congo (Leopoldville)	10.5	10.9	.2	.6	.3	2.0
Dahomey	.9	.7	(1)	(1)	(1)	(1)
Ethiopia	15.7	16.3	.2	.3	(1)	.1
French Somaliland	2.2	2.4		(1)		
Gabon	1.6	1.4	(1)	(1)		.1
Gambia	.1	.1	(1)	(1)		
Ghana	10.9	9.4	.8		.2	(1)

See footnotes at end of table.

U.S. overseas message telecommunications services, 1964—Includes traffic transiting the United States—Continued

[Units in thousands]

Country	Telegraph messages		Telephone calls		Telex messages	
	Outbound from United States	Inbound to United States	Outbound from United States	Inbound to United States	Outbound from United States	Inbound to United States
EUROPE, AFRICA, AND NEAR EAST—Con.						
Africa—Continued						
Guinea, Republic of	3.4	2.8	(1)			
Ifni Territory	(1)	(1)				
Ivory Coast	5.0	3.9	.2	.2	.4	.6
Kenya	21.0	20.5	.6	2.2	.2	.3
Liberia	32.3	35.3				
Libya	22.4	23.6	.4	.7		
Madeira Islands	3.3	2.5	.1	(1)		
Malagasy Republic	4.5	3.7	.1	.1	(1)	(1)
Mali	1.1	.8	.2	.1	.1	.1
Mauritania	.5	.2	(1)	(1)		
Mauritius	1.0	.8	(1)	(1)		
Morocco	17.0	15.7	1.4	1.2	.5	.8
Mozambique	2.7	3.0	(1)	(1)		
Niger	.7	.4	(1)	(1)	(1)	
Nigeria	31.8	27.5	.9	1.6	.1	.1
Portuguese Guinea	.1	.1				
Principe & Sao Tome	.1	(1)				
Reunion Island	.3	.3				
Rhodesia and Nyasaland	12.2	12.9	.4	.4	.1	.2
Rwandi	.9	.7	(1)	(1)	(1)	.1
Senegal	4.9	3.5	.1	.1	.4	.3
Seychelles	.4	.5				
Sierra Leone	6.4	5.1	.2	.2		
Somali Republic	2.1	2.4	(1)	(1)		
South African Republic	106.0	124.6	2.8	2.6	6.1	6.8
Spanish Guinea	.1	.1				
Spanish Sahara	(1)	(1)				
Sudan, The	6.1	5.8			(1)	(1)
Swaziland	.1	.2	(1)			
Tanganyika	6.7	5.1	.2			
Togo, Republic of	1.0	.9	(1)	(1)		
Tunisia	7.0	7.7	.2	.2	.1	.4
Uganda	3.7	2.9	.1		(1)	.1
United Arab Republic	49.6	61.6	1.6	2.0		
Upper Volta	.5	.4	(1)	(1)		
Zanzibar	2.6	1.6	(1)			
All other places	.8	1.0		.6		
Total Africa	424.8	441.8	11.9	15.1	9.2	13.4
Near East:						
Arabia—Aden	6.2	6.5	(1)	.1	(1)	(1)
Arabia—Saudi	26.6	24.0	.6	.6		
Arabia—Yemen	.5	.3				
Arabia—Other	2.4	5.5				
Iran	53.4	42.6	1.4	1.3	2.1	3.5
Iraq	20.1	48.2	.2	.2		
Israel	134.8	137.2	8.6	6.4	4.4	4.9
Jordan	9.2	8.6	.2	.2		
Lebanon	60.7	59.6	1.9	2.1	1.3	1.9
Persian Gulf—Bahrein and Muscat	4.8	5.1	.1	.5	.5	.6
Persian Gulf—Kuwait	15.5	16.0	.1	.2		
Persian Gulf—Other	4.1	4.6				
Syria	11.0	7.8	.3	4.3		
All other places	(1)					
Total Near East	349.4	365.9	13.4	15.9	8.3	10.9
Total Europe, Africa and the Near East	6,338.6	6,385.7	1,247.6	850.3	565.1	806.8

See footnotes at end of table.

U.S. overseas message telecommunications services, 1964—Includes traffic transiting the United States—Continued

[Units in thousands]

Country	Telegraph messages		Telephone calls		Telex messages	
	Outbound from United States	Inbound to United States	Outbound from United States	Inbound to United States	Outbound from United States	Inbound to United States
BERMUDA, WEST INDIES, CENTRAL, NORTH AND SOUTH AMERICA						
Bermuda	37.7	33.1	79.4	53.9	2.1	1.7
West Indies:						
British West Indies:						
Antigua	8.9	9.2	2.7	1.9		
Bahamas	77.4	75.8	187.7	85.5	1.9	1.9
Barbados	19.8	16.7	5.5	4.0	(1)	(1)
Carriacou	(1)	.1	4.1	4.3		
Cayman Island	2.6	2.3				
Dominica	1.6	1.9	.1	.1		
Grenada	2.8	2.5	.4	.3		
Jamaica	83.3	64.1	64.7	62.2	.4	.3
Montserrat	1.1	1.0	.2	.1		
St. Kitts and Nevis	1.6	1.6	.3	.2		
St. Lucia	1.9	2.2	.3	.2		
St. Vincent	1.8	1.9	.2	.1		
Tobago	.5	.4	.1	.1		
Trinidad	53.8	50.8	9.7	11.9	1.0	1.2
Turks Island	.9	.9		.2		
Virgin Islands (British)	.7	.2	.1			
Other British West Indies	.1	(1)				
Cuba	273.2	385.0	278.9	10.8		
Dominican Republic	93.8	97.2	33.1	35.7	4.7	4.2
French Antilles:						
Guadeloupe	5.3	4.4	.1	.1		
Martinique	7.4	6.3	.8	.7		
Other French Antilles	.1	.1				
Haiti	38.7	42.2	5.2	3.8	.4	.6
Netherlands Antilles	50.8	63.7	4.0	3.6	2.1	1.6
Puerto Rico	338.0	351.0	436.6	383.1	27.9	43.5
Virgin Islands (United States):						
St. Croix	12.1	12.5	45.3	35.2	.4	1.2
St. Thomas and St. John	23.9	25.1				
All other places	18.9	3.8				
Total West Indies	1,120.1	1,222.6	1,079.9	644.0	38.7	54.5
Central America:						
British Honduras	12.2	11.7	1.9	1.1		
Canal Zone	37.3	48.4	(Included with Panama)			
Costa Rica	63.5	56.8	12.6	12.6	.5	.5
Guatemala	83.9	89.5	15.4	13.9		
Honduras Republic	49.8	46.9	8.9	9.4		
Nicaragua	54.3	57.1	10.7	11.5		
Panama	74.0	78.2	58.3	49.0	10.1	7.3
Salvador	74.1	71.9	7.6	7.5		
All other places						
Total Central America	449.1	460.7	115.3	105.0	10.6	7.8
North America: [2]						
Alaska			2.5	2.7		
Canada	114.4	23.7	32.6	32.8	6.6	2.1
Mexico	112.7	163.8	31.1	33.5	9.1	11.7
St. Pierre and Miquelon	.1					
Total North America	227.2	127.5	66.2	69.1	15.7	13.8
South America:						
Argentina	255.4	241.7	23.6	22.3	38.2	56.8
Bolivia	35.7	35.0	.3	.1	.2	.3
Brazil	346.6	299.7	22.7	19.1	47.6	49.9
British Guiana	19.1	15.2	.8	.7		
Chile	96.9	83.7	8.5	10.0	17.3	28.2
Colombia	289.5	195.7	24.4	27.0	20.2	21.6
Ecuador	78.2	78.7	8.6	7.9	2.8	3.2
French Guiana	1.4	1.3	(1)	(1)		
Paraguay	11.5	9.1	.1	(1)	.6	1.3

See footnotes at end of table.

U.S. overseas message telecommunications services, 1964—Includes traffic transiting the United States—Continued

[Units in thousands]

Country	Telegraph messages		Telephone calls		Telex messages	
	Outbound from United States	Inbound to United States	Outbound from United States	Inbound to United States	Outbound from United States	Inbound to United States
BERMUDA, WEST INDIES, CENTRAL, NORTH AND SOUTH AMERICA—continued						
South America—Continued						
Peru	149.6	123.5	18.6	18.1	26.6	36.8
Surinam	12.8	11.4	1.3	1.7	.7	1.0
Uruguay	84.9	75.3	5.9	6.4	1.1	5.4
Venezuela	368.4	454.9	32.7	33.8	14.8	13.6
All other places	.2	.1				
Total South America	1,750.2	1,625.4	147.6	147.3	170.2	218.1
Total Bermuda, West Indies, Central, North and South America	3,585.0	3,469.3	1,488.5	1,019.2	237.3	295.8
HAWAII, ASIA, AND OCEANIA						
Hawaii	297.0	262.2	502.4	415.2	25.5	23.1
Asia:						
Afghanistan	5.4	4.2	.1	.2		
Burma	9.5	7.4	(1)	(1)		
Cambodia	4.1	3.9	(1)	(1)		
Ceylon	14.5	15.2	.1	.3	(1)	.1
China—People's Republic of	6.9	.2	(1)	(1)		
China—Republic of	78.2	64.1	3.6	2.6	6.3	9.4
Hong Kong	173.8	144.8	13.6	12.7	10.4	8.9
India	240.1	247.0	3.1	4.4	1.7	1.2
Japan	581.7	560.9	88.4	66.7	161.9	147.7
Korea—North	.1	(1)				
Korea—Republic of	56.2	50.4	13.6	4.3	4.0	6.7
Laos	2.3	4.0				
Macao	.3	.3	(1)	(1)		
Malaya	15.4	15.0	.9	1.0	.6	.7
Pakistan	99.1	111.6	.7	1.1	.5	1.2
Singapore	45.3	38.5			1.1	1.2
Thailand	53.6	50.1	.6	.8	.3	.9
Viet-Nam	36.2	47.5	1.1	5.2		
All other places	.6	.1				
Total Asia	1,423.4	1,365.4	125.9	99.4	186.8	178.1
Oceania:						
Australia	234.3	254.9	27.6	29.9	16.7	15.4
Brunei	.8	.9				
Fiji Islands	2.1	.4	.4	.2		
French Polynesia	6.3	5.6				
Guam	19.5	20.7	11.1	10.1	.4	.3
Indonesia	60.3	81.7	.2	.6		
Midway Islands	.2	(1)	.5	3.3		
New Caledonia	1.1	1.2	(1)	(1)		
New Guinea and Papua Territory	.7	.4	.1	.2		
New Zealand	59.3	65.9	5.6	6.8	3.1	3.1
North Borneo	.6	.6		(1)		
Philippines	220.1	253.1	16.8	17.7	25.9	32.3
Ryukyu Islands	30.3	37.0	15.1	2.2		
Samoa Islands:						
American	3.1	3.4	1.1	.7		
Other	.9	.2	(1)	(1)		
Sarawak	.7	.7	(1)			
Solomon Islands	(1)	(1)		(1)		
Wake Island	.3	.2	.3	.8		
All other places	5.6	8.8	.6	.4	(1)	
Total Oceania	646.2	736.0	79.4	72.9	46.1	51.1
Total Hawaii, Asia and Oceania	2,366.8	2,363.6	707.6	587.5	258.4	252.2
Grand total	12,290.4	12,218.6	3,443.7	2,457.1	1,060.9	1,354.8

NOTE.—Details may not add to total due to rounding.

[1] Less than 50 messages or calls.

[2] Represents international-classification traffic which originated at overseas points and destined to Alaska, Canada, or Mexico (outbound from United States), and similar traffic which originated in such places in North America and destined to overseas points (inbound to United States). This traffic was handled between such North American and overseas points by U.S. carriers via the contiguous United States.

Common Carrier Radio Authorizations

Authorizations outstanding in the common carrier radio services totaled over 10,000 at the close of the fiscal year, an increase of more than 1,600 for the year. Comparative figures by class of service are shown below:

Class	June 30, 1964	June 30, 1965	Increase or (decrease)
Domestic:			
Point-to-point microwave	4,143	4,584	441
Local television transmission [1]	73	77	4
Rural radio	439	498	59
Domestic public land mobile	3,618	4,710	1,092
Developmental	28	110	82
International:			
Point-to-point telegraph-telephone	9	9	----
Point-to-point telegraph	14	11	(3)
Point-to-point telephone	8	8	----
International control-fixed	11	8	(3)
Total	8,343	10,015	1,672

[1] Studio-transmitter-link.

Common Carrier Applications

Over 10,600 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, 1964	Received	Disposed of	Pending June 30, 1965
Radio facilities				
New and changed facilities:				
Domestic:				
Point-to-point microwave radio stations	1,014	4,852	4,422	1,444
Local television transmission stations	2	17	19	
Rural radio stations	88	230	260	58
Domestic public land mobile radio stations	442	2,330	2,520	252
Developmental stations	4	43	43	4
Registration of Canadian radio stations		46	46	
International:				
Point-to-point radiotelegraph-telephone		16	16	
Point-to-point radiotelegraph		37	35	2
Point-to-point radiotelephone		22	22	
International control		10	10	
Renewal of license: [1]				
Point-to-point microwave radio stations				
Local television transmission stations				
Rural radio stations				
Domestic public land mobile radio service:				
Systems of—				
Telephone companies		645	645	
Miscellaneous common carriers				
Customer-supplied mobile units utilizing base stations of—				
Telephone companies		1,076	1,076	
Miscellaneous common carriers				
Developmental stations		108	108	
International		36	36	
Total, radio facilities	1,550	9,468	9,258	1,760
Wire facilities				
Telephone extensions	9	322	318	13
Telegraph extensions	8	88	94	2
Telephone reductions		5	5	
Telegraph reductions	110	742	786	86
Total, wire facilities	127	1,157	1,183	101
Miscellaneous				
Applications to purchase stock in Communications Satellite Corporation	4	3	6	1
Interlocking directorates		20	20	
Jurisdictional determinations				
Submarine cable landing licenses	2	6	5	3
Grand total	1,683	10,654	10,472	1,865

[1] Licenses in the various common carrier radio services are issued for terms of from 1 to 5 years and all licenses in a given service expire at one time with new licenses issued between renewal dates being only for the unexpired license period for the class. This explains why the number of license renewal applications may be none in some years.

CATV Systems

HOW THEY STARTED

Community antenna television (CATV) systems were born of a desire by people in small and isolated communities to obtain TV service. Conseqently, the first CATV systems were established, largely by local enterprise, in places unable to support a local TV station and beyond the service range of outside TV stations for satisfactory off-the-air reception.

As early as 1949 a pioneer community antenna was tested at Astoria, Oreg., and what is said to have been the first commercial CATV system started at Lansford, Pa., the following year.

CATV systems later developed in communities having a local TV station, or near one, where persons desired to receive more than one TV signal. The result is that CATV service has become a large and fast-growing business.

HOW THEY OPERATE

CATV systems pick up programs of outside TV broadcast stations directly off the air by means of a receiving antenna or bring them in by microwave radio relay. These signals are sent from the local CATV distribution point by multipurpose coaxial cable (which can simultaneously carry up to a dozen or more signals on different frequencies) to the homes of subscribers linked to the cable system. Usually, for technical reasons, the TV channel picked up by the CATV antenna is converted to another frequency for reception on the home set.

The signals are amplified for distribution to customers. Because cable line lengths and frequencies differ, it is sometimes necessary to employ other amplifiers en route. At the home, the incoming cable is attached directly to the receiving connection of a regular TV set, and all the viewer has to do is to turn his dial to the particular channel he wants. No separate converter is necessary.

GROWTH OF CATV

About 1,700 CATV systems are now in operation, serving over 4½ million viewers. Whereas early systems offered programs over only two or three channels, today the average channel choice is five. Some systems provide 9—even 12—channels. CATV service is being extended into cities which have one or more TV stations. There is competition for CATV franchises in several large metropolitan areas.

The present largest CATV system has more than 15,000 customers. About 90 percent have fewer than 3,000 subscribers, the average being about 655.

COSTS OF CATV

The average subscriber pays about $60 a year for CATV service in addition to an initial installation charge. Costs of establishing CATV systems vary widely. Exclusive of antenna, they range between $3,500 and $4,000 a mile. The estimated cost of a system serving 1,000 customers is about $150,000; for 5,000 customers, $400,000; for 10,000 customers, $800,000.

CATV systems normally string their cables on poles rented from the telephone company, sometimes from the power company or local municipality, and occasionally put up their own poles. Pole rental to CATV systems varies from $1.50 to $5 per pole. In one city CATV proponents plan to use municipal underground conduits. More than 300 CATV systems get their programs over microwave relay, for which they pay an annual rental of from $12,600 to $96,000 to carriers other than the telephone company. Franchises granted by local authorities usually entitle the municipalities to some percentage of the CATV's gross revenue or other type of annual payment.

CATV COMPETITION TO TV STATIONS

Beginning in 1957, competitive conflicts developed between TV stations and CATV systems operating in the same area. Various considerations are involved.

A local TV station has to program on a single channel, and where a CATV system operates in the station's community or service area, the TV station has to compete with the CATV's offer of a choice of network and other programs on multiple channels. The extent of competition depends on the number of actual or potential CATV subscribers. In some cases the CATV has refused to carry the signal of the local TV station. There has also been complaint that, although the CATV system carries a local station's program, the station's signal is sometimes degraded to an extent which causes viewers to turn to other

stations on the CATV system. Installers of CATV cable connections sometimes disconnect the set from or even dismantle the home antenna, which may prevent the set owner from receiving the local TV station directly off the air.

CATV systems, because of the prohibitive cost of extending cables beyond built-up areas, do not serve outlying places where people are dependent upon regular TV service. In consequence, if CATV competition forces the only TV station in a community off the air, the adjacent rural population loses TV service. Similarly, people living in the urban area who are unable or unwilling to pay CATV charges are dependent upon TV broadcast. Moreover, a TV station is a medium for community news and expression and otherwise serves local needs beyond the ability of a CATV system to provide.

The Commission recognizes the valuable contribution of CATV in bringing new or supplementary service to many places and the desirability of furthering the orderly development of these systems. But, at the same time, it holds that CATV service should be supplementary to and not cripple local TV broadcast service or impede the growth of TV broadcasting. Accordingly, it has proposed and, in some instances adopted, rules which are noted subsequently.

CATV REGULATION

CATV operation is not regarded as broadcasting because it does not transmit to its audience over the air. Nor can it be technically called pay-TV since the programs it picks up are broadcast free by the originating TV stations. And the Commission has held that it is not a common carrier within the meaning of the Communications Act. Consequently, CATV is in the category of wired radio and TV operations which do not now require Commission licensing. However, CATV may involve incidental radio (microwave) usage which definitely requires FCC licensing and regulation, and, as noted later, the Commission recently reached the tentative conclusion that it has jurisdiction over all CATV systems. Also, the Commission restricts all incidental radiation, including that of CATV systems which might interfere with licensed radio operations.

CATV is subject to some degree of control at the State and local level. Thus far, only one State (Connecticut) regulates CATV as a public utility, but other States are considering doing so, and most localities require franchises for CATV operation.

CATV regulation was the subject of a hearing before a subcommittee of the Senate Interstate and Foreign Commerce Committee in 1958. Legislation to give the FCC broad authority over CATV—including licensing—was defeated in the Senate in 1959 by a single

vote. A more limited bill (S. 1044), to authorize the FCC to issue rules and regulations for CATV systems, was proposed by the Commission in 1961 but was not reported out of committee. On April 28, 1965, Chairman Harris of the House Interstate and Foreign Commerce Committee introduced a bill (H.R. 7715) to establish a national TV policy and provide a method for Congress to review FCC rules for CATV systems before they become effective.

FCC ACTIONS IN CATV FIELD

The Commission has for several years been concerned about the problems posed for free TV—especially the development of UHF broadcast service—by the mushrooming growth of CATV systems. Following is a chronology summarizing its major actions concerning CATV:

On April 2, 1958, the Commission dismissed a request by Frontier Broadcasting Co. and 12 other AM and TV broadcasters that it exercise jurisdiction over CATV systems as common carriers. The Commission held that CATV systems are not engaged in common carrier operations within the meaning of title II of the Communications Act. (This position was reaffirmed in dismissing similar requests by WSTV, Inc., March 23, 1962, and Philadelphia Television Broadcasting Co., July 28, 1965. The latter and others on August 5, 1965, asked the appeals court to declare CATV systems common carriers.)

On May 21, 1958, it instituted an inquiry into the economic impact on TV broadcasting by CATV, translator, satellite and booster operations (docket 12433). On April 13 of the following year, while not undertaking any regulation of CATV systems, it advocated legislation which would require CATV systems to (1) have the consent of the TV stations whose signals they pick up, and (2) carry programs of the local TV station, if the station requested it, and to do so without degrading the station's signal.

On February 14, 1962, the Commission denied an application by Carter Mountain Transmission Corp. for additional microwave relay facilities to serve several CATV systems in Wyoming unless the carrier could show that duplication of programing of the only local TV outlet in one of the communities (KWRB–TV, Riverton, Wyo.) would be avoided and the CATV system would carry programs requested by the station (docket 12931). On May 23, 1963, the court of appeals upheld the Commission's right to refuse to license common carrier microwave facilities to carry signals to CATV systems if the result might cause the demise of the local TV station with resultant loss of service to the public. The Supreme Court on January 25, 1965, declined to review this decision.

On December 12, 1962, the Commission proposed rules (docket 14895) to condition grants for private microwave stations in its Business Radio Service relaying programs to CATV systems to the requirement that the CATV system not duplicate, for a period of 30 days (later reduced to 15) before or after, any program carried by a local or nearby TV station, if the station so requests, and, also on request, carry the local station's signal without material degradation. This rule was intended to give the local TV station exclusivity with regard to programs it selects for presentation but allow the CATV to present the great bulk of programs broadcast by the outside stations feeding into its system.

Following the court decision in the *Carter Mountain* case, the Commission on December 12, 1963 (docket 15233) proposed like conditions for microwave grants to common carriers in the Domestic Point-to-Point Microwave Relay Service serving CATV systems, and made more definite its previous proposals for private microwave relay (docket 14895).

During the pendency of these proceedings, applications for microwave service to CATVs were not granted unless the applicant accepted the proposed conditions. In addition, all such authorizations were made subject to the outcome of the rule making. This interim procedure was affirmed by the court of appeals in the Wentronics, Inc., case on March 26, 1964.

Pursuant to notice given on March 13, 1964, in granting transfer of WBOY-TV, Clarksburg, W. Va., to an operator of CATV systems, the Commission on April 15 thereafter instituted an inquiry into joint ownership of CATV systems and TV stations (docket 15415). On July 27, 1965, it reported that its inquiry had not disclosed any evidence of widespread abuses and that the situation did not warrant a ban on cross-ownership but warned that it would take action in specific cases of abuses. The Commission's action granting the transfer was appealed and, in May 1965, the court of appeals reversed the Commission, holding that concentration of control and other questions required a hearing.

On July 29, 1964, the Commission proposed to place private microwave facilities in the Business Radio Service which serve CATV systems in a new class of service called Community Antenna Relay Service, to be administered by the Broadcast Bureau (docket 15586). At the same time, it proposed new rules for like service by common carriers, and frequency allocations for both types of operation. This was intended to accommodate the growth of CATV systems by providing more efficient use of the spectrum space allocated for microwave relay.

On December 29, 1964, in a case involving Pacific Telatronics, Inc., the Commission reaffirmed its authority to regulate common carriers using microwave facilities to serve CATV systems even though the microwave link was wholly within a State. It held that such a common carrier operation was an extension of, and incidental to, the broadcasting of TV signals and, therefore, was interstate in character and subject to regulation under title II of the Communications Act.

On February 3, 1965, the Commission granted that part of a petition by WAGM–TV, Presque Isle, Maine, which requested clarification of the CATV nonduplication condition.

On March 5, 1965, the Commission released "An Economic Analysis of Community Antenna Television Systems and the Television Broadcasting Industry" compiled by Dr. Martin H. Seiden, economic consultant, who was engaged in 1964 to aid the Commission in its overall study of the CATV situation. This 91-page report was placed on public sale by the Government Printing Office on March 18. An appendix giving more detailed analysis was added to the Commission's public reference files the following month.

On April 22, 1965, the Commission adopted the carriage and nonduplication rules for microwave-served CATV systems as proposed in dockets 14895 and 15233.

At the same time, it instituted an inquiry and rule making concerning regulation of CATV systems in general (docket 15971). This proceeding is in two parts. In the first part the Commission reached an initial conclusion that it has jurisdiction over all CATV systems and proposed to extend the nonduplication requirement to nonmicrowave-using CATV systems. The Commission held that CATV systems are engaged in interstate communication by wire and, therefore, are subject to regulation under sections 2(a) and 3(a) of the Communications Act and, further, that sections 4(i), 303 (f), (h) and (r) of the act enable it to prevent frustration of the fair, efficient and equitable broadcast provisions of sections 1 and 307(b). Accordingly, it proposed extending the carriage and nonduplication requirements to nonmicrowave-served CATV systems.

In the second part of this proceeding, the Commission instituted an inquiry looking toward rules on other questions of concern related to CATV development. These have to do with CATV entry into large cities and their effect on independent UHF stations, possible restriction on the extension of a station's signal by CATV, whether CATV system should be required to carry nearer stations instead of "leapfrogging" to distant ones, CATV program origination, and possible relation of CATV to pay-TV.

The Commission stated:

> While we have initially concluded that we have jurisdiction, we would carefully consider comments addressed to this aspect . . . Second, we adhere to our position that clarifying legislation would be desirable, and have no intention of bypassing congressional action in this field. We are clearly concerned here with new and important questions of policy and law in the communications field. That being the case, the Commission would welcome (i) a congressional guidance as to policy and (ii) congressional clarification of our authority, which would lay the troublesome jurisdictional question at rest . . . In short, by instituting this proceeding, we shall gather essential data, both for the Commission and the Congress, and will have conserved valuable time and be in a position to take final effective action in either of two eventualities: (1) Congress has enacted legislation in this field which does not preclude the Commission from promulgating rules . . . or (2) no legislation is forthcoming, and the comments in the rule making proceeding lead to the conclusion that the Commission does have present jurisdiction . . . The rule making proceeding . . . will thus be conducted concurrently with legislative consideration, with final Commission decision withheld for an appropriate period to afford Congress an opportunity to act.

On October 13, 1965, the Commission established the proposed Community Antenna Relay Service (docket 15586) and adopted the proposed rules for like service by common carriers. The technical portions of this proceeding are still pending.

Broadcast Services

POLITICAL BROADCASTS

Section 315 Considerations

Inquiries from licensees and from candidates for public office concerning rights for the use of broadcast time arising from the operation of section 315 of the Communications Act are handled as expeditiously as possible. Receipt of a complaint is acknowledged immediately and the licensee is advised of the complaint and directed to submit its comments. Both complainant and licensee are notified of the Commission's disposition of any complaint.

On July 31, 1964, the Commission issued a supplement to its public notice on "Use of Broadcast Facilities by Candidates for Public Office" which contained additional significant rulings and recommended a procedure for complainants designed to achieve expeditious handling: Since Commission policy is to encourage negotiations between licensees and candidates seeking broadcast time or having questions under section 315, it recommended that a complaint not be filed until after there has been a good faith effort to resolve any differences. Such negotiations, when successful, may save time which is an important factor in a political campaign, as well as alleviate the necessity for filing a complaint. Also, in the interest of saving time, the Commission recommended that the complainant simultaneously send a copy of his complaint to the licensee, that the licensee respond without awaiting Commission inquiry, and that complainant and licensee furnish each other with copies of all their correspondence to the Commission. The complaint should be in written form and should include, but not be limited to, information as to the public office involved, the date and nature of the election, whether the complainant and his opponent are legally qualified candidates, when the complainant's opponent appeared on the air, the time of the request to the licensee for equal opportunities, and the reasons given by the licensee for failing to satisfy the request.

Unlike the 1960 Presidential and Vice-Presidential campaigns, the 1964 campaigns for these offices were not exempted from the equal time provisions of section 315, and the Commission handled complaints relating to these contests. Because 1964 was an overall election year the number of complaints handled in fiscal 1965 was substantially greater than in fiscal 1964, about 285 compared to 175. The Commission did not experience any serious problems in applying the 1959 amendments to section 315 cases, and is making no recommendations as to changes in this section.

Questions arising out of application of section 315 to specific factual situations increased in complexity and sophistication. The following significant section 315 matters came before the Commission during the fiscal year:

On August 27, 1964, the Columbia Broadcasting System advised the Commission that President Johnson would undoubtedly hold press conferences prior to election day, also Senator Goldwater. CBS stated it considered Presidential press conferences to be important news events and had given them such broadcast coverage as its news judgment warranted. It believed it would be in the public interest to continue to cover President Johnson's press conferences, as well as those of Senator Goldwater, provided that this coverage would not require equal time for all other candidates for the Presidency.

The Commission held that such press conferences could not qualify within the exemption accorded bona fide news interviews (sec. 315(a)(2)) because they were not held at regular intervals but rather at the discretion of the candidates, and the scheduling, content and format were not under control of the network. It held further that they did not fall within the "on-the-spot coverage of bona fide news events." This part of the ruling was based on prior Commission holdings that "if the sole test of the on-the-spot coverage exemption is simply whether or not the station's decision to cover the event and to put it on a broadcast program constitutes a bona fide news judgment, there would be no meaning to the other three exemptions in section 315(a) since these, too, all involve a bona fide news judgment by the broadcaster. Carried out of its logical conclusion this approach would also largely nullify the objectives of section 315 'to give the public the advantage of a full, complete and exhaustive discussion, on a fair opportunity basis, to all legally qualified candidates and for the benefit of the public at large'."

The Commission noted "if we were to construe subsection (a)(4) as encompassing all coverage of a candidate deemed newsworthy by the licensee, it would mean that the equal opportunities requirement of section 315, in effect, had been repealed . . . that the licensee, in the exercise of his good faith news judgment, could cover the speeches, press conferences, indeed any and all appearances of a candidate, without bringing into play the equal opportunities requirement." The Commission stressed that this ruling was limited to the matters raised in the CBS letter and does not extend to "extraordinary or unusual factual situations."

On October 18, 1964, President Johnson broadcast a report to the Nation concerning Khruschev's removal from office and Red China's explosion of a nuclear device. The Chairman of the Republican National Committee and the nominee of the American Party each requested equal time on the TV networks for the candidates of those parties and, after refusal, complained to the Commission. The Commission considered its ruling during the 1956 Presidential campaign, in a similar situation, to be controlling in the 1964 case. During the 1956 Presidential campaign President Eisenhower used 15 minutes of broadcast time to address the Nation with respect to the Suez crisis. A question was then raised as to whether "equal opportunities" had to be afforded the other Presidential candidate.

The Commission "reached a conclusion that we do not believe that when Congress enacted section 315 it intended to grant equal time to all Presidential candidates when the President uses the air lanes in reporting to the Nation on an international crisis." It noted that the 1956 ruling had been reported to the Congress and that Congress had subsequently amended section 315 without alter-

ing or commenting adversely on the 1956 ruling. The Commission also held that in this instance the networks could properly determine that a report on specific, current international events affecting the country's security falls within the "on-the-spot coverage of bona fide news events" exemption of section 315. The Court of Appeals affirmed the action. The Supreme Court later denied certiorari.

The United Community Campaigns of America (UCCA) advised the Commission that for some 30 years it has opened its United Fund and Community Chest drives with a special message broadcast by the President of the United States. It also stated that in recent years this had been filmed or video taped at the White House for later broadcast. The networks advised UCCA they (the networks) could not broadcast the President's message because of section 315 applicability to candidates. UCCA requested the Commission to rule that this traditional address is nonpolitical and that section 315 is not applicable. The Commission held, as it had done in the past, that section 315 contained no exemptions with respect to broadcasts by legally qualified candidates carried "in the public interest" or as a "public service;" that a candidate's speech in connection with a ceremonial activity is a section 315 use; and that it was immaterial that the candidate used the broadcast time to discuss matters not related to his candidacy. The fact that the appearance of the candidate is nonpolitical is not determinative of whether his appearance constitutes a section 315 use. The Commission did not decide whether presentation of the special message in connection with news-type programs would meet the criteria for exemption, since that question is one initially for the exercise of the good faith judgment of the broadcast licensee.

The Republican and Democratic candidates for the U.S. Senate from New York appeared on a program originated by a TV station and fed to several affiliated stations. The program consisted of 3 half-hour sections—the first half-hour consisting of an interview of one of the candidates by persons chosen by his supporters, the second half-hour to a like interview of the other candidate, and the third half-hour to a panel discussion by all of the interviewers in which the candidates were not present. Equal time was requested by the Conservative and Socialist Labor Party candidates for the same office. The Commission ruled that the program was not exempt from the provisions of section 315 as a news-type program and that both candidates were entitled to equal opportunities on the originating station and the other stations which carried the program.

The Democratic candidate for U.S. Senator from Texas protested that a broadcast by his Republican opponent used audio taped excerpts from the Democrat's prior speeches, radio and TV programs to distort his position. He contended that if the stations broadcast the excerpts without his permission they would be in violation of sections 325 (prohibition against rebroadcast without consent of originating station) and 315 (prohibition against censorship by station of material broadcast by candidates). He later supplemented his complaint to protest alleged distortion of his voice to give a false impression of his actual speaking manner.

After receiving comments from the stations involved, the Commission notified the Democratic candidate it did not appear that the excerpts had been recorded off-the-air, hence the stations were not in violation of section 325. The Commission held that, even assuming the licensees could have deleted the audio portions of the Democratic candidate's voice from the Republican's program, that

is a matter in which the licensee was called upon to make good faith judgment and in which he had wide latitude. The Commission could not find that the licensees' judgment in permitting the broadcast of the entire program of the Republican candidate was unreasonable or beyond the latitude accorded them in making programming judgments. Finally, the Commission advised the Democratic candidate that the stations' responses to its inquiries did not indicate any attempt to distort his voice.

On March 6, 1965, station WMAY, Sprinfigeld, Ill., requested the Commission to rule that regularly scheduled news programs broadcast by its news director, then a candidate for the school board, were exempt from the equal opportunities provision of section 315 on the basis that his appearances were on bona fide news broadcasts. The news director had been identified in his broadcasts prior to his becoming a candidate, but the station proposed not to identify him during the period he was a candidate.

The Commission ruled that the appearances of the news director were not exempt. It explained that the "purpose of the 1959 amendment was to allow greater freedom to the broadcaster in reporting news to the public, that is to say, in inserting appearances of candidates as part of the content of news programs." It noted that the amendment did not treat the question of whether the appearance of station employees who are candidates for office should be exempted when they were in the capacity of announcers rather than being part of the content of the news any more than it dealt with the appearance of such employees on variety programs or as commercial announcers. Further, the news director participated in the preparation of the format and porduction of the station's news programs and the legislative history of section 315 indicates that the appearance of a candidate in a news type program in which he has helped prepare and produce would not be exempt.

1964 Political Broadcast Expenditures

In September of 1964 the Commission sent a questionnaire to all broadcast licensees to obtain information on their activities in the field of political broadcasting during the 1964 primary and general election campaigns. A report on this survey was made to the House and Senate Commerce committees in July 1965. Some highlights of the survey results follow:

A total of approximately $35 million was spent on political broadcasts and announcements in both elections, of which approximately 37 percent (about $12.8 million) was spent in connection with the Presidential and Vice Presidential campaigns. More money was spent for Democratic than for Republican candidates ($17.8 million compared to $15.9 million), with less than $1 million for minor party candidates. In the general election the Republicans spent more—$13 million compared to $11 million. Virtually all commercial TV and AM radio stations reported carrying paid political time. Ninety-four percent of the TV stations but only 43 percent of the AM radio stations reported carrying sustaining time. Broadcast expenditure in the general election was approximately 73 percent higher than the amount spent in 1960 and 2½ times that spent in 1956. Slightly more than 30 percent of the expenditure in 1964 was for radio.

BROADCAST OF CONTROVERSIAL PUBLIC ISSUES

The Commission's so-called "fairness doctrine" requires that when a licensee permits the use of his station for discussion of controversial issues of public importance he is under an obligation to afford reasonable opportunity for the broadcast of opposing viewpoints. First enunciated in the 1949 "Report on Editorializing by Broadcast Licensees," and later reflected in section 315(a) of the Communications Act, the doctrine, its history and application were detailed in a primer entitled "Applicability of the Fairness Doctrine in the Handling of Controversial Issues of Public Importance" issued on July 1, 1964.

Illustrative of cases under this doctrine which were decided during the year were the following:

On October 21, 1964, a station repeatedly broadcast an editorial critical of the award of the Nobel Peace Prize to the Reverend Martin Luther King, Jr. Although the station gave an initially favorable response to the request of a group with which Reverend King was affiliated for time in which its spokesman might reply, it declined to broadcast the reply on the ground that part of it was not responsive to the specifics of the station's editorial. The station further stated that the text of the reply would have to be read by an employee of the station rather than by Reverend King's spokesman.

The Commission ruled that, since the editorial constituted a personal attack on Reverend King, the station had an obligation to send a copy of the editorial to Reverend King with an offer to him, or to his spokesman, of a comparable opportunity to reply. The Commission held that in this personal attack situation, the station's insistence that a station announcer be used to read the reply was unreasonable. It also found that since the reply submitted was reasonably responsive to material contained in the editorial, the station had not shown good reason for refusing to broadcast it. Subsequently, the station advised that it had complied with the Commission's interpretation of the "fairness doctrine" in this instance (Commission letter of January 19, 1965, to Radio Albany, Inc., WALG, Albany, Ga.).

On October 29, 1964, the Chairman of the Republican National Committee complained to the Commission on behalf of Senator Goldwater, the Republican Presidential candidate, about rejection by the three national TV networks of a request under the fairness doctrine for equal time for Senator Goldwater to respond to President Johnson's October 18, 1964, broadcast concerning Premier Khrushchev's ouster and the Chinese atomic bomb explosion. (The Commission had earlier ruled that Senator Goldwater was not entitled to "equal opportunities" under section 315 provisions relating to political candidates. See "Political Broadcasts.")

After inquiry, the Commission held that the networks had acted reasonably and in good faith pursuant to the fairness doctrine. It found that the networks had offered time on several occasions both before and after the October 18 broadcast, to Senator Goldwater, the Republican National Committee, and Republican Party and Goldwater spokesmen to express their views in the issues involved, that some of these offers had been accepted and used, and that these views had been reported on numerous occasions in the networks' newscasts and other programs. The Commission concluded that its decision was ". . . not to

state what the Commission believes would have been the soundest programing course or to substitute its judgment for that of the licensee. Rather, as we stated to Chairman Harris in our letter of September 20, 1963, FCC 63-851, the Commission, in reviewing fairness complains, 'accords the licensee considerable discretion, and reviews only to determine if he has acted *reasonably*.' We cannot find, on the basis of the showing here, that the networks have abused that considerable discretion or acted unreasonably." (Letter to the Chairman of the Republican National Committee, October 31, 1964.)

Following the outbreak of violence that attended the enrollment of James Meredith at the University of Mississippi in the fall of 1962, the Commission inquired into the operation of a number of Mississippi stations in order to resolve questions raised by complaints that the stations presented only viewpoints in favor of segregation in programs treating with the issue of racial integration.

Petitions were filed by a church group and others to deny certain of the renewal applications. They asserted that the stations did not serve the needs and interests of the Negro population within their service areas (40 to 50 percent of the population) and presented only the segregationist viewpoint on local programing dealing with racial integration.

With respect to one of the licensees, the Commission found such serious questions as to operation in the public interest as to make it a close matter whether to designate the renewal applications for hearing. However, it denied the petitions and granted short-term (1-year) renewals, taking into account the fact that this geographical area is entering a critical period in race relations and that these and other stations could make a worthwhile contribution to the resolution of such problems. The Commission was of the view that the licensee, by operating in accordance with its representations to the Commission and other specified conditions, could make that needed contribution and, thus, the renewal of the licenses would be in the public interest. The short-term renewals were granted on condition that the licensee comply strictly with the requirements of the fairness doctrine, observe strictly its representations to the Commission in this matter, act in good faith to ascertain and discharge its area's needs, including discussions with community leaders active in the civil rights movement, and immediately cease discriminatory programing patterns. (Lamar Life Broadcasting Co., and Lamar Life Insurance Co., Stations WJDX, WJDX-FM and WLBT, Jackson, Miss., decided May 19, 1965.)

In another case, in considering a licensee's obligation to encourage and implement the presentation of contrasting viewpoints on controversial issues of public importance on which its editorilized, the Commission ruled that the mere sending of a copy of the editorial to an interested person falls short of meeting that obligation because the recipients may not know that they are being offered an opportunity to respond.

In complying with this obligation under the doctrine, some licensees, where they know or have reason to believe that a responsible individual or group within the community holds a contrasting viewpoint to that presented or to be presented, make a specific offer of the use of their facilities for the expression of the contrasting view. Other licensees consult with community leaders as to who might be an appropriate individual or group for such purpose. Still others announce at the beginning or ending (or both) of such programs that opportunity will be made available upon request by responsible representatives of contrasting views.

The Commission has advised stations that a licensee can, under the fairness doctrine, take into consideration network programs which present contrasting viewpoints to those expressed on station editorials and in local programs. However, it stated that the doctrine applies to specific controversial issues of public importance and that broad reference to network public affairs programing "generally in a direction away from a conservative point of view" does not adequately discharge fairness responsibilities but, rather, the licensee must detail the specific issues and programs on which he relies. This is especially true where many of the subjects on which the station editorialized or otherwise presented were local or regional in nature. The Commission has also advised stations that it is not sufficient merely to allege that a person attacked on a local program has appeared on a network program, unless it is clear that he was afforded an opportunity to answer the attack made on the local program.

A petition for revocation of license was filed against a station alleging that it had broadcast a series of editorials over a 13-week period criticizing CATV operations in the area and personally attacking the petitioner and other CATV operators. The petitioner alleged that the licensee had not presented opposing views, had not made a specific offer of time to those attacked, and was personally involved in the issue as a CATV operator. The licensee contended that its editorials were intended to inform the public on the issue and that copies of the editorials in question had been sent to the petitioner.

The Commission held that, although the station had a right to editorialize, its actions had fallen far short of meeting its responsibilities under the fairness doctrine. The Commission stressed that the station's obligation is not met merely by sending a copy of the editorial to the person attacked. It also pointed out that where the licensee has made a good faith judgment to present its viewpoint on a matter in which it is personally involved, it has a particular duty to insure that the fairness requirements are met and that, in this case, the licensee did not even make a minimum effort.

While the Commission concluded that the licensee had failed seriously to discharge its responsibilities, it held that the case did not warrant a revocation proceeding. Instead, the Commission determined that it would follow its usual practice of considering the matter at license renewal time and that the licensee would then be required to submit a detailed showing as to its operations in the area of controversial issue programing during the license period and, particularly, its efforts to encourage and implement the presentation of controversial viewpoints with respect to the issues it editorialized on (Springfield Television Broadcasting Corp., WRLP–TV, Greenfield, Mass., decided March 10, 1965).

An application requesting consent to the transfer of control of 2 aural stations to a group headed by a clergyman, who has for many years broadcast a series of programs over 600 stations discussing controversial issues of public importance, brought objections from various civic and religious organizations and individuals. They alleged that the clergyman's "intemperate" attacks on many persons and groups and his record of "partisan and extremist views" demonstrated a lack of the responsibility required of broadcast licensees.

The Commission found that the applicant had made specific representations that he would comply with the fairness doctrine, that the clergyman had in the past offered opportunities to those whom he criticized to appear on his program series to air opposite views, and that he recognized he could not use the station's facilities for his own private interests as opposed to the needs and interests of the area.

Accordingly, the Commission granted the application after pointing out that it was subject to the conditions governing all broadcast grants—that the licensee make a good faith effort to ascertain and serve the needs and interests of its area (rather than its private interests), will abide by the requirements of the fairness doctrine, and would not slant the news or distort factual material (Brandywine-Main Line Radio, Inc., WXUR and WXUR–FM, Media, Pa., decided March 17, 1965).

The Commission received complaint from the president of the Freethought Society of America, Inc., alleging that stations in Hawaii, although carrying regularly scheduled religious programs, had not afforded her organization time to present its views on the subject of religion. The licensees' response to Commission inquiry stated that "freethought" (which the complainant defined as "the total antithesis of religion") was not a sufficiently controversial issue of public importance in their area to warrant presentation, and that broadcast of church services, devotionals and prayers was not a controversial issue within the meaning of the fairness doctrine.

The Commission stated that under the fairness doctrine a licensee must make reasonable judgments on the facts of each situation and that, in passing on any complaint in this area, the Commission's role is not to substitute its judgment for that of the licensee but rather to determine whether the licensee acted reasonably and in good faith. On the basis of the information submitted, the Commission concluded that the licensee had done so. The Commission added that even if it had made a contrary finding, it could not order the licensee to afford time to the complainant since no personal attack was involved. (Letter to Mrs. Madalyn Murray, June 2, 1965.)

BROADCAST ADVERTISING

Loud Commercials

Because of numerous complaints about objectionably loud commercial announcements (particularly in TV) the Commission in December of 1962 began an inquiry into this subject (docket 14904). On July 9, 1965, it issued a "Statement of Policy Concerning Loud Commercials" setting forth certain situations and practices which contribute to objectionable loud broadcast advertising which licensees are expected to avoid and control.

Commission consideration of individual cases will be on the basis of complaints received and spot checks at renewal time. Also—since a number of broadcasters have contended that under the existing rules they are prevented from avoiding loudness because modultion must never be less than 85 percent on peaks of frequent recurrences—the Commission provided that modulation may be substantially less if necessary to avoid objectionable loudness in commercial and other material.

The policy statement listed certain practices which are to be avoided: (1) Inadequate control-room procedures, such as inattention to the modulation meter resulting in excessive modulation on commercials,

and undue reliance on automatic gain-control or peak-limiting devices—both of which are causes of objectionable loudness; (2) excessive use of volume compression, particularly on prerecorded commercial material which may have been subjected to considerable compression and other electrical processing in recording (resulting in "compression on compression"), with a maximum of 6-db compression being recommended at least for prerecorded commercial material; (3) excessive use of other electrical processing devices, such as filters, attenuators, and reverberation (echo) units, particularly with prerecorded material; (4) use of prerecorded commercial material employing excessive compression and other electrical processing; (5) voice commercials presented in a rapid-fire, loud and strident manner; and (6) presentation of commercials at modulation levels substantially higher than immediately preceding programs (a maximum of 4-db increase is recommended).

Licensees are expected to engage in extensive prescreening of prerecorded material furnished them, either individually or through industry organizations and groups, for loudness, as many of them now do for defects and completeness. Broadcasters are expected to take reasonable steps to secure the cooperation of the recording industry in this area.

The Commission recognizes that there are some factors involved which are beyond the broadcaster's control (such as individual psychological reactions by listeners), and that there is at present no precise standard by which objectionable loudness may be absolutely defined. What is expected is a good-faith effort by broadcasters to avoid presentation of commercials which are too loud.

The National Association of Broadcasters referred to the difficulty in defining the problem within limits which can be understood and followed by the industry and enforced by the Commission. In a responding letter, the Chairman of the Commission recognized that loudness does not lend itself to precise definition, and stated that the Commission realizes that a reasonable period will be required for industry adjustment to the policy stated, will use the rule of reason in applying its policy, and "will accentuate the positives of progress, not the negatives of sanctions for sanctions' sake."

In both the policy statement and the Chairman's letter, appreciation was expressed for the continuing activities of the NAB and its committee of industry experts in working on standards and devices concerning loudness. Appreciation was also expressed for the offer of the American Association of Advertising Agencies to assist in dealing with this problem.

Double Billing

Despite a warning issued in 1962, the Commission continued to find instances of broadcasters and their employees engaging in the fraudulent practice of "double billing." This, in its most common form, involves a station giving a local advertiser two bills, one for the amount actually charged for advertising and the other for a larger sum which the local advertiser uses to support a claim for reimbursement under a cooperative arrangement with a manufacturer. In March 1964 the Commission proposed specific rules against this practice (docket 15396), and covering rules were adopted on October 20, 1965.

BROADCAST PROGRAMING

TV Network Programs

During the year the Commission proposed rules concerning the relationship of the national TV networks to programing. One proceeding is designed to further competition and increase diversity in program production and procurement by limiting network interest in programs; the other seeks to make network programs more readily available to stations other than regular affiliates.

Proposal to limit network interest in TV programs.—Acting on recommendation made by its Office of Network Study after a long study of TV network programing practices, the Commission on March 19, 1965, proposed rules to limit network control of TV programs (docket 12782) in order to deal with what the Commission terms "undue concentration of control in the three networks over television programs available to the public."

To an increasing degree, network TV programs are those which the networks produce and own or in which they acquire an interest from the producer. By late 1964 the percentage of nighttime network hours devoted to programs in which they had no proprietary interest had decreased from about one-third in 1957 to 6.9 percent while 22.4 percent was network-produced and owned and 70.7 percent was produced under arrangements where the network acquired proprietary interest. This interest includes "syndication" (sale) to stations after its network showing, and to foreign stations.

Thus, independent producers become largely dependent upon the networks as a market for their programs. This is in direct conflict with the conditions of diversity and competition which are so highly desirable in broadcasting, both from an economic standpoint and in terms of providing diverse program sources. One aim of the proposed rules is to revive independent program production for syndication, so

that the increasing number of stations (particularly new UHF stations) may have better selection.

The proposal has two main elements. First, it would restrict the networks' right to acquire rights in programs produced by others and to engage in distribution of programs for nonnetwork exhibition. They would not be permitted to acquire any financial or proprietary right in a program produced by others except for U.S. network exhibition, or to engage in or share in the revenues from distribution of any programs for nonnetwork exhibition in the United States ("syndication"). They could sell the right to such distribution to others with respect to programs wholly network-produced. As to foreign distribution, they would be permitted to engage in this only with respect to programs entirely network-produced.

Under the second rule part, the networks could not offer during evening hours (6 to 11 p.m.) a network schedule in which more than half of the time is devoted to programs they produce, own or have a proprietary interest. News and sustaining programs would be excluded, because of their close relationship to the network's journalistic and editorial responsibility; other public-affairs documentaries would not be, although comments are invited on this subject. The objective is to encourage independent production of a substantial portion of network programs, which would usually be licensed to the sponsoring advertiser rather than the network.

The Commission noted that strict adherence to the principles of free competition would perhaps suggest total removal of the networks from program production. But it concluded that this would not further the public interest in a nationwide TV structure sustained by network programing and, therefore, believes the proposal represents a reasonable balance.

Making network programs more widely available.—The Commission has long received complaints about the unavailability of network programs in situations where a regular affiliate does not clear a program and other stations in the area are desirous of carrying it. Failure of the networks to make such programs available has not always been consistent with the public interest. Not only is the viewing audience in a market deprived of the program but other stations (particularly nonaffiliates) do not have a chance to present it. This matter will become more significant with the growth of UHF stations.

Accordingly, on June 2, 1965, the Commission proposed rules (docket 16041) which would provide that when an advertiser orders a particular program for a network affiliated station in the same market and the affiliate does not provide clearance satisfactory to the advertiser, the network shall attempt to place the program on another

station in the market if the sponsor so chooses. The networks would be given a certain period to negotiate with their affiliates or any other alternate stations they prefer for clearance of fall programs. If clearance arrangements are not made, they would be required to inform other stations in the market of that fact and later (if arrangements had still not been made) offer the noncleared programs to all stations in the market on reasonable terms, subject to advertiser acceptance. Similar notices would be required at other times for canceled programs.

The primary proposal would not be applicable to programs presented less often than every 2 weeks, or where arrangements have been made with a station to begin clearance within a certain time, or where the regular affiliate or other station agrees to clear part but not all of a program. Sustaining programs would be covered by the rule. Various extensions of the primary proposal are also set out for comment including, for example, possible extension to other programs such as "spectaculars" and other "one-shot" programs.

Under another rule proposed in this proceeding, when one affiliated station is carrying a program and the advertiser also wishes to order a station in another community, the network shall try to place the program on the second station. This is designed to make programs more readily available to small-market stations fairly near large cities. In an inquiry on the same subject, the Commission seeks information as to what extent networks should be required to affiliate with or furnish programs to such small-market stations, and what standards, such as distance, extent of additional coverage obtained, etc., should be used in determining that question.

Part II of TV Network Program Procurement Report

In July of 1965 the Commission sent to the Government Printing Office, for printing and sale to the public, the "Second Interim Report by the Office of Network Study, Television Network Program Procurement, Part II." It is the second staff report on TV network programing practices in connection with the Commission's long inquiry into this subject (docket 12782). The first staff report, "Television Network Program Procurement Report" (1963), is also available from the Government Printing Office.

Revision of Aural Program Reporting Form

After lengthy written comments, oral argument before the Commission, test by several broadcasters, and extensive conferences with the Bureau of the Budget and industry representatives, the Commission on July 27, 1965, adopted a new programing section for its AM

and FM commercial broadcast application form (docket 13961). This is pursuant to the Commission's 1960 policy statement which obligates broadcasters to ascertain and serve the programing needs of the communities in which they are located.

The new form will be used by applicants for new stations, license renewals and transfers; also by applicants for major changes in existing stations if they propose a substantial change in programing.

Information is required as to the applicant's efforts to ascertain and meet the broadcast needs and interests of his community, amount of commercial matter in sponsored programs as well as spot announcements, and programs of certain types such as public affairs. Information as to past programing will be required of assignors and transferors unless they have filed a renewal application within the past 18 months.

At the same time, the Commission in a related proceeding (docket 14187) adopted new program logging rules to provide the information required by the new form.

Work on a revised TV application form program section is continuing.

Broadcast of Horse Racing Information

In June 1964 the Commission decided not to adopt fixed rules governing the amount and type of information concerning horse racing which stations should broadcast. In so doing, it emphasized its continuing concern about the extent to which such information assists illegal gambling activities. It revised and clarified its earlier policy statement on the subject, and stated that it would take advantage of offers of cooperation which had been received from groups in the horse racing industry.

On April 9, 1965, it announced the formation of an Industry Advisory Committee for the Horse Racing Industry, to act under the chairmanship of Commissioner Lee, the membership comprising 18 racing group representatives appointed by the National Association of State Racing Commissioners. The committee is to consider and advise the Commission concerning the broadcast of race track information, including review of current practices, to determine whether they are furnishing aid to illegal gambling or are inhibiting the broadcast of legitimate racing information, and recommend any needed changes in policy.

The committee held its first meeting on May 27, 1965. There was general agreement that information concerning racing now broadcast is not of substantial aid to illegal gambling. The committee will meet at least annually to review developments.

MULTIPLE OWNERSHIP

Commission rules and policies are designed to prevent undue concentration and monopoly in the broadcast industry, to encourage competition, and to provide the public with the widest possible range of program sources, ideas and viewpoints. Two aspects of this concept, represented in the multiple ownership rules and related policies, are: (1) To prevent common ownership of (or significant ownership or management interests in) two stations in the same service serving to a large extent the same population (so-called "duopoly" rules), and (2) to prevent undue concentration of control by limiting the number of stations in each service in which a single party may have a significant ownership or management interest to seven AM, FM, and TV stations, of which no more than five TV stations may be VHF.

Problems have led to Commission recent actions along three lines—a more definitive ban on overlap between commonly owned stations; a restriction on acquisition of TV stations (especially VHF stations) in the 50 largest markets, and an inquiry into ownership by various investment entities in licensee corporations.

Amendment of "Duopoly" Rules

Prior to May 1964 the "duopoly" rules spoke in terms of stations in the respective services serving "substantially the same area." This general standard was found to be inadequate to insure the objectives of this rule when it was applied on a case-by-case basis along with other pertinent considerations. Therefore, the rules were changed to prohibit common ownership, control or operation of stations in each service having overlap of specified signal-intensity contours (1 mv/m for AM and FM, grade B for TV). On reconsideration, in September 1964 these rules were essentially reaffirmed with some relaxing modifications (docket 14711).

As modified, they apply to applications for new stations, major changes, and acquisition by assignment or transfer of control. They do not require any divestment of existing facilities, but stations having prohibited overlap cannot be assigned or transferred to the same party except where the change comes about by reason of death or is of a pro forma nature. Nor do they apply to changes in facilities where the area of overlap will be no greater than that presently existing, to power increases by class IV AM stations, or to TV "satellite" operations. Also, in accordance with the Commission's policy of fostering UHF development, the rules do not apply to increases in the facilities of UHF–TV stations authorized before September 30, 1964, and where the overlap is with another TV station commonly owned as of that date.

Restrictions on TV Acquisition in Large Markets

The Commission has become concerned over the trend toward increasing concentration of control of TV stations in the largest markets. For instance, in the top 10 markets (which have nearly 40 percent of the TV homes) 37 of the 40 VHF stations are owned by multiple owners and the other 3 are owned by local daily newspapers. In the top 50 markets (with almost 75 percent of the TV homes) 111 of 156 VHF stations have multiple owners. Of 40 VHF stations owned by the largest VHF holders, 22 are in the top 10 markets and 38 in the top 50 markets.

Therefore, on December 18, 1964, the Commission announced an interim policy pending consideration of its multiple ownership rules. It stated that it would, in the absence of a compelling affirmative showing, designate for hearing any application to acquire a VHF station in the top 50 markets by a party already having one or more such stations or by a new party to acquire more than one such station.

Following further consideration, the Commission on June 21, 1965, proposed to limit common ownership of TV stations in the top 50 markets to a total of 3, no more than 2 of which could be VHF (docket 16068). The rule would not require divestiture of existing holdings. Applications which contravene the proposed rule would be designated for hearing in the absence of a compelling affirmative showing. The reason for extending the proposal to UHF is concern lest the trend toward concentration affect the developing UHF service.

Comments were invited on whether the proposed limitation is the most appropriate one, and on such questions as the significance of multiple ownership in producing "quality" programing, the effect of the proposal on possible establishment of a fourth TV network, and what long-term increase in diversity may be expected from the proposed rules. *Meredith Broadcasting Co.* on August 20, 1965, appealed to court.

Holdings in Widely Held Corporate Licensees

An increasing number of broadcast stations are owned by corporate licensees whose stock is widely held and publicly traded (there are now some 38 such corporations). In numerous instances entities own substantial amounts of voting stock in two or more such corporations, thus exceeding the maximum number of stations in which a single party is permitted to have an interest, sometimes including stations in the same service in the same city. These situations contravene the multiple ownership rules, particularly where the holding is more than 1 percent of each corporation. These entities include mutual funds, banks hold-

ing stock as trustees, and brokerage houses holding for customers in "street name." Part of the problem is due to licensees failing to disclose the identity of the beneficial owner of stock held of record by another party.

Since late 1963 the Commission has dealt with this problem in connection with applications by a corporate licensee to acquire an additional station. In these cases the application is granted on condition that the mutual fund or other entity not vote its stock in excess of 1 percent in the applicant corporation pending resolution of the Commission's inquiry into this subject. This inquiry (docket 15627) was commenced in September 1964. It seeks information concerning how the identity of the beneficial owners of widely held broadcast licensee stock may be ascertained, the extent to which stock in these licensees is owned by mutual funds and others, to whom stock ownership should be attributed in the various types of situations where the record owner is not the beneficial owner, and whether the Commission should adopt rules permitting it to proceed directly against the stockholder whose holdings cause the licensee to be in violation of the rules. The Commission will also consider whether mutual funds and other entities holding stock for investment purposes should be exempted from the one-percent standard.

COMPARATIVE CRITERIA IN BROADCAST HEARINGS

One of the Commission's primary broadcast responsibilities is to choose among qualified applicants for the same facility, a process often involving extended hearings into a number of areas of comparison. The various comparative factors cannot be assigned absolute values for all cases, and the degree of difference between applicants with respect to each varies greatly. Nevertheless, the Commission believes it desirable to have a general statement on its comparative criteria and their application, both to insure a high degree of consistency in decisions and to avoid delay in hearings through consideration of superfluous material. Accordingly, on July 28, 1965, it adopted a "Policy Statement on Comparative Broadcast Hearings."

Emphasizing the two basic objectives of the comparative process—to get the best practicable service to the public and to achieve maximum diversity of control—the statement covers six general areas of comparison:

1. ***Diversification of control of the media of mass communications*** is an important area. Consideration will be given to other holdings of the applicants, particularly in the same community or service area, tak-

ing into account degree of control, size of the other holding (circulation, audience, etc.), other media in the community or area, and regional or national significance;

2. ***Full-time participation by owners in station operation,*** particularly in important positions, is significant, but substantially less weight will be given where the owner will spend less than full time, and none will be given if his position is merely a consulting one or the time is not on a daily basis. A slight credit will be given for an owner's local residence, and a very slight credit for past broadcast experience, where he will have a lesser degree of but still some role in station affairs;

3. ***Proposed program service,*** decisional significance will be given only to substantial differences between the proposals (which are often similar). An applicant is expected to be familiar with his proposed community, and failure to make contacts with local civic and other groups in preparing the proposal will be considered a serious deficiency even where the applicant is familiar with the area because of his background. Programing, staffing, and similar matters will not normally be considered under the standard comparative issues, and will be considered only on petition to enlarge issues;

4. ***Past broadcast record*** (ownership interest and significant participation in a broadcast station by one with an ownership interest in the applicant) may be of importance, if it is either unusually good or unusually poor, but it is not important merely by virtue of its existence;

5. ***Efficient use of the frequency*** (differences in coverage between the proposals, etc.) will be considered where there is a substantial difference;

6. ***Significant character deficiencies*** may be a comparative factor even though not sufficiently serious to warrant a disqualification issue; but, in order to avoid long hearings where one applicant searches for minor and remote blemishes in his opponent's past record, character evidence will be taken only if a substantial question is raised on a motion to add an issue.

The Commission will continue to review its comparative criteria and judgments. Since the statement is basically of a clarifying nature, no earlier decisions will be reconsidered in light of its pronouncements. Existing hearing issues will not be changed, but the hearing examiner is expected to follow the statement in receiving evidence, and it will govern decisions. A petition seeking reconsideration of adoption of the statement has been filed.

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FINANCIAL QUALIFICATIONS OF NEW APPLICANTS

Now that the UHF television service is beginning extensive growth, the Commission is desirous of avoiding the earlier history of UHF economic failures which discouraged interest in and development of this service. Accordingly, a panel of Commissioners was appointed to consider what standards for financial qualification should be applied to applications for new UHF stations, particularly where there are three VHF stations operating.

In a May 1965 decision in three hearing cases (*Ultravision Broadcasting Co. et al.*) the panel set forth a standard considerably higher than that which has been used in consideration of applications generally. On June 30, 1965, the full Commission issued its decision in these cases modifying somewhat the standard adopted by the panel, but also applying the same standard to AM, FM, and VHF applicants. Under the new standard, all applicants must show their financial ability to build the station and operate it for 1 year. If the applicant relies on first-year revenues to meet fixed costs and operating expenses, he must show the basis for his estimate of revenues.

In a clarifying notice issued July 7, 1965, the Commission stated that the new standard will apply to all applications for new UHF stations in markets with three or more VHF stations. Otherwise it will apply to all applications except those designated for hearing on or before July 2, 1965, which will be governed by the previous standard. A petition seeking reconsideration of this decision has been filed.

LICENSE RENEWALS

During the fiscal year, license renewal applications of 1,981 AM, FM, and TV stations and 490-TV translators were processed. An additional heavy part of the broadcast license renewal workload consists of special study and further processing required on applications which, because of unresolved problems, cannot be disposed of by the expiration of the regular license term and which, accordingly, become "deferred."

Special efforts to reduce the number of stations in deferred renewal status, which were initiated in the spring of 1964, were pursued throughout fiscal 1965. As a result, the number of AM, FM, and TV stations in deferred status, which had reached an all-time high of nearly 700 on February 1, 1964, had been reduced to under 200 by June 30, 1965. Since nearly 600 stations whose licenses expired during this period had to be put on deferred status, the net reduction from about 700 to about 200 meant that over 1,000 deferred renewals were disposed of during this period.

During fiscal 1965, the disposition of approximately 700 such deferred renewals, coupled with the regular processing during the year of renewal applications, resulted in the handling of a record number of broadcast renewal matters.

KEEPING OF PUBLIC FILES BY BROADCAST STATIONS

On March 31, 1965, the Commission adopted rules which require broadcast stations and applicants for new stations to maintain files for public inspection in their communities (docket 14864). The material to be so kept consists primarily of major applications and ownership reports, together with related matter such as exhibits, documents incorporated by reference, and pertinent correspondence with the Commission. Such material is now, and has been for years past, open for public inspection in the Washington offices of the Commission.

Some applications require the submission of balance sheets as exhibits, which, therefore, must appear in the local file. However, financial reports (showing revenues and expenditures) which are required to be submitted to the Commission annually are not open for public inspection at the Commission's offices and need not be made available for local inspection unless the applicant chooses to incorporate them by reference in an application. Nor need the financial books of a station be open to the public.

The new rules are designed to further the policy of Congress, reflected in the 1960 amendments to the Communications Act, which seeks to assure to members of a community the opportunity to be informed about the broadcast stations serving them.

Under the provisions of rules previously adopted to implement the 1960 amendments, parties filing major applications must give notice of the filing in local newspapers, over the air, or both. The new local inspection rules provide that, in addition to information previously required to be contained in the notice, there shall be a statement that a copy of the application is on file at a stated address in the community where it is open for public inspection.

Petitions for reconsideration of the new rules are pending.

BROADCAST STATION SALES

The highest price yet paid for a single broadcast station was involved in sale of WIIC(TV), channel 11, Pittsburgh, Pa., to WIIC–TV Corp., a subsidiary of Cox Broadcasting Corp., for $20.5 million. The transfer was granted by the Commission on November 20, 1964.

The second highest price for a group of stations was $21,141,330 paid for five Goodwill stations, four of which went to Capital Cities Broad-

casting Corp. for $15,141,330. These transfers were approved by the Commission on July 29, 1964.

Calendar 1964 also saw the highest price for an FM station when WNCN, New York City, was sold to SN Network, Inc., for $467,000. This assignment of license was granted by the Commission on March 2 of that year.

TALL ANTENNA TOWERS

Considerable concern has been expressed over the increasing height of TV and FM radio antenna towers and their impact on the safety of air navigation. The public interest in both broadcast service and aviation safety can and must be accommodated. Over the years, this goal has been substantially accomplished through close cooperation between the Commission and the Federal Aviation Agency and its predecessors. Joint efforts to bring this goal closer to full realization are continuing.

On May 26, 1965, the Commission proposed that, after coordination with the FAA, it would adopt procedures looking toward establishing "antenna farms" for tall towers (docket 16030). Under this proposal, once an antenna farm has been established for a community, the Commission would not accept an application for a new or modified tower exceeding 1,000 feet in height unless the applicant would locate it in the designated area or submit a statement from the FAA that the structure at the proposed location would not be a hazard to air navigation. Existing stations would not be required to move to "antenna farm" areas but could do so voluntarily.

On the same date, the Commission adopted a policy statement which stated that the needs of the TV and FM services for antenna towers of adequate height, particularly with respect to the growing number of UHF television stations, can and should be realized within the limits of a realistic general height limitation, and concluded that this objective can best be achieved by adopting the following policy: Applications for antenna towers higher than 2,000 feet above ground will be presumed to be inconsistent with the public interest, and the applicant will have a burden of overcoming that strong presumption. Such a tower will be authorized only in the exceptional case where (1) the Commission concludes that a clear and compelling showing has been made; (2) the parties have complied with applicable FAA procedures, and (3) after Commission coordination with FAA on the question of menace to air navigation.

During fiscal 1965, eight additional TV transmitting towers in excess of 1,000 feet above ground were constructed; such towers now total 149. The tallest continues to be the 2,063-foot tower of KTHI–TV at Fargo, N. Dak. The second tallest tower (2,060 feet) will be that of

KXJB–TV now under construction at Valley City, N. Dak. Twenty-eight construction permits for towers in excess of 1,000 feet were outstanding, of which three were for 2,000 feet above ground—WEAU–TV, Eau Claire, Wis.; the jointly used tower of KTIV and KVTV, Sioux City, Iowa, and KATV, Little Rock, Ark., on which the Arkansas Education Television Commission proposes to mount its channel 2 antenna.

ENFORCEMENT

The Commission continued its policy of vigorous enforcement of broadcast station requirements of the Communications Act and its own rules and regulations.

During the fiscal period, license renewal applications of 12 broadcast stations were denied or dismissed, and the license of another station was revoked. At the end of the year, 20 pending hearings involved possible revocation or refusal of renewal.

Notices of apparent liability for monetary forfeiture were sent to 38 licensees during the year, compared to 13 such notices in fiscal 1964, and 14 final forfeiture orders were issued. Twelve other licensees paid forfeitures without awaiting issuance of a final order.

Short-term license renewals were issued to 21 stations.

COMPLAINTS AND OTHER PUBLIC COMMENT

Expressions of public opinion on broadcast matters received in fiscal 1965 totaled more than 35,000, of which approximately 21,000 were complaints about broadcasting. The remainder were expressions on the Commission's regulatory policies or were laudatory of stations or programs or were, in essence, requests or inquiries. The largest single category of complaints (34 percent) concerned programing. Complaints about advertising (the largest category in fiscal 1964) ranked second in 1965 with 32 percent, and complaints about operating practices amounted to 15 percent.

COMPLIANCE

Substantially more man-days were spent in field investigations of broadcast licensees than in fiscal 1964, although there was no increase in staff. A portion of the additional time was devoted to an expanded inquiry into payola allegations. To facilitate payola investigations, the Commission authorized the issuance of subpoenas by the Chairman to obtain records of companies or persons.

Allegations of violations were the subject of field inquiry in 22 States during the year. Subjects of inquiry included unauthorized

transfers of control, fraudulent contests, character qualifications, misrepresentations, lack of properly licensed operators, and various other violations.

SANCTIONS

Revocation and Renewal Proceedings

License renewal applications of 12 broadcast stations were denied or dismissed in fiscal 1965. These included three silent UHF television station (at Bethlehem and Lock Haven, Pa., and Bridgeport, Conn.); five silent AM stations; three radio stations dismissed for failure to prosecute, failure to reply to offical correspondence, or at the request of the applicant; and one AM station (WHZN, Hazleton, Pa.) which surrendered its license after designation for hearing on issues concerning misrepresentation and other matters.

Also, in July 1965 the Commission acted in two other renewal hearing proceedings, involving stations KSHO–TV, Las Vegas, Nev., and WILD, Boston, Mass. In the first, renewal was denied because of misrepresentations concerning ownership and unauthorized transfer of control. In the second, in which the issues related to misrepresentation and lack of candor, lotteries, and other matters, the hearing proceeding was suspended to give the licensee an opportunity to file an updated renewal application for Commission consideration, reflecting changes in circumstances and practices.

In addition, on July 24, 1964, the Commission revoked the license of WCLM(FM), Chicago, Ill. Grounds for revocation included abdication of licensee control, operation in a manner completely different from that proposed in renewal application, refusal to supply information, and other violations (appealed to court, December 28, 1964).

Two commonly owned AM stations were granted renewals for 1 year only following a hearing concerning misrepresentation and technical violations (KDAC, Fort Bragg, Calif., and KCHY, Cheyenne, Wyo., granted July 27, 1964).

After hearings, the Commission granted regular renewals to 10 stations (3 TV, 6 AM, and 1 FM) and terminated 1 pending revocation proceeding by granting an assignment of license (WIZR, Johnstown, N.Y.).

In two cases, involving three AM stations, Commission action revoking or denying renewal of license was reversed in court and the cases remand for further hearings. The first of these involved commonly owned stations WPFA, Pensacola, Fla. (revocation) and WMOZ, Mobile, Ala. (renewal), where the issues concerned falsification of logs and other misrepresentations (remanded February 25, 1965). The second was station WGMA, Hollywood, Fla., where the

issue was the character qualifications of licensee principals who had been involved in TV network "rigged" quiz shows (remanded April 8, 1965).

Seven other renewal applications were designated for hearing on issues relating to the applicants' qualifications and similar matters, and the proceedings are still pending. These, with the date of designation and the chief matters involved, were:

WOOK, Washington, D.C., January 19, 1965; multiple violations of technical rules, improper log maintenance and exercise of control and supervision by the licensee.

WTID, Newport News, Va., April 28, 1965; misrepresentation, filing false information, failure to disclose pertinent information concerning ownership and control, lack of adequate control, unauthorized relinquishment of control, and character qualifications.

WKSB, Milford, Del., May 5, 1965; repeated rule violations, lack of proper control and supervision, misrepresentation, failure to file required annual financial reports, and financial qualifications.

KBMT(TV) and KPAC–TV, Beaumont, Tex., May 5, 1965; misrepresentation and character qualifications arising out of conflicting claims concerning KBMT's application to change facilities and KPAC–TV's opposition thereto.

KMRE, Anderson, Calif., June 2, 1965; unauthorized transfer of control, misrepresentation, failure to file reports, rule violations including unauthorized silence, and lack of proper supervision and control.

WJNR, Newark, N.J., June 9, 1965; time brokerage contract, misrepresentation, lack of adequate supervision and control, failure to make sponsorship identification, and character qualifications.

Two other renewal applications were set for hearing for other reasons—Station WBVL, Barbourville, Ky., because of the filing of a new application for the same facilities, and KGMO, Cape Girardeau, Mo., in connection with its economic objection to an application for an additional radio station in that city.

Other renewal or revocation proceedings involving character and similar matters, designated in prior years, remaining pending at the end of fiscal 1965 were:

WKYN and WFMQ(FM), San Juan, P.R., and WORA–FM, Mayaguez, P.R. (all revocation); rebroadcasting without permission in violation of section 325(a) of the Communications Act; forfeiture may be imposed in lieu of revocation (initial decision proposed to revoke, remanded by Commission for further evidence).

WTIF, Tifton, Ga. (revocation) and WDMG, Douglas, Ga., and WMEN, Tallahassee, Fla. (renewals); unauthorized transfer, misrepresentation, conspiracy to bar construction of a broadcast facility (initial decision proposed to grant the applications).

The renewal application of station WHDH–TV, Boston, continued in hearing along with competing applications for the same facilities.

In two other cases involving renewals and competing applications, renewal was granted. These involved station WCKT(TV), Miami (competing applications denied) and WXFM, Elmwood Park, Ill. (competing applications dismissed).

Short-Term Licenses

Because their past records indicated the need for closer supervision, a total of 19 stations (13 AM, 5 FM, and 1 TV) received license renewals during the year for terms less than the normal 3-year period (in addition to the 2 hearing cases mentioned above). In some cases these included commonly owned AM and FM stations, and in one case an AM–FM–TV combination in the same city. The number of licensees involved was 12. The reasons for these probationary renewals included fraudulent contests, unauthorized assignments of license, time brokerage contracts, improper log keeping, and the broadcast of "scare" promotional announcements.

Forfeiture Proceedings

Sections 503 and 504 of the Communications Act authorize the Commission to hold broadcast licensees liable for monetary forfeitures up to $10,000 for certain violations which do not warrant revocation of license. Such forfeitures are payable to the U.S. Treasury.

During the fiscal year, notices of apparent liability were issued to 38 stations, compared to 13 such notices in fiscal 1964. The great majority were AM stations. Of the 1965 total, 19 paid the amount set forth in the notice; 5 responded and were permitted to pay lesser amounts, and 1 was later relieved of liabiliy. In addition, four orders of forfeiture were issued in proceedings begun earlier.

The amount of the forfeiture varies with the number and seriousness of the violations. The largest ordered during the year was $8,000, to the licensee of WMIE(AM) and WEDR(FM), Miami, Fla., for lack of control over program content. Other amounts over $1,000 assessed were:

WTUP, Tupelo, Miss., lack of proper degree of licensee responsibility in station operation ($5,000).

WBNX, New York City, violation of logging and sponsor identification rules ($5,000).

KRIG, Odessa, Tex., violation of first-class operator rule ($5,000, later reduced to $1,000).

KALI, San Gabriel, Calif., failure to originate the majority of its programs from its main studio ($4,000).

WDBQ, Dubuque, Ill., failure to reduce power at night as required by its license, and operation without a licensed operator on duty ($2,000, later reduced to $1,500).

Other violations leading to forfeitures included numerous instances of failure to employ first-class operators to the extent required by the rules ($500 to $1,000) and other violations of the operator rules; several unauthorized assignments of license or transfers of control ($500 or $1,000); operating nondirectionally at night and by remote control without authority ($1,000); operating changed facilities without prior program test authority ($100); failure to keep maintenance logs ($500); broadcasting advertisements involving a lottery ($350); rebroadcast without the originating station's consent ($250, later reduced to $100); failure to maintain modulation within tolerance ($250 or $500); failure to make required filing of time-brokerage contracts ($500); and failure to make a required sponsorship announcement in connection with a political broadcast ($1,000; the station, WHAS–TV, Louisville, is contesting this in court).

A total of $34,150 in forfeitures was paid by stations during the fiscal year.

Some Developments After Sanctions

In 1955, the National Broadcasting Co., Inc., and Westinghouse Broadcasting Co., Inc., applied for and received consent to exchange broadcast properties in Philadelphia and Cleveland—NBC acquiring WRCV and WRCV–TV, Philadelphia, and Westinghouse acquiring KYW, KYW–FM and KYW–TV, Cleveland. After extensive litigation in court and hearings before the Commission, the Commission ruled in June 1964 that NBC had improperly forced Westinghouse into the exchange by use of its power as a major TV network to grant or withhold affiliation, and ordered restoration of the situation as it existed before the exchange. The Commission's action was appealed by another party, but the appeal was dismissed and, on June 19, 1965, the Commission's order for the exchange was effectuated.

In actions of recent years, the Commission denied the renewal of license of KRLA(AM), Pasadena, Calif., and revoked the license of KWK(AM), St. Louis, Mo. (the decisions became final by virtue of court actions in November 1963 and March 1965 respectively). In both cases, deletion of the station was followed by many applications for use of the frequency in the same community or area. There are 14 applicants in the hearing for KRLA's frequency (5 others having dismissed their applications), and 17 applications have been received for that of KWK. KRLA's facilities are being operated by another party on an interim basis, and the same arrangement is proposed for KWK when it ceases operation.

TELEVISION (TV) BROADCAST SERVICE

UHF Development

With all TV receivers shipped in interstate commerce or imported now required to be able to receive all channels, the UHF portion of the video service has continued to develop. Seven comparative hearings between two applicants for UHF channels were in progress. Use of all 82 TV channels (70 UHF as well as the 12 VHF) is necessary if the Nation is to have fully adequate TV service. It was to overcome the obstacle created by the prevalence of VHF-only receivers that the Commission sought from Congress the 1962 all-channel legislation and adopted the all-channel set rules.

Despite the predictions of manufacturers that there would be a $25 to $30 increase in TV receiver prices at the retail level caused by the requirement to include UHF tuners, there was, in fact, a general price reduction of all-channel receivers compared to their VHF-only counterparts. The wholesale price index for TV receivers, as reported by the Department of Labor, dropped from 87.3 in June 1964 to 85.9 in June 1965 (the prices for years 1957 to 1959 100). Excise tax removal further reduced retail prices with many companies cutting the tax before the law went into effect. The White House announced on August 18, 1965, that 75 percent of the retailers in small cities and 60 percent in large cities were passing excise tax savings on to the public.

Advisory committee on UHF.—The Committee for the Full Development of All-Channel Broadcasting, which was formed on March 12, 1963, completed its work pertaining to technical phases and consumer information. In February 1965, the technical group made its final report, which consists of five subcommittee reports dealing with all-channel receivers, UHF antennas and receiving systems, transmitting and studio equipment, also consideration of spot announcements for translator stations. Of particular interest to UHF broadcasters are sections on considerations in selecting transmitting antennas, manufacturers' test procedures, installation, final test and maintenance.

On March 11, 1965, the Commission authorized the committee to continue work pertaining to information on UHF station operation. Matters under study include the availability of programs and the effects of pay-TV, CATV and TV ratings on UHF operations.

The committee has recommended possible rule changes requiring affiliation of stations by networks under certain circumstances, and is giving continued consideration to the feasibility of a fourth national network.

Upon a recommendation of this group, the Commission obtained the cooperation of the Bureau of the Census on a TV supplement to the August 1965 population survey. These data and similar data to be obtained in future supplements will be helpful in determining the number of all-channel and color receivers in the hands of the public and the number of housholds receiving UHF other than by all-channel receivers, such as master antennas, CATV, converters or other means.

UHF allocations.—On June 3, 1965, the Commission issued a revised table of UHF channel allocations (docket 14229). Through the use of the Commission's own electronic computer, it was possible for the first time to accurately assess the impact of each assignment on other potential channel assignments and choose assignments for each city that would leave the largest number of channels available for assignment to other cities. The high-speed calculation capability of the computer performed in a matter of days a task that would have taken engineers several years to accomplish manually.

The revised table makes over 1,000 UHF assignments in the continental United States, of which number about 500 are reserved for education. The total is less than that in the previous table because it was decided not to assign commercial channels to cities of less than 25,000 population except where a demand has been shown. It was believed that the needs of these smaller cities may be better served by a new type of "community" TV station, operating with relatively small facilities. With stations of lesser power, it is possible to make many more assignments on each channel because they can be separated from each other at less distances without undue interference. Since few stations are now authorized on channels 70 to 83, it was tentatively decided to reserve these channels for this type of station.

Moreover, with respect to channels 14 through 69, the plan is by no means a saturated one. In many parts of the country it will be possible to make further assignments on these channels where needed. By means of the electronic computer, the Commission will be constantly informed as to remaining availabilities so as to maintain a fair and equitable distribution of assignments among the various States and communities.

The "community" type station, proposed at the same time the new UHF table was adopted, would be limited to 10 kw effective radiated power and an antenna height of 300 feet above average terrain, giving it a service radius of about 16 miles. Communities would be eligible for a community station regardless of whether they have a regular channel assignment. However, no community station would be authorized in or close to an urbanized area, and no community could have such a station if it is within 10 miles of an existing community station.

It has been the Commission's experience that TV channels asigned to smaller communities close to larger cities tend to become merely an additional channel for the large city.

"Idle" UHF authorizations.—As part of its effort to spur UHF development, the Commission took steps during fiscal 1965 to delete UHF authorizations where the stations have not constructed or are otherwise inoperative, thus making these channels available for applicants who will use them. Letters were sent to the "idle" permittees or licensees in November 1964. In May 1965, on the basis of the replies received, the Commission held oral argument on their applications for more time to build or get on the air.

On June 17, 1965, the Commission extended the construction permits of 13 permittees, based upon representations made at the oral argument that they would construct within a 6-month period; denied without prejudice the applications of five permittees for extensions of time and two applications for license renewals; dismissed without prejudice one renewal application and ordered one license application held in abeyance for 6 months.

The Commission's decision reflects its policy that no extension of time for construction will be granted without a showing of causes beyond the control of the permittee. Neither local scarcity of UHF receivers nor a market's limited revenue potential is deemed cause for delayed construction or operation.

VHF Assignments

VHF assignments were not included in the UHF allocation proceeding. The Commission made several changes in individual VHF assignments during the year, where the public interest appeared to warrant it, including additional educational reservations. One important consideration in VHF assignment proceedings is the possible impact of the proposed assignment on the development of UHF. This was one of the reasons for denying requests to assign VHF channels in the Staunton-Waynesboro (Va.) and San Francisco areas and a request to move a VHF channel from Bloomington (Ind.) to Indianapolis. In line with the same policy, the Commission denied requests which essentially sought reversal of its 1963 decision not to make short-spaced VHF "drop-in" assignments in major markets.

Educational TV

Interest in noncommercial educational TV continued to increase during fiscal 1965, with 15 new stations—the largest number in any year thus far—beginning operation. Nearly every major city in the United States now has at least one ETV station.

A total of 621 VHF and UHF channel assignments are now reserved for noncommercial educational operation. This number is believed adequate, especially with the development of the new Instructional Television Fixed Service in a higher frequency band, which can be used for in-school instruction. The allocation table provides for statewide ETV coverage. However, educational interests have petitioned for reconsideration of their allocations.

Airborne ETV.—Since September 1961 an experimental airborne educational ETV operation has been conducted from a plane circling over Montpelier, Ind., first by Purdue University and later by the Midwest Program for Airborne Television Instruction, Inc. (MPATI), an association of schools and colleges. Videotapes are broadcast from the plane on UHF channels 72 and 76 to about 2,000 schools in portions of Ohio, Michigan, Kentucky, Indiana, Illinois, and Wisconsin. Translators on other high UHF channels are used to improve school reception in Chicago, Detroit, and Cleveland.

In October 1963 the Commission instituted rulemaking (docket 15201) on MPATI's request for regular operation on these and four additional UHF channels (74, 78, 80, and 82). After oral argument in October 1964, the Commission on June 30, 1965 concluded that MPATI's request should be denied and its operation in the UHF broadcast band ultimately terminated. The operation has been the subject of controversy, being opposed by some educational groups such as the National Association of Educational Broadcasters and the National Eduction Association and favored by other groups. Because of the high altitude of the transmitter, such an operation precludes other use of these and adjacent UHF channels within a wide area, and grant of MPATI's request would have adversely affected the number of regular UHF assignments which can be made in most of Indiana and Ohio, as well as parts of Illinois, Iowa, Kentucky, Michigan, Pennsylvania, Tennessee, Virginia, West Virginia and Wisconsin, also Ontario, Canada.

The Commission recognized the high quality of MPATI's programs, its valuable service especially to small schools in Midwestern rural areas which could not otherwise afford educational TV, and its contribution to the development of cooperative instructional techniques. But it believed that the operation would deprive communities of the opportunity for ground-based UHF assignments, both commercial and educational, which can provide in-home service to the general public as well as in-school material. This decision was reached in light of the availability of the new Instructional Television Fixed Service, where such a specialized service could be conducted. Accordingly, it invited MPATI to apply for six channels in that auxiliary

service on which to conduct airborne ETV operations on a regular basis. MPATI will be permitted to operate on channels 72 and 76 for 5 more years so that its investment may be amortized. It has asked reconsideration of the Commission's decision.

Instructional TV Fixed Service.—In 1963 the Commission established an Instructional Television Fixed Service, in the 2500–2690 Mc frequency range, to provide multiple channels for the simultaneous transmission of instructional material to schools and colleges. It offers a particular boon to education's use of TV as an instructional medium. It permits a single central transmitter to serve a number of scattered schools, where the transmissions are converted for classroom viewing on regular TV receivers. It alleviates the need for using regular ETV broadcast channels for in-school instruction.

As of June 30, 1965, 33 authorizations had been granted, of which number four systems were operating. Expansion is expected as educational institutions become familiar with the new services.

On October 11, 1965, the Commission announced the establishment of a national committee to develop the instructional TV fixed service.

Subscription TV

In 1959 the Commission announced that it would consider, under certain conditions, applications for subscription TV operations on a trial basis, to aid the Commission in making ultimate decision as to regular pay-TV service (docket 11279). In June 1962, RKO General Phonevision, Inc., began such an operation over TV station WHCT, Hartford, Conn., using equipment manufactured by Zenith Radio Corp. which scrambles the audio and visual signals at the transmitter and unscrambles them by means of a decoder attached to the subscriber's set. It has about 5,000 subscribers. Subscription programing is presented for approximately 30 hours a week, more than 85 percent of it being feature films and the rest plays, opera and ballet, concerts and recitals, live sports, variety, and educational programs. The station also broadcasts conventional free TV programs, as required by its authorization. This is the only over-the-air subscription operation currently being conducted (the one other authorization granted since 1957, for Denver, was permitted to lapse).

In March 1965, RKO filed a request for an extension WHCT's authorization (which would have expired in June 1965) and Zenith filed a petition looking toward nationwide pay-TV. The former, opposed by Hartford-area motion picture owners, was granted for 3 more years since it appeared that further trial would provide helpful information. The Zenith petition requests further rulemaking in docket 11279 to expand this service and remove some of the limita-

tions prescribed on pay-TV operations. It asks, among other things, that each system, such as Zenith's, be permitted to have more than the one city in which to operate and that no limitation on subscription broadcast hours be imposed. It proposes that no commercials be permitted during subscription programing, and that such programing be required to be of a "box-office" nature rather than duplicating conventional TV fare. Because of the scope of this proposal, the time for filing responses to this petition (docket 11279) was extended.

The Commission does not now directly license or otherwise regulate wire or cable pay-TV, but it is following developments in this area closely. One cable system, Subscription Television, Inc., began service in Los Angeles and San Francisco in 1964 but ceased as the result of a vote in November 1964 banning such operations in California. In May 1965 a California superior court held the ban unconstitutional. This ruling has been appealed to the highest California court. It is reported that plans for wire pay-TV systems in Atlanta, Dallas, Houston, Miami and other cities, which were dampened by the California vote, have been revived as a result of the court ruling. RKO General reported that it had obtained options on the Zenith system in five markets—New York City, New Haven, Philadelphia, Washington, and San Francisco.

CATV Systems

See separate chapter on this subject.

TV Translators

Television translators are low-power stations which pick up regular TV station signals and rebroadcast them on another TV channel, originating no material. UHF translators on channels 70 and above were first authorized in 1956 and may operate with up to 100 watts power. VHF translators, limited to 1 watt, were first authorized in 1960. Translators are designed to serve remote and unserved areas. Their use continued to increase during the year.

As part of its continuing effort to bring increased and improved TV service to smaller communities and rural areas, the Commission during the year studied means of extending and improving translator service. In February 1965 it proposed licensing 100-watt translators on any VHF or UHF channel assignment not occupied by a regular TV station (docket 15858). This was in response to requests by a number of TV licensees and other parties, chiefly in the Far West. The proposal was adopted on July 7, 1965.

The Commission has under consideration other proposals to improve and extend translator service, including higher power for all

or at least for those using channels in the assignment table, permitting translators to use microwave facilities as relays, and relaxation of translator identification requirements.

Translators sometimes operate in communities having a regular TV station or near one. In some instances, the local station has objected on economic grounds, similar to objection to microwave facilities for CATV systems. In a decision authorizing a translator at Fort Myers Fla., the Commission set forth its policy in such cases—i.e., where a translator is within the predicted grade A contour of a regular TV station, the grant will be conditioned on the outcome of docket 15971, concerning translator duplication of programs of a regular station. In the interim, any grant will also be conditioned on the translator's not duplicating the regular station's programs simultaneously or for 15 days before or after, if the regular station so requests (as in the case of CATV). The Commission will, however, consider petitions bringing to its attention public interest reasons as to why a different interim policy should be adopted in particular cases.

Color TV

Production and sale of color TV receivers continued their upward surge and more programs in color were scheduled for the 1965–66 season. Color set prices declined. The number of stations equipped for colorcasts was approaching 500. Industry estimated 3.6 million color sets in use.

TV Stereophonic Sound

On November 12, 1964, the Commission launched an inquiry (docket 15697) to determine whether stereophonic sound, now used in FM broadcasting, should also be authorized for the audio (FM) portion of TV broadcasting. On petition, the time for filing comments was extended into fiscal 1966.

FREQUENCY MODULATION (FM) BROADCAST SERVICE

FM Expansion

Interest in and expansion of FM broadcast continued. Industry estimates that the number of radio sets able to receive FM sold in the United States in calendar 1965 will reach a new high of 7,570,000. The percentage of homes able to receive FM has correspondingly increased, especially in large cities. A recent industry survey sets it at 51.3 percent in New York City and no less than 31.1 percent in nine other cities.

The interest in this service appears to stem from several sources. Many licensees of daytime-only AM stations look to it as the only way to provide nighttime radio service to their communities in view of the crowded state of the AM band. This is particularly significant when it is noted that in many rural counties one or more daytime-only AM stations are the only broadcast outlets. Other AM licensees seek to extend their nighttime coverage, which is often highly limited on AM because of the multiplicity of stations. Stereophonic broadcasting on FM offers the public an additional service. Through Subsidiary Communications Authorizations, many FM stations offer auxiliary services such as storecasting and background music. Also, the appearance of inexpensive FM receivers on the market has given the service an added boost.

FM Channel Assignments

In 1963, in the overall FM rule making proceeding (docket 14185), the Commission adopted new technical rules and established a nationwide table of FM channel assignments similar to that used in the TV service. In addition to the large number of applications filed, and stations going on the air, many petitions requested changes in the FM assignment table, such as providing a first FM channel in a community, a change from one class of channel to another, etc. During the year, 19 such rule making proceedings were started and completed. These involved 67 petitions, most of which were granted. Eight petitions were denied without rule making because they requested assignments which did not conform to the rules or were otherwise deemed not to be in the public interest. At the yearend, 11 proceedings were pending.

Improvement in existing stations.—The FM assignment table is based on certain minimum mileage separations between co-channel and adjacent-channel stations adopted in 1962. Many stations authorized under earlier assignment rules are located at less than these separations, and some way had to be found for permitting them to increase facilities, which are often limited in power and antenna height. On October 7, 1964, a Fourth Report and Order was adopted in docket 14185, under which stations short-spaced to other stations on the same and immediately adjacent channels may increase facilities, depending on the extent to which they are short-spaced, according to a mileage table added to the rules. Many stations have been granted such increased facilities. Thus they are able to provide better signals within their service areas and in some cases extend their coverage. In

two cases the Commission permitted pairs of short-spaced stations to increase facilities to the maximum where both stations desired to do so and it appeared that the public interest would be served.

The same order established, for the first time, a table of FM assignments for Alaska, Hawaii, Guam, Puerto Rico and the Virgin Islands, lifting a "freeze" which had been in effect while this matter was under consideration.

Interference considerations.—FM broadcast stations are assigned and operate on frequencies from 88.1 to 107.9 Mc. The second harmonic of all these frequencies (twice the fundamental frequency) falls within the high VHF TV band channels 7 through 13. Thus, the radiation of any FM signal close by can be a source of interference to reception of those TV channels. Because of the increase in the number of FM stations this has presented a problem.

In order to explain the matter to the general public and to indicate what measures can be taken to avoid or to reduce this type of interference, the Commission in February 1965 issued and widely distributed a bulletin on the subject. It explained that the potential interference to TV reception from FM stations is of two types: One is caused by the direct second harmonic radiation of the FM station and the second is due to the generation of a second harmonic signal within the TV receiver caused by overloading of the fundamental signal from the local FM station. The former type lends itself to correction at the FM station; the latter can be remedied only at the TV receiver by the installation of filters or "wavetraps." The bulletin called on all interests concerned—manufacturers, FM station licensees and the general public—to cooperate to insure that both the FM and TV services function without adverse effect on each other. In some cases the Commission has been able to make channel changes to eliminate this problem but, as stated in the bulletin, this cannot be done in every case without sacrificing the making of desirable FM assignments.

On June 30 the Commission adopted a rule (docket 15934) making more specific the principle of not assigning FM channels 53 or 54 (10.6 or 10.8 Mc) in close proximity. This is because of interference arising from the fact that the intermediate frequency amplifiers of most FM receivers use a frequency of 10.7 Mc.

Limitation on FM–AM Program Duplication

Hitherto, there has been no restriction on the presentation of identical programs on commonly owned FM and AM stations, and many AM–FM station combinations present the same material at the same time during their broadcast hours, using the FM station as an adjunct of the AM.

Obviously it is a waste of valuable spectrum space to use two frequencies to bring the same material to the same location. This has been permitted in the past because it provided an easy and inexpensive start for FM broadcast. However, with the mounting number of FM sets and growing interest in the medium and competition for channels especially in the larger cities, the Commission in 1963 proposed a rule limiting the extent to which this essentially wasteful practice could be engaged in (docket 15084).

It culminated on July 1, 1964, with the adoption of a rule providing that no FM station in a city of over 100,000 population can devote more than 50 percent of its average broadcast week to duplication of the programing of a commonly owned AM station in the same local area. "Duplication" is defined to include presentation of the same material simultaneously or within 24 hours before or after it is presented on the AM station. This rule was affirmed in March 1965 but the effective date was postponed from August 1, 1965, to the following October 15.

It applies to cities of over 100,000 population because FM channels in these cities are scarce and in demand, and it is unreasonable to permit a licensee under these conditions to use two channels for the same program. The Commission believes that this nonduplication requirement will further spur the development of FM. Permitting 50 percent duplication will still permit an AM–FM broadcaster to duplicate news and considerable other programing if he wishes to do so.

The Commission provided that requests for exemption could be filed and 109 such requests were received up to June 30, 1965. The following month it granted 106 exemptions until December 31, 1965, and three requests for temporary exemption until April 15, 1966.

Educational FM

Revision of the noncommercial educational FM broadcast rules as contemplated in docket 14185 has not as yet been completed. Consideration has been given to adopting a table of educational FM channel assignments. However, it is difficult to predict where the demand for stations will exist, or what should be appropriate limits on facilities for different educational needs. Furthermore, the problem of preventing interference to TV stations on channel 6 (82 to 88 Mc) from FM stations in the adjacent educational FM band (88 to 92 Mc) is a difficult one. In the past it has been necessary to move some educational FM stations to channels in the commercial portion of the FM band (92 to 108 Mc) to eliminate interference.

In the meantime, the processing of applications for the educational FM band continues on a case-by-case consideration, on the basis of

protecting the 1 millivolt-per-meter contour of other stations in this band and mileage separations between stations on the top three educational channels and the lower three commercial channels.

STANDARD (AM) BROADCAST SERVICE

AM Rules Revised

On July 1, 1964, the Commission revised its AM station assignment rules and lifted the partial "freeze" on AM applications for new or changed facilities while this proceeding (docket 15084) was pending.

With respect to daytime facilities, the new rules bar applications which involve an overlap of specified signal-intensity contours with stations on the same channel or adjacent (first, second, and third) channels. A greater degree of overlap is permitted where the station is or would be the first local station in a community or would serve 25 percent or more "white area" within the proposed 0.5 mv/m contour. As to nighttime facilities, the proposed assignment must not cause objectionable interference to any other station and must serve 25 percent "white area."

In March 1965 these rules were generally affirmed on reconsideration. There were certain modifications of a relaxing nature with respect to the daytime rules (permitting a change in facilities creating new overlap area but not an overall increase, disregarding overlap occurring entirely over sea water, and providing for consideration of assignments near the U.S. borders on the basis of international standards).

The rate of applications under the new rules is about the same as under those in effect before May 1962, when the "freeze" was imposed. Applications are screened before acceptance and about 30 percent of them are found not to comply. These are returned unless a petition for waiver is filed and granted.

Emergency AM Operation

Under rules liberalized and clarified in 1964, daytime-only AM stations may operate outside of authorized hours in times of actual or threatened weather or other emergency if it is essential to the safety of life and property and if no full-time station is providing emergency information to the same area. Full-time stations may use their often greater daytime facilities during nighttime hours subject to the same general conditions. This use extends to announcement of school clos-

ings and changes in school bus schedules resulting from inclement weather if adequate warning cannot be given during licensed hours. The operation must be noncommercial and consist only of announcements concerning the emergency and intervening music, and must be reported to the Commission as soon as possible. During fiscal 1965 approximately 135 AM stations engaged in such operation.

INTERNATIONAL BROADCAST STATIONS

Three international broadcast stations now operate under Commission authorizations—WRUL, Scituate, Mass., which broadcasts to Mexico, Central and South America, Western Europe and Western Africa; KGEI, Belmont, Calif., which broadcasts to Mexico and Central and South America; and WINB, Red Lion, Pa., which broadcasts to the Mediterranean area, including parts of Southern Europe, Northern Africa and the Holy Land.

Two applications to construct new stations are on file, as is an application of KGEI to extend its service to Japan. No action is being taken on them because of the Commission's "freeze" on applications for new international stations and for increases in operating hours of existing stations. The "freeze" was imposed in 1963 pending Commission study of its international broadcast rules with a view toward needed revision.

By far the greatest amount of international broadcasting from the United States is done by the U.S. Information Agency through its "Voice of America" service.

MISCELLANEOUS BROADCAST SERVICES

Over 9,750 miscellaneous broadcast stations are used for various auxiliary purposes. Some 7,700 engage in remote pickup of programs; others link studios and transmitters; some furnish educational TV links; and still others provide facilities for broadcast experimentation and development.

STATISTICS

Current Broadcast Authorizations

The 18,544 broadcast authorizations outstanding at the close of fiscal 1965 represented a net gain of 1,313 for the year.

Authorizations for the different classes of broadcast services at the yearend were:

Class	June 30, 1964	June 30, 1965	Increase or (decrease)
Commercial AM	4,061	4,097	36
Commercial TV	668	689	21
TV translators and boosters	1,913	2,023	110
Educational TV	107	125	18
Instructional TV fixed	4	33	29
Auxiliary	1,559	1,688	129
Experimental TV	28	25	(3)
Commercial FM	1,371	1,565	194
Educational FM	257	272	15
International	3	3	0
Remote pickup	7,020	7,748	728
Studio-transmitter-link	121	143	22
Developmental	6	5	(1)
Low-power auxiliary (cueing)	113	128	15
Total	17,231	18,544	1,313

Status of Broadcast Authorizations

Of the 8,771 AM, TV and FM broadcast stations authorized at the close of fiscal 1965, 8,073 had operating authorizations and 698 others held construction permits. A breakdown follows:

Class	Operating authorizations	Construction permits
Commercial AM	4,025	72
Commercial TV	589	100
TV translators	1,762	261
Educational TV	92	33
Commercial FM	1,343	222
Educational FM	262	10
Total	8,073	698

One commercial television station, having completed its initial 3-year trial of subscription television operation, was granted a further 3-year period to conduct such programing.

Thirty-three educational institutions held station authorizations in the Instructional Television Fixed Service.

Also, 441 commercial FM and 8 educational FM stations held subsidiary communications authorizations to furnish functional (background) music and other multiplexed service. FM stations engaging in stereophonic broadcasting on a multiplex basis numbered 349.

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 17 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
1964	80	16	235	3,912	64	3,976	85	4,061
1965	60	24	314	3,999	26	4,025	72	4,097
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
1964	15	10	136	526	56	582	86	668
1965	34	13	132	559	30	589	100	689
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
1964	262	65	219	1,415	0	1,415	498	1,913
1965	213	103	255	1,762	0	1,762	261	2,023
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
1964	13	0	30	72	7	79	28	107
1965	19	1	37	83	9	92	33	125

Year	Grants	Deletions	Pending applications	Licensed	CPs on air	Total on air	CPs not on air	Total authorized
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	1,000	30	1,120	87	1,207
1964	183	18	258	1,141	40	1,181	190	1,371
1965	207	13	233	1,317	26	1,343	222	1,565
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
1964	20	1	11	231	12	243	14	257
1965	17	2	12	259	3	262	10	272

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

Broadcast applications received during the year totaled 16,812, slightly over 1,100 more than the previous year. The following is a breakdown of broadcast applications in nonhearing status at the end of the fiscal year (for docket statistics, see "Commission" chapter):

Application	Pending July 1, 1964	Incoming workload			Disposed			Pending June 30, 1965
		New	Returned to processing		Granted	Dismissed denied returned	Designated for hearing	
			Hearing	Non-hearing				
STANDARD BROADCAST (AM)								
New stations	155	221	4	3	33	56	52	242
Major changes	184	207	1	4	90	74	28	204
Subtotal	339	428	5	7	123	130	80	446
Assignments and transfers	149	633	-------	5	593	60	1	134
Renewals	844	1,522	-------	10	1,776	19	10	571
Licenses	262	393	-------	2	471	30	1	155
All others	214	1,127	-------	2	1,037	199	1	185
Total applications	1,808	4,103	5	26	4,000	358	93	1,491
FREQUENCY MODULATION (FM) [1]								
New stations	232	290	10	4	198	72	80	186
Major changes	61	153	3	1	146	20	4	48
Subtotal	293	443	13	5	344	92	84	234
Assignments and transfers	65	293	-------	1	266	37	-------	56
Renewals	284	585	-------	6	689	13	-------	173
Licenses	99	381	-------	2	419	7	-------	56
All others	91	891	-------	-------	858	43	1	80
Total applications	832	2,593	13	14	2,576	192	85	599
TELEVISION (TV) [2]								
New stations	101	120	-------	-------	41	36	37	107
Major changes	48	55	-------	1	58	7	7	32
Subtotal	149	175	-------	1	99	43	44	139
Assignments and transfers	23	128	-------	-------	113	15	-------	23
Renewals	129	315	-------	-------	325	1	6	112
Licenses	173	134	-------	-------	209	8	1	89
All others	95	440	-------	-------	377	25	18	115
Total applications	569	1,192	-------	1	1,123	92	69	478
TV TRANSLATOR								
New stations	218	356	-------	3	213	109	-------	255
Major changes	69	64	-------	-------	87	22	-------	24
Subtotal	287	420	-------	3	300	131	-------	279
Assignments and transfers	5	71	-------	-------	64	5	-------	7
Renewals	158	480	-------	-------	490	34	-------	114
Licenses	233	336	-------	-------	446	26	-------	97
All others	25	276	-------	-------	225	21	-------	55
Total applications	708	1,583	-------	3	1,525	217	-------	552

See footnotes at end of table.

Application	Pending July 1, 1964	Incoming workload: New	Incoming workload: Returned to processing: Hearing	Incoming workload: Returned to processing: Nonhearing	Disposed: Granted	Disposed: Dismissed denied returned	Disposed: Designated for hearing	Pending June 30, 1965
	ALL OTHER [3]							
New stations	293	1,664			1,407	193		357
Major changes	110	617			548	61		118
Subtotal	403	2,281			1,955	254		475
Assignments and transfers	108	265			324	7		42
Renewals	1,079	2,721			2,564	158		1,078
Licenses	793	1,965			1,974	158		626
All others	15	109			95	6		23
Total applications	2,398	7,341			6,912	583		2,244
Total nonhearing applications	6,315	16,812	18	44	16,136	1,442	247	5,364

[1] Includes noncommercial educational.
[2] Includes noncommercial educational.
[3] 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 1964 reported total broadcast revenues of $2,525.3 million.

Radio revenues increased 7.5 percent to $732.0 million and television revenues increased 12.3 percent to $1,793.3 million.

Total radio and television profits (before Federal Income Tax) were $486.4 million, a 22.2-percent increase from 1963.

Broadcast revenues, expenses and income of networks and stations of radio [1] and television broadcast services, 1963–64

[$ millions]

Service	1963	1964	Percent increase
	Total broadcast revenues		
Radio	$681.1	$732.0	7.5
Television	1,597.2	1,793.3	12.3
Industry total	2,278.3	2,525.3	10.8
	Total broadcast expenses		
Radio	626.2	661.2	5.6
Television	1,254.0	1,377.7	9.9
Industry total	1,880.2	2,038.9	8.4
	Broadcast income (before Federal income tax)		
Radio	54.9	70.8	29.0
Television	343.2	415.6	21.1
Industry total	398.1	486.4	22.2

[1] Includes AM and FM broadcasting.

NOTE.—1964 radio data cover the operations of 4 nationwide networks, 3,896 AM and AM–FM and 306 independent FM stations. Excluded are 74 AM and AM–FM stations and 26 independent FM stations whose reports were filed too late for tabulation. 1963 data are for 4 nationwide networks, 3,832 AM and AM–FM and 294 independent FM stations. 1963 TV data cover the operations of 3 networks and 565 stations. 1964 TV data cover the operations of 3 networks and 575 stations.

Broadcast revenues, expenses, income, investment in tangible broadcast property of frequency modulation (FM) stations operated by non-AM licensees, 1963–64

Item	1963 number of stations	Amount ($ millions)	1964 number of stations	Amount ($ millions)
	Total FM broadcast revenues			
FM stations operated by:				
AM licensees: Reporting FM revenues	405	$4.9	521	$6.9
Non-AM licensees	294	11.4	306	[1] 12.8
Total FM stations reporting revenues	699	16.3	827	19.7
	FM broadcast expenses			
FM stations operated by: Non-AM licensees	294	14.6	306	15.8
Industry total		[2]		[2]
	FM broadcast income (before Federal income tax)			
FM stations operated by: Non-AM licensees	294	(3.2)	306	(3.0)
Industry total		[2]		[2]

Investment in tangible broadcast property, 1964

[$ millions]

Original cost	Depreciated cost
$14.2	$9.6

[1] Of this amount $1.5 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 expenses of 4 nationwide radio networks, their 19 owned and operated stations and 3,877 other AM and AM-FM stations, 1964

[$ thousands]

Type of expense	4 nationwide networks	19 network owned and operated stations	3,877 other AM stations	Total
Technical	$2,547	$5,097	$70,441	$78,085
Program	22,900	12,555	179,738	215,193
Selling	5,593	6,104	108,913	120,610
General and administrative	5,273	6,768	219,464	231,505
Total broadcast expenses	36,313	30,524	578,556	645,393

Nationwide networks only, 1963–64 (including owned and operated stations)

Item	1963 ($ millions)	1964 ($ millions)	Percent increase or (decrease)
Total broadcast revenues	$889.3	$999.8	12.4
Radio	69.0	71.1	3.0
Television	820.3	928.7	13.2
Total broadcast expenses	747.2	839.0	12.3
Radio	63.1	66.8	5.9
Television	684.1	772.2	12.9
Total broadcast income (before Federal income tax)	142.1	160.8	13.2
Radio	5.9	4.3	(27.1)
Television	136.2	156.5	14.9

NOTE 1.—Radio data include the operations of 19 nationwide network-owned AM stations in both 1964 and 1963.
NOTE 2.—Television data include the operations of 15 network-owned stations in both 1964 and 1963.

Investment in tangible broadcast property of 4 nationwide radio networks, their 19 owned and operated stations and 3,877 other AM and AM–FM radio stations, 1964

[$ thousands]

Item	Investment in tangible broadcast property	
	Original cost	*Depreciated cost*
4 nationwide radio networks	$8,234	$4,245
19 network owned and operated stations	9,558	4,788
3,877 other stations	489,195	263,064
	506,987	272,097

Comparative Financial Data of 4 Nationwide AM Radio Networks and 3,896 AM and AM-FM Stations, 1963–64

[$ thousands]

Item	4 nationwide networks	19 owned and operated stations	3,877 other stations	Total nationwide networks and 3,896 stations	Percent of increase
Revenues from the sale of time:					
Network time sales:					
Sale of major network time to advertisers	$40,876	$1,299	[1] $7,910		
Sale of other network time			2,205		
Total network time sales	40,876	1,299	10,115		
Deductions from networks' revenue from sale of time to advertiser:					
Paid to owned and operated stations	1,299				
Paid to affiliated stations	[1] 7,208				
Total participation by others (excluding commissions) in revenue from sale of network time	8,507				
Total retentions from sale of network time	32,369	1,299	10,115	$43,783	4.8
Nonnetwork time sales:					
National and regional advertisers		21,268	210,770	232,038	5.4
Local advertisers		16,384	[2] 471,563	487,947	8.5
Total nonnetwork time sales		37,652	682,333	719,985	7.5
Total time sales	32,369	38,951	692,448	763,768	7.3
Deduct—Commissions to agencies, representatives, etc	6,064	7,008	68,619	81,691	6.1
Net time sales	26,305	31,943	623,829	682,077	7.5
Revenues from incidental broadcast activities:					
Talent	9,256	1,632	10,446	21,334	6.8
Sundry broadcast revenues	1,423	581	13,772	15,776	5.5
Total incidental broadcast activities	10,679	2,213	24,218	37,109	6.2
Total broadcast revenues	36,984	34,155	648,047	719,186	7.4
Total broadcast expenses	36,313	30,524	578,556	645,393	5.5
Total broadcast income (before Federal income tax)	671	3,631	69,491	73,793	27.1

[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 1963 cover the operations of 4 nationwide networks, their 19 owned and operated stations, and 3813 other stations.

Broadcast Financial Data of 3 National Television Networks and 575 TV Stations, 1964

[$ millions]

Item	Networks	15 owned and operated TV stations	560 other TV stations	Total 3 networks and 575 stations	Percent change from previous year
Revenues from the sale of time:					
Network time sales: Sale of network time to advertisers	$562.8				
Deduction from networks' revenue from sale of time to advertisers:					
Paid to owned and operated stations	36.7				
Paid to affiliated stations	177.2				
Total participation by others (excluding commissions) in revenue from sale of network time	213.9				
Total retentions from sale of network time	348.9	$36.7	[1] $177.8	$563.4	4.7
Nonnetwork time sales:					
National and regional advertisers		162.8	526.7	689.5	14.8
Local advertisers		47.6	249.4	297.0	16.0
Total nonnetwork time sales		210.4	776.1	986.5	15.1
Total time sales	348.9	247.1	953.9	1,549.9	11.1
Deduct—Commissions to agencies, representatives, etc.	83.5	39.6	140.4	263.5	11.5
Net time sales	265.4	207.5	813.5	1,286.4	11.0
Revenues from incidental broadcast activities:					
Talent and programs	409.2	3.0	9.7	421.9	18.1
Sundry broadcast revenues	37.9	5.7	41.3	84.9	4.0
Total incidental broadcast activities	447.1	8.7	51.0	506.8	15.5
Total Broadcast Revenues	712.5	216.2	864.6	1,793.3	12.3
Total broadcast expenses	652.3	119.9	605.5	1,377.7	9.9
Broadcast income (before Federal income tax)	60.2	96.3	259.1	415.6	21.1

[1] Total retentions from sale of network time of $177.8 million by 560 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, 1964

Items	Number of stations	Investment in tangible broadcast property ($ thousands)	
		Original cost	Depreciated cost
3 networks and their owned and operated stations	15	$164,549	$90,560
Other TV stations:			
VHF	468	545,614	266,244
UHF	92	70,618	36,253
Total	575	780,781	393,057

Broadcast expenses of 3 networks and 575 TV stations, 1964

[$ thousands]

Type of expenses	Networks	15 network owned and operated TV stations	560 other TV stations	Total 3 networks and 575 TV stations
Technical	$37,614	$17,582	$96,213	$151,409
Program	542,208	65,855	249,263	857,326
Selling	24,300	14,754	72,715	111,769
General and administrative	48,218	21,747	187,314	257,279
Total broadcast expenses	652,340	119,938	605,505	1,377,783

Safety and Special Radio Services

GENERAL

The many services constituting the Safety and Special Radio Services represent almost all non-Federal government and private use of radio other than for broadcast and common carrier operations. They perform a multiplicity of functions invaluable to present day business and other pursuits.

During fiscal year 1965, as in previous years, there was an increase in the number of radio stations authorized in the Safety and Special Radio Services, although not as many applications were filed as in the previous year. Embracing a total of nearly 5 million transmitters operated by over 1.4 million licensees at the start of the year, these services grew to comprise, at yearend, over 5 million transmitters and nearly 1.5 million licensees.

REGULATORY DEVELOPMENTS

The ever-increasing use of radio in the land mobile services and the need for frequency space to accommodate this growth have been under intensive study by the Commission as well as by industry.

The overall problem is being considered by the Advisory Committee for Land Mobile Radio Services established by the Commission more than a year ago. The committee is composed of over 200 representatives of industry, commerce, State and local government, and user groups throughout the country, and also includes members of the Commission's staff. The committee, broken down into 23 working groups, is examining all phases of technical, operational and administrative aspects of the utilization of frequency spectrum available to the land mobile services in order to find ways to accommodate the many new users of mobile radio and the many potential users. The committee is expected to make specific recommendations to the Commission some time in 1966.

Towards the same goal, the Commission adopted a plan for conducting a limited experiment in California to determine if it is feasible

to serve more users on existing frequencies by permitting those in some land mobile services to borrow lightly used frequencies from other land mobile services (docket 15399). Additionally, the Commission continued its inquiry into the possibility of shared use of VHF frequencies allocated to TV broadcasting by land mobile users in areas where the TV frequencies are not occupied. It also continued its inquiry into optimum frequency spacing in the land mobile services (docket 15398).

To make more frequencies available to the land mobile services, the Commission split in half the channels in the 25–50, 72–76, and 150–170 Mc bands during the past 6 years. The Commission is now considering its proposal to reduce channel width in the 450–470 Mc band from 50 kc to 25 kc (docket 13847). Although the industry has objected to this proposal on technical grounds, the Commission is examining closely information which indicates that it may be feasible to split these channels.

Meanwhile, more requests for additional frequency space have been filed by land mobile users, many for new uses of radio. For example, the Automobile Manufacturers Association has requested that a new service be established, a highway emergency location plan radio service (HELP), to provide emergency radio communication for the motoring public. Also, the Forest Industries Radio Communications Association has requested a number of additional frequencies in the 150–170 Mc band.

ENFORCEMENT

Over 200 license revocation proceedings, mostly involving citizens band station licensees, were instituted during the fiscal year. In addition, pursuant to section 510 of the Communications Act, nearly 200 station licensees were notified of the incurrence of monetary forfeitures for rule violations, such as the use of their stations for prohibited communications purposes, failure to identify transmission, failure to adhere to frequency tolerance limitations, and failure to reply to Commission correspondence.

Forfeitures were also imposed against 53 vessels and 28 masters, chiefly for such offenses as failure to have timely inspections, failure to maintain the required listening watch, and using improper equipment.

Compared with fiscal 1964, there was an increase in the number of enforcement cases processed during the year roughly commensurate to the increase in the number of radio stations licensed in the Safety and Special Radio Services. The recent adoption of clarified Citizens Radio Service rules is expected to result in a curtailment of the number of cases of noncompliance with the Commission's regulations.

However, intensified enforcement efforts will probably be necessary to secure a desirable level of adherence to the new rules.

The use of monetary forfeitures has proved to be an extremely effective tools in dealing with rule violators whose derelictions, not serious enough to warrant license revocation, are sufficiently serious or repetitious to require the application of some sanction.

See enforcement sanctions tabulation at conclusion of this chapter.

MARINE RADIO SERVICES

Safety at Sea

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

Safety of Life at Sea Convention.—Minimum safety radio requirements for vessels navigated on international voyages are established by this convention. The 1960 convention replaced the 1948 convention on May 26, 1965. The convention has been implemented by amendments to the Commission's rules, and the Commission proposed legislation to conform the Communications Act to the convention. This legislation, H.R. 7954 and S. 1949, was enacted by the House and is under consideration by the Senate.

Bridge-to-bridge communication study.—A joint ad hoc study group consisting of Coast Guard and FCC representatives has prepared a proposal for legislation requiring radio equipment for direct communication between the bridges of ships as an aid to the safety of navigation on United States inland waters. It is planned to submit this proposal to interested organizations for comment.

Disposition of ship exemption applications.—The Commission is authorized under certain circumstances to grant exemptions from the compulsory ship radio safety requirements of the Communications Act. The disposition of individual applications for exemption filed pursuant to sections 352(b) and 383 of the Communications Act and regulation 5, chapter IV of the safety convention, was as follows for fiscal 1965:

	Received	Granted	Denied	Pending
From compulsory radiotelegraph requirements	52	50	1	1
From compulsory radiotelephone requirements	3	3	0	0

Not included are 22 applications for temporary radiotelegraph exemptions, and 1 for temporary radiotelephone exemption all of which were granted.

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 237 known vessels and aircraft. Over 700 non-Government ships and coast stations in addition to U.S. Coast Guard ships and shore stations intercepted distress calls for help during the year. On the basis of available information, it appears that radiotelegraphy functioned satisfactorily in those emergencies.

Studies were also made of distress cases involving vessels equipped with radiotelephone. Of 17 cases studied, the radiotelephone functioned satisfactorily in 13 instances, in 2 cases operation was unsatisfactory due to radio equipment failure or other causes, and in the remaining 2 cases there was no opportunity to use the radiotelephone installation to summon aid.

An analysis of public coast radiotelephone station logs shows that, although many ship-shore radiotelephone distress communications are handled directly between the distressed vessel and Coast Guard stations on the radiotelephone distress frequency 2182 kc, public coast stations also contributed to the safety of vessels. Based on information received from 25 United States public coast radiotelephone stations operated by common carrier telephone companies, there were 333 cases in which the station participated, relayed or intercepted distress or other emergency communications. In 117 of the cases, the coast stations provided a communications link to the Coast Guard and in a few instances alerted the Coast Guard to distress calls on the distress frequency. Of these calls for assistance, 223 were transmitted on the distress and calling frequency 2182 kc, and 106 were handled directly on working frequencies. The Coast Guard handled 206 of these cases directly without participation by telephone companies.

Radio Technical Commission for Marine Services (RTCM)

The Radio Technical Commission for Marine Services (RTCM), under the chairmanship of FCC Commissioner Bartley, is an organization in which Government and industry cooperate in studying existing and proposed systems of maritime telecommunications. In addition to the Commisson, there are seven participating Federal agencies. Private industry is represented by more than 100 organizations concerned with one or more phases of the subject.

During the fiscal year, several technical studies having immediate value were completed and reports issued. A report on selective calling devices for use in international maritime mobile services formed the basis for the position taken by the U.S. delegation to CCIR Study

Group XIII. Another timely report concerned the particular radio frequency channel which should be used for emergency-position indicating beacons. This latter report was distributed at the U.S. Coast Guard Seminar on Search and Rescue Operations which was attended by delegates from all maritime nations bordering the North Atlantic.

Other special committees of RTCM are continuing studies on the following subjects: "Future Communications Requirements for Voluntarily-Equipped Noncommercial Vessels"; "Maritime Mobile VHF–FM Usage in the United States"; and "Minimum Performance Standards and Specifications for Shipborne Radar Equipment."

Marine Radio Communication Systems

Rule amendments.—In docket 15613, the Commission's rules were amended to make the frequency pair 2442 kc (coast) and 2009 kc (ship) available for ship-shore use in the Astoria, Oreg., on a day only basis. In docket 15630, the rules were amended to provide the frequency pairs 8792.8 kc (coast)—8242.8 kc (ship) and 13154.5 kc (coast)—12354.5 kc (ship) for public ship-shore use on a 24-hour basis in the vicinity of Miami, Fla., and to provide service to vessels in the Gulf of Mexico and Caribbean area. In docket 15068, single sideband radiotelephone requirements were established in the Maritime Services and for Public-Fixed stations in Alaska.

Rules were proposed relative to ship radiotelephone transmitters having a maximum power input of 3 watts or less to permit multichannel operation in the 156 to 174 Mc band without requiring the frequencies 156.3 Mc and 156.8 Mc (docket 16082). Towing companies and pilot associations have sponsored the rule change to meet their communication needs in using portable units aboard ship for safety and operational communication primarily in harbors and ports.

Rules were proposed to permit VHF ship radiotelephone stations to operate on more than one public correspondence frequency without also being capable of operating on 156.3 Mc, an intership frequency, and 156.8 Mc, the VHF safety and call frequency (docket 16081). American Telephone & Telegraph Co. petitioned for this rule change on the basis that it would permit the use of lower cost VHF ship radiotelephone equipment for needed public correspondence purposes and thus encourage the installation of such equipment.

During the year, plans were completed to use the FCC's automatic data computers for processing ship radiotelephone applications. The application form (FCC 501) was revised for this purpose.

New coast stations.—A new public coast radio station was established in Corpus Christi, Tex., to provide communications south of Brownsville, northeast of Galveston, and across the Gulf to the Yuca-

tan area. Another was constructed at Vancouver, Wash., for communicating with ships on the Columbia River, and a third at Lake Mead, Nev., to provide communications facilities for pleasure boats operating on the lake. All three stations operate in the 2 Mc band. Public stations, to be operated on VHF frequencies, were established at St. Paul, Minn.; Blue Mountain, Ark.; Coweta, Okla.; South Charleston, W. Va.; Glenwillard, Pa., and at Bridgeport, Ohio, for communication by vessels in adjacent waterways.

Closure of station.—The Commission authorized the discontinuance of public coast station KSE at Torrance, Calif.

Radio communication in Alaska.—The frequency 2240 kc was made available for use in Alaska by ship stations for communication with the Alaska Communications System (ASC).

AVIATION RADIO SERVICES

General

The Commission regulates non-Government use of radio for aeronautical communication, aeronautical radionavigation and other related aeronautical safety and operational purposes. This extends to telecommunications involving U.S. civil aircraft operating on international air routes.

Administration of the Aviation Radio Services, consisting of 16 categories of aircraft and ground stations, requires close coordination with other Government agencies and several technical and policy making groups including those described hereafter.

Committee and Conference Participation

The Commission is represented on the executive committee of the RTCA and on virtually all of the special committees concerned with specific technical developments. The RTCA is a nonprofit cooperative association of representatives of Government agencies and aeronautical industry organizations. It is governed by an executive committee and its technical work is performed by special committees. The reports of its special committees are utilized by Federal agencies concerned with the regulation of aviation radio services.

At the close of the fiscal year a new committee was formed, at the suggestion of FCC representatives, to investigate the scope of service and operational problems related to aeronautical advisory stations.

FCC representatives have continued to follow the recommendations of the first session of the Aeronautical Extraordinary Administrative Radio Conference (EARC) of the International Telecommunication Union (ITU), which was held early in 1964, and also have par-

ticipated in preparation of material for the second session to be held in 1966.

One special project completed was survey of the use during the calendar year 1964 of regional and domestic air route area high frequencies by civil aircraft. The results of this survey are to be used as part of the U.S. documentation for the March 1966 session of the Aeronautical EARC. The primary objective of this series of meetings is the revision of the High Frequency Allotment Plan for the Aeronautical Mobile (R) Services.

The Interagency Group on International Aviation (IGIA) coordinates international aviation matters among the various Federal agencies to provide guidance for U.S. representatives at international meetings such as those of the International Civil Aviation Organization (ICAO). Commission representatives assisted in IGIA preparation of advance documentation and position material for ICAO meetings including: The Fourth African-Indian Ocean Regional Air Navigation (AFI RAN) Meeting, Special North Atlantic Meeting, Sixth Meeting of the Panel of Teletypewriter Specialists, Second Meeting of the Panel of All Weather Operations, Fifteenth Session of the Assembly, and the Fourth Air Navigation Conference. A Commission representative attended the ICAO Special North Atlantic Meeting as a member of the U.S. delegation.

New Developments and Rule Changes

During fiscal 1965, a new frequency tolerance was established for stations in the aviation services operating in the VHF band 100–136 Mc (docket 14452). New types of aircraft transmitters, after January 1, 1965, must meet a 0.005-percent frequency tolerance and ground stations, after January 1, 1966, one of 0.003 percent. Stations with existing equipment generally have until January 1, 1970, to change over.

On January 1, 1965, the "grandfather" period expired with respect to the use of nontype accepted equipment. Thus each transmitter now used in the aviation services must be of a type which has been type accepted for use in these services unless specifically exempt from the requirement. Recent amendments to the rules provide certain exemptions. For example, nontype accepted survival equipment may be used if it was in use prior to January 1, 1965 (docket 15599); nontype accepted equipment is allowed until January 1, 1970, in the case of certain high-power transmitters in the aeronautical services at international gateway stations (docket 15302).

Rulemaking was instituted to provide for the licensing of radionavigation land test stations (docket 15579). Also, the procedures

with respect to making application for a radionavigation land station were amended to facilitate frequency coordination. An applicant for such a station is now required to notify the appropriate regional office of the Federal Aviation Agency prior to the submission of an application.

Rules relating to flying school stations were revised to reflect their usage by persons engaged in soaring activities and to specifically provide for mobile operations on the ground (docket 15929).

Development of the use of a VHF aeronautical en route system utilizing satellite relay techniques began during the year. An application was granted for special temporary authority for developmental operation to test aeronautical communication on the Pacific air routes by relay through satellite Syncom III. Tests by the aeronautical industry conducted under this authorization have demonstrated the feasibility of this type of communication. Further test and developmental operations are under consideration. At the close of the year, aeronautical applications were on file for developmental aeronautical en route and aircraft radio stations to further explore the satellite techniques to serve aeronautical requirements.

Other matters considered included extension of the Pilot-to-Weather Forecaster Service Test and an inquiry into the establishment of a public air-ground radiotelephone on a permanent basis. (See Common Carrier Chapter.) The use of aeronautical high frequencies for domestic en route operations was discontinued January 1, 1965; at the end of the fiscal year the only remnant of an aeronautical use was a backup operation in the Gulf of Mexico authorized for use beyond the range of stations furnishing a VHF service.

A major step was taken with respect to processing aircraft radio station licenses when the files were converted to data tape. The present file of aircraft radio station licenses consists of several printed books rather than a bank of special file cabinets as heretofore. Although no machine processing of the applications was attempted, filing time and record retrieval time saved has improved efficiency of the operation and reduced the application backlog.

PUBLIC SAFETY RADIO SERVICES

General

The Public Safety Radio Services provide radio communication for activities essential to alleviating emergencies endangering life and property, and activities which assist in discharging other non-Federal government functions benefiting the public. The specific activities authorized are police, fire, forestry-conservation, highway maintenance, special emergency, state guard and local government.

New Developments and Rule Changes

The Local Government Radio Service rules were amended (docket 15401) to expand eligibility to certain governmental districts and authorities. Thus, metropolitan districts, public service districts, levee districts, port authorities, transit authorities, etc., are for the first time eligible in this service. However, due to their large number and the availability of other services in which to conduct their radio communications, school districts and park authorities continue to be excluded.

The limitations on 35 frequencies allocated to the Local Government Radio Service restricting power to 180 watts input and antenna height to 50 feet above ground level were removed by rule making (docket 15565). The limitations did not serve the purpose for which they were established and, in many cases, created inequities. In addition, the limitations thwarted the optimum utilization of the frequencies by preventing their assignment in areas where usable frequencies were scarce.

Compliance with the requirement that after January 1, 1965, all transmitters licensed in the public safety services must be type accepted has apparently been accomplished with little difficulty. A small number of licensees have been granted additional time in which to comply, and two categories of stations—police zone and interzone—are exempted.

LAND TRANSPORTATION RADIO SERVICES

General

The Land Transportation Radio Services comprise motor carrier, railroad, taxicab and auto emergency radio usage. The first three meet the radio needs of the surface passenger and freight transportation industries; the fourth is designed to accommodate auto clubs and garages that aid motorists in distress.

The steady growth patterns that have been noted in the Land Transportation Radio Services in recent years continued.

New Developments and Rules Changes

The use of tone transmissions by railroads for a variety of safety and control purposes was on the upswing. Typical of some of the functions of radio automation performed by tone transmitting devices are the remote control of locomotives, switch throwing and brake control, as well as the purely safety applications involving "hot box" detection and indication of unsafe roadbed conditions.

Along with these innovations in radio automation, the railroads have substantially expanded and improved their voice and data communication facilities. The use of microwave, presumably to replace or complement the thousands of miles of railroad wireline facilities, continued to increase.

Several rulemaking proceedings affecting the land transportation services were concluded in fiscal 1965. Among them, the railroad services rules were amended to allow railroads to continue their century-old practice of handling public telegrams at railroad stations in remote and inaccessible areas (docket 14970).

INDUSTRIAL RADIO SERVICES

General

The radio needs of practically every segment of the American industrial, business and commercial community may be satisfied in 1 of the 10 constituent Industrial Radio Services. The petroleum, power (utility), manufacturers, forest products, relay press, motion picture, telephone maintenance and industrial radiolocation groups were established to serve those industries. The other services in the industrial category—namely, the special industrial and business—are omnibus services designed to accommodate those elements of business not otherwise provided for.

Business radio now accounts for slightly more than half of the number of station authorizations in the industrial services. The special industrial service is now second ranking, and numbers about 25 percent of the total number of industrial stations. The rate of growth of each of these services far exceeds that of any of the other eight industrial services.

Concerning microwave systems in the business service which function as adjuncts to community antenna systems, see chapter on "CATV Systems."

New Developments and Rule Changes

Rulemaking was concluded looking toward frequency relief in Hawaii, the Virgin Islands and Puerto Rico by allowing "out of service" frequency selection for persons operating radio facilities in those areas (docket 15534). Such applicants in the Special Industrial Radio Service may now apply for frequencies that are normally available only to the petroleum, forest products and manufacturers services. Operation on frequencies so obtained is contingent upon no inter-

ference being caused to licensees in the three services that have primary claim on the frequencies.

In another proceeding, 23 frequencies in the 150–151 Mc band were reallocated from certain of the public safety services, where they were relatively unused, to the business service in Puerto Rico and the Virgin Islands, which had been experiencing a critical frequency shortage (docket 15534).

The rules governing the power service's use of tone signals were amended in 1965 to allow a further extension of radio automation in the power utility industry (docket 15427). Some time ago, licensees in the power service were authorized to use tone or impulse signaling to warn of, and correct, malfunctioning power distribution equipment. No provision had been made for the so-called "checkback" function which would enable an operator to determine whether the corrective order that had been transmitted to shutoff, for example, a piece of equipment, had, in fact, accomplished its purpose. By virtue of the rule amendments, this "checkback" function may now be accomplished by means of a tone or impulse signal.

CITIZENS RADIO SERVICE

About three-quarters of a million licensees now use this low-power, short-distance radio service to meet their varied radio communication needs on land, sea and in the air. They constitute the largest single group of station licensees. Although applications for citizens radio station licenses continued to be filed in large numbers, the total submitted in fiscal 1965 was about 20 percent less than in the previous year.

Final action on a major revision of the rules governing this radio service was taken (docket 14843) in fiscal 1965. These new rules, designed to emphasize and strengthen longstanding limitations upon permissible communications, became effective on April 26, 1965. Initial enforcement efforts indicate that responsible licensees are adhering to the new rule provisions. Nevertheless, numerous violations are still occurring and a stepped-up program of education and enforcement is underway to help preserve the usefulness of the service.

AMATEUR RADIO SERVICE

General

Amateur operators entered the Space Age by orbiting their own communication satellite, Oscar III. Since it was available to radio amateurs in any country without cost and on an equal basis, the satellite was hailed as the first truly free multiple-access communication

satellite to be orbited. Thus, amateur radio continues its significant contributions to the art of electronics and radio communication.

The important role of amateur stations also continued in civil defense. Radio Amateur Civil Emergency Service (RACES) systems operating in each state provide essential radio aid for natural disasters and civil defense emergencies.

New Developments and Rule Changes

By amendment of the Communications Act (Public Law 88–313), an alien amateur may now operate his foreign licensed amateur station in this country provided that reciprocal privileges for U.S. amateurs are afforded by his country. Bilateral agreements for such reciprocal operations have been consummated with seven foreign nations and negotiations have been entered into with 23 additional countries.

Improvement of the amateur licensee structure through an incentive licensing program was proposed in a major rulemaking action (docket 15928) which was initiated in response to a number of formal petitions by licensees. The proposed rules contemplate higher classes of licenses with special privileges but available only upon demonstration, by examination, of advanced skills, knowledge and technical ability. This proposal has elicited numerous comments which are being evaluated.

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.

STATISTICS

Stations in Safety and Special Radio Services

At the end of fiscal 1965, there were nearly 1½ million stations in the Safety and Special Radio Services. Citizens Radio Service is still the fastest growing service with this year's increase at more than 62,000.

Stations in Safety and Special Radio Services

Class of station	June 30, 1964	June 30, 1965	Increase or (decrease)
Citizens	682,307	744,713	62,406
Amateur	264,007	266,007	2,000
Disaster	372	374	2
RACES	16,439	13,962	(2,477)
Total amateur and disaster services	280,818	280,343	(475)
Aeronautical and fixed group	5,128	5,071	(57)
Aircraft group	84,110	86,826	2,716
Aviation auxiliary group	672	704	32
Aviation radionavigation land	414	418	4
Civil Air Patrol	17,233	16,878	(355)
Total aviation services	107,557	109,897	2,340
Business	62,048	73,915	11,867
Forest products	2,596	2,781	185
Industrial radiolocation	386	420	34
Manufacturers	1,179	1,514	335
Motion picture	54	56	2
Petroleum	9,660	10,075	415
Power	14,521	15,504	983
Relay press	211	253	42
Special industrial	32,876	35,805	2,929
Telephone maintenance	816	1,037	221
Total industrial services	124,347	141,360	17,013
Automobile emergency	1,406	1,542	136
Interurban passenger (motor carrier)	84	94	10
Interurban property (motor carrier)	2,857	2,786	(71)
Urban passenger (motor carrier)	134	131	(3)
Urban property (motor carrier)	677	1,026	849
Railroad	4,664	5,260	596
Taxicab	4,993	4,796	(197)
Total land transportation services	14,815	15,635	820
Alaskan group	1,558	1,674	116
Coastal group	498	558	60
Fixed (marine)	97	101	4
Marine radiodetermination land	50	52	2
Ship group	159,390	111,690	(47,700)
Total marine services	161,593	114,075	(47,518)
Fire	9,496	10,121	625
Forestry conservation	4,042	4,334	292
Highway maintenance	5,416	5,747	331
Local government	6,255	7,345	1,090
Police	16,605	17,156	551
Special emergency	5,558	6,166	608
State guard	17	19	2
Total public safety services	47,389	50,888	3,499
Total safety and special stations	1,418,826	1,456,911	38,085

Transmitters in Safety and Special Radio Services

At the end of fiscal 1965, slightly over 5 million transmitters were authorized to be used in the Safety and Special Radio Services. This is an increase of 353,651 over 1964. A breakdown of the estimates of land, fixed, and mobile transmitters authorized by class of station follows:

Transmitters in Safety and Special Radio Services

Class of station	Land or fixed	Mobile	Total
Citizens	14,770	2,383,082	2,397,852
Amateur	258,027		258,027
Disaster	374		374
RACES	27,924		27,924
Total amateur and disaster services	286,325		286,325
Aeronautical and fixed group	8,114		8,114
Aircraft group		138,922	138,922
Aviation auxiliary group	352	3,309	3,661
Aviation radionavigation land	544		544
Civil Air Patrol	8,439	16,878	25,317
Total aviation services	17,449	159,109	176,558
Business	44,349	517,405	561,754
Forest products	2,781	25,029	27,810
Industrial radiolocation	252	840	1,092
Manufacturers	1,817	34,822	36,639
Motion picture	56	952	1,008
Petroleum	24,180	70,525	94,705
Power	12,403	170,544	182,947
Relay press	228	3,239	3,467
Special industrial	32,225	340,148	372,373
Telephone maintenance	1,037	32,666	33,703
Total industrial services	119,328	1,196,170	1,315,498
Automobile emergency	1,465	14,187	15,652
Interurban passenger (motor carrier)	75	846	921
Interurban property (motor carrier)	3,065	47,362	50,427
Urban passenger (motor carrier)	105	3,144	3,249
Urban property (motor carrier)	821	20,520	21,341
Railroad	4,892	157,800	162,692
Taxicab	8,633	153,472	162,105
Total land transportation services	19,056	397,331	416,387
Alaskan group	3,683		3,683
Coastal group	893		893
Fixed (marine)	101		101
Marine radiodetermination land	83		83
Ship group		134,028	134,028
Total marine services	4,760	134,028	138,788
Fire	9,109	111,331	120,440
Forestry conservation	6,501	34,672	41,173
Highway maintenance	5,172	51,723	56,895
Local government	6,611	73,450	80,061
Police	15,441	205,872	221,313
Special emergency	5,858	18,498	24,356
State guard	38	456	494
Total public safety services	48,730	496,002	544,732
Total safety and special transmitters	510,418	4,765,722	5,276,140

Applications in Safety and Special Radio Services

During fiscal 1965, 494,723 applications for stations in the Safety and Special Radio Services were received. This is a decrease of 87,788 compared to 1964. A comparison of the number of applications received during the past 2 years follows:

Applications in Safety and Special Radio Services

Class of station	June 30, 1964	June 30, 1965	Increase or (decrease)
Citizens	293,480	210,325	(83,155)
Amateur	117,799	119,431	1,632
Disaster	43	23	(20)
RACES	2,023	2,117	94
Total amateur and disaster services	119,865	121,571	1,706
Aeronautical and fixed group	3,166	2,853	(313)
Aircraft group	33,331	36,838	3,507
Aviation auxiliary group	306	301	(5)
Aviation radionavigation land	228	353	125
Civil Air Patrol	5,821	4,678	(1,143)
Total aviation services	42,852	45,023	2,171
Business	25,867	27,366	1,499
Forest products	1,300	929	(371)
Industrial radiolocation	378	431	53
Manufacturers	761	991	230
Motion picture	44	29	(15)
Petroleum	3,672	3,430	(242)
Power	7,432	4,709	(2,723)
Relay press	154	121	(33)
Special industrial	12,191	10,862	(1,329)
Telephone maintenance	368	413	45
Total industrial services	52,167	49,281	(2,886)
Automobile emergency	623	682	59
Interurban passenger (motor carrier)	39	40	1
Interurban property (motor carrier)	1,394	1,015	(379)
Urban passenger (motor carrier)	54	45	(9)
Urban property (motor carrier)	571	689	118
Railroad	2,307	2,524	217
Taxicab	2,276	2,043	(233)
Total land transportation services	7,264	7,038	(226)
Alaskan group	309	353	44
Coastal group	276	231	(45)
Fixed (marine)	61	28	(33)
Marine radiodetermination land	18	8	(10)
Ship group	43,400	39,756	(3,644)
Total marine services	44,064	40,376	(3,688)
Fire	4,856	3,411	(1,445)
Forestry conservation	1,536	1,751	215
Highway maintenance	2,616	2,630	14
Local government	4,136	4,128	(8)
Police	7,328	6,882	(446)
Special emergency	2,346	2,292	(54)
State guard	1	15	14
Total public safety services	22,819	21,109	(1,710)
Total safety and special applications	582,511	494,723	(87,788)

Enforcement Sanctions in Safety and Special Radio Services

Violation cases in the Safety and Special Radio Services which required the institution of enforcement sanctions are indicated in the following statistical table.

Enforcement sanctions in Safety and Special Radio Services

	1964	1965	Increase or (decrease)
Station license revocation proceedings:			
Cases pending beginning fiscal year	62	88	26
Cases started during fiscal year	166	210	44
Cases closed by revocation	110	134	24
Cases closed by dismissal (based on voluntary license cancellation or other reasons)	30	83	53
Cases pending at end of fiscal year	88	81	(7)
Amateur operator suspension proceedings:			
Cases pending beginning fiscal year	0	0	0
Cases started during fiscal year	0	1	1
Cases closed by operator license suspension	0	1	1
Cases closed by dismissal	0	0	0
Cases pending at end of fiscal year	0	0	0
Monetary forfeitures:			
Imposed under title III and sec. 507 of Communications Act (compulsory radio safety requirements aboard ships):			
Cases pending (ships) beginning fiscal year	24	34	10
Cases pending (masters) beginning fiscal year	14	27	13
Forfeiture notices to ships	60	53	(7)
Forfeiture notices to shipmasters	39	28	(11)
Cases closed by payment in full or as mitigated (ships)	42	56	14
Cases closed by payment in full or as mitigated (shipmasters)	13	15	2
Cases closed by remission (ships)	8	17	9
Cases closed by remission (shipmasters)	15	32	17
Unpaid cases referred for formal collection action (ships)	0	1	1
Unpaid cases referred for formal collection action (shipmasters)	0	1	1
Cases pending (ships) end of fiscal year	34	13	(21)
Cases pending (masters) end of fiscal year	27	7	(20)
Imposed under section 510 of Communications Act:			
Cases pending beginning fiscal year	10	70	60
Forfeiture notices issued	133	198	65
Cases closed by payment in full or as mitigated	30	122	92
Cases closed by remission (based on voluntary license cancellation, license revocation, or other reasons)	37	58	21
Unpaid cases referred for formal collection action	7	4	(3)
Cases pending at end of fiscal year	[1] 70	84	14

[1] This was reported erroneously as 69 last year.

Field Engineering

GENERAL

In compliance with the President's request that all agencies reexamine their operations toward achieving maximum efficiency, the Field Engineering Bureau made several changes in its operations and physical facilities during fiscal 1965. Not only were increased efficiencies obtained but production in meaningful areas of work was increased.

The fundamental objectives of Commission field engineering are to render service to the public, industry and the Government in the matter of eliminating radio interference and enforcing radio laws and regulations. The enforcement role includes the detection and suppression of illegal, unlicensed and improper radio emissions.

More contribution was made than ever before in the elimination of electromagnetic interference, as indicated by the increase in cases resolved by the Field Engineering Bureau. Concurrently, a reduction in the number of complaints attests to the cooperation of industry as well as Government. Self-help, local Television Interference Committees (TVIC), encouraged by the FCC, increased to 827 during the year. They handle routine interference complaints at the local level.

Steps were taken to combine the Fairbanks and Anchorage monitoring stations in order to render 24-hour service and increase radio law enforcement effort in Alaska. In Hawaii, where FCC shares a facility with another agency, activities were supplemented by mobile monitoring. Enforcement activities in Puerto Rico more than tripled.

Within the contiguous 48 States, virtual revolutions in enforcement effectiveness took place. Some monitoring stations more than doubled their work. Mobile monitoring proved to be the most efficient way of reaching areas located outside of fixed monitoring coverage.

Many new small boat radio installations materially increased the use of marine radio communication channels which in turn compounded the long standing regulatory problem in this field. An intensified small boat radio inspection program acquainted thousands of small boat owners to the need for knowledge of and conformance with the radio "rules of the road." Simultaneous radio monitoring contributed materially in the attack on this problem.

Inspections in services which had only been lightly touched before indicated that there is a pressing requirement for greater rule conformity on the part of virtually all users of radio transmitting equipment. Increased enforcement action was not confined to areas of marginal or lesser violations. A study of the violations notices shows considerable impact on other users of radio which requires corrective action.

Among responsibilities of the Field Engineering Bureau is the processing of proposals for new or modified antenna structures, which includes designation of the painting and marking requirements as well as the placement of such structures. The backlog at the fiscal yearend was the lowest on record even though the number of applications processed was only slightly less than the record high.

The following paragraphs summarize the FCC's various field activities during the year.

MOBILE MONITORING

Policing the upper radio spectrum (above 30 mc) was strengthened through increased use of mobile monitoring units. Approximately 135 mobile monitoring trips were made into areas beyond reception range of the fixed monitoring stations. As a result, more than 5,000 engineering measurements were made, approximately 1,600 violation notices were issued and over 500 radio stations were detected on the air without valid licenses.

RADIO DIRECTION FINDING

The long-range radio direction finders in FCC's monitoring network are probably the most important tools used in performing many varied duties such as locating illegal radio transmitters, solving interference cases, and providing bearings and fixes on distressed aircraft and ships. As a bonus, the direction finding net continues to assist the Department of Defense in research and development projects.

The number of bearings and fixes plotted annually runs into the thousands and, in the case of nonidentifying emissions, provides the only practical means of locating their source. During the year, 888 emergency radio bearings were taken in connection with search and rescue operations. More than 29,000 bearings were made in routine monitoring case assignments.

LONG-RANGE INTERFERENCE ELIMINATION

Locating and identifying sources of radio interference to FCC licenses and governmental agencies continue to be a major field work-

load. During fiscal 1965, the solution of approximately 3,000 cases of interference (an 11-percent increase over 1964) required around-the-clock assistance by the monitoring and direction finding net.

The long-range direction finding net located sources of interfering emissions which could not be identified by usual methods. Typical cases solved in this manner were:

Severe and persistent interference to stations in both the international fixed public and amateur radio services over a broad range of frequencies, caused by spurious emissions, was traced to a defective transmitter in Bogota, Colombia.

Interference to U.S. Navy air-ground priority communications in Hawaii was found to come from a Navy transmitter operation near San Francisco.

The Army post at Fort Ritchie, Md., reported interference to its reception of oversea stations by spurious emission radiation. The source proved to be coast station operations in Amagansett, N.Y.

The telephone company reported harmful interference by an unknown station to reception from Seoul, Korea. Direction finding bearings placed the interfering station near Tokyo, Japan.

An Air Force base reported interference to communications by an unidentified continuous signal. It was fixed as coming from the island of Okinawa.

MONITORING ENFORCEMENT AND CLASS D CITIZENS RADIO

Rule violations by class D citizens licensees reached an all-time high. Recently adopted rules are expected to alleviate this situation; however, no improvement has been observed in the few months the rules have been in effect. During the year, more than 6,000 violation notices were issued, of which over 5,000 involved on-the-air infractions.

NETWORK AND MOBILE UNIT INTERCOMMUNICATION

The 15 monitoring and direction finding stations in the contiguous States are tied together and to Washington headquarters by a 24-hour landline teletype circuit which provides instantaneous alerting and intercommunication. FCC installations in Alaska, Hawaii, and Puerto Rico are integrated into the network by radioteletype circuits to the radio net control station at Grand Island, Nebr., and the alternate net control stations at Chillicothe, Ohio, and Livermore, Calif. Field mobile units are equipped with radiotelegraph and radiotelephone facilities for communication with each other and with the monitoring-direction finder net. Headquarters can thus direct and coordinate operations on a national basis.

SEARCH AND RESCUE

The FCC direction finding network, as a participant in the National Search and Rescue Plan, is called upon frequently to render assistance in locating distressed air and surface craft. A landline teletype circuit with the U.S. Coast Guard provides quick communications for this purpose. Typical cases of assistance were:

A two-engine aircraft bound from Gander, Nefoundland, to the Azores was reported lost over the Atlantic. One fix was obtained and furnished to the Coast Guard which dispatched an intercept plane to escort the craft back to Gander.

The pilot of a Russian airliner bound from Moscow to Havana, reported to the Coast Guard that the aircraft was low on fuel over the North Atlantic and that assistance was needed. FCC furnished nine fixes over a 3-hour period and the airliner was safely guided to Kennedy International Airport for refueling.

CONTRACTUAL WORK

Long-range radio direction finding, monitoring and recording services for research balloon flights and weather buoys anchored in the oceans surrounding the United States were continued for Federal agencies. This included tracking of high-altitude free-floating balloon flights by means of radio bearings, recording radio transmissions of scientific data, logging signal strength of radio transmissions and assisting in locating weather buoys that had broken loose from their moorings. The cost of these services during the year, for which the Commission was reimbursed, approximated $108,000.

FIELD TECHNICAL AND PLANT FACILITIES

The efficiency and effectiveness of field engineering and monitoring is largely determined by the quality and extent of available facilities. The field engineers have frequently been handicapped by lack of sufficient modern technical equipment because of limited funds; however, during the past 2 years, and particularly during the year just ended, a good start was made in the program to replace obsolescent equipment and to provide additional modern equipment.

Because of necessity for making precise technical observations and measurements over an extremely large portion of the radio spectrum, as contrasted with the relatively narrow portions of concern to typical radio users, need frequently arises for specialized equipment that is not commercially available. Some of this equipment is FCC designed and constructed but, wherever possible, commercially available equipment is used.

Where field testing of new equipment discloses performance weaknesses, this is called to the manufacturer's attention, in some instances resulting in improvements which are of benefit to many equipment users besides the FCC. Problems of recent concern in this regard have included requirement for reduction of spurious response to unwanted signals in certain types of receivers, and reduction of stray radiation from frequency measuring equipment in order to facilitate measurements on weak signals.

Facilities at Fixed Monitoring Stations

Property facilities.—The Portland, Oreg., monitoring station was closed and its operations transferred to Marietta, Wash., where new facilities are shared with another Government agency. The vacated 108 acres were turned over to the General Services Administration for disposal.

In Hawaii, direction finding and certain other activities of the Waipahu monitoring station were transferred to Wahiawa, where new facilities are likewise shared with another Government agency. This made available for disposal a major portion of the 184-acre Waipahu property.

The Fairbanks, Alaska, monitoring station was closed and most of its facilities transferred to the Anchorage monitoring station where facilities are being upgraded and operations consolidated in the interest of efficiency and economy. Equipment not needed at other stations, and the 90 acres of the Fairbanks station, were declared to GSA for disposal.

The new class C monitoring station that was scheduled to be activated in Puerto Rico in fiscal 1965 is now expected to commence operation in fiscal 1966. Direction finding functions of the Santa Ana, Calif., monitoring station will be transferred to Imperial Beach, Calif., in fiscal 1966, at which time a large portion of the 110-acre Santa Ana property will be available to GSA for disposal.

Technical facilities.—Installation of a new wide aperture direction finder at the Kingsville, Tex., monitoring station was completed. Performance of the similar FCC-designed direction finder installed in 1964 at the Powder Springs, Ga., monitoring station has proved highly satisfactory, and FCC hopes to continue replacing present direction finders at other monitoring stations at the rate of about two each year. Advantages of the new design include greater sensitivity and accuracy, wider frequency range coverage and relatively little maintenance.

Monitoring coverage improvements during the year included acquisition of additional high quality VHF receivers and crankup towers

which can be lowered to facilitate mounting of antennas temporarily required for special purposes. Efficiency of the radioteletype network, which serves as a backup link for coordinating synchronized operations of the monitoring net, especially during disruption of regular landline teletype service, was improved by acquisition of additional high-frequency receivers modified to meet FCC needs, and of additional more modern radioteletype machines and radioteletype transmitters.

Mobile Monitoring Facilities

Because of the phenomenal increase in utilization of the VHF and UHF frequencies, which have a limited coverage area, mobile monitoring units are necessary to supplement coverage by the Commission's fixed monitoring stations. To meet the need for supplemental mobile monitoring, some suitable technical equipment has been provided, but it is still necessary to rely heavily upon shared use of equipment temporarily borrowed from the fixed monitoring stations even though size, weight and power drain are greater than desirable. This procedure will necessarily continue during the coming year, but it is hoped that funds will be available in 1967 to provide five vehicles especially equipped for mobile monitoring.

Among facilities provided during the year for mobile monitoring units were additional VHF–UHF frequency meters for making precision measurements necessitated by the strict frequency tolerance under the "split channel" rules in the land mobile services so that more stations can be accommodated in the limited available spectrum space. Gasoline engine operated electric power plants needed to furnish electric power to operate the considerable amount of equipment frequently carried in these units also were provided.

Mobile Facilities for Engineering Measurements

Considerable progress was made toward providing each district office with a vehicle equipped for making a variety of engineering measurements to assure that radio stations comply with technical provisions of FCC rules. Most measurements of emissions, including frequency and modulation checks, are made within a few miles of the station, while direct transmitter performance measurements are made within the station being checked. Technical facilities provided for measurements cars during the year included additional field strength meters for measuring strength of station emissions, bridges for measuring impedance of AM broadcast station antennas to assure that the actual antenna power conforms to the licensed power, and additional

RF wattmeters for checking power output of various other types of stations.

Facilities for Investigative Activities

Mobile units with radio direction finders and other specialized equipment are used for locating unauthorized stations and sources of interference to radio reception. Additional equipment required for a particular investigation can be temporarily installed in the vehicle. Hand-portable or concealable auxiliary equipment is available for close-in use when necessary.

Investigative unit capabilities were enhanced by acquisition during the year of 33 mobile and 4 base radiotelephone stations to replace old equipment and to improve intercommunication, which is particularly important in coordinated operations involving 2 or more investigative cars. Also, a dozen battery-operated portable marine direction finders were added for such purposes as tracking down improper radiotelephone transmissions which interfere with distress or other important radio communications.

Mobile FM–TV Enforcement Units

The three FM–TV enforcement units continued their surveillance on a national basis, making detailed observations of the technical quality of emissions from aural broadcast stations. Thus, defects in the FM or TV signal can be brought to attention of the station and corrected before the signal deterioration has become apparent to the public or, in some cases, even to the staff of the station itself.

Although no extensive changes were made in the technical facilities of these units during the year, some equipment was added to keep them at peak efficiency. For example, new oscilloscopes having high sensitivity and linearity for optimum performance in making FM stereo and TV color measurements were provided.

Mobile Microwave Monitoring Units

Surveillance, enforcement and interference-investigation facilities for the upper portion of the radio spectrum, especially from 1000 to 10,000 Mc, are provided by mobile microwave monitoring units. Since microwave transmissions usually are sharply beamed, like a searchlight, appropriately equipped mobile units are needed for technical enforcement. Specialized equipment for two trucks was procured during the year for this purpose. Efforts are being made consistent with available personnel, to complete installation of the equipment and to place these units in service early in fiscal 1966. Each vehicle will have microwave receivers and antennas, precision fre-

quency meters, and spectrum analyzers to measure bandwidth and other characteristics of the signals.

In addition to the two units procured in 1965, and two older ones which were modified during the year, two more are expected to be acquired in 1966, making a total of six units, in order to meet problems posed by the rapidly increasing utilization of this portion of the radio spectrum by important radio services.

FIELD OFFICE ENFORCEMENT

A day's mail may include delivery of a license from the Commission to the broadcaster or businessman authorizing him to begin radio operation. From that moment on, the broadcaster or businessman shares a common goal with FCC—improved communication. The Field Engineering Bureau, backed by years of experience, is ready and willing to furnish professional assistance to the licensee.

Twenty-four district, four sub and two marine offices aid both the public and licensees by solving various types of interference problems. Field engineers inspect radio stations not only to insure compliance with the rules but also to help licensees resolve technical problems by on-the-spot advice.

MARINE

During the year, FCC field offices made over 4,000 inspections of radio installations on vessels required by law to carry such equipment. Approximately 100,000 small boats have voluntarily installed radio for summoning assistance if needed and for other communication. In areas where small boats concentrate, nonessential radio traffic frequently interferes with more urgent communications and, at times, has jeopardized use of the distress frequency. In correcting this situation, enforcement emphasis in the past was placed on the monitoring of transmissions from small boats; however, during the latter part of the year this enforcement was supplemented by placing added emphasis on inspections. Ships were visited by FCC inspectors whose purpose was not only to view the radio equipment but to educate the boat owner in proper operating practices.

During the year, 49 special inspections or investigations pertaining to maritime disasters were made. These involved 24 vessels with radio equipment voluntarily provided and 25 compulsory fitted vessels. Of these, 8 were large ships which were lost or extensively damaged, and 13 were smaller vessels each of which was a total loss. These inquiries were made to ascertain if there was any violation of law, and to obtain data for the Commision in its continuing study of radio use for safety purposes.

BROADCAST

Issuance of regulations is not in itself sufficient to insure an adequate broadcasting system. Stations must be inspected periodically to assure that the rules are observed and to furnish technical guidance to the broadcaster. Most broadcasters do not have the opportunity to come to Washington and to them "The FCC" is the visiting field inspector.

Broadcasting equipment capable of meeting the Commission's technical standards and the operation of such equipment by qualified operators are two important factors in determining the quality of service rendered. Field inspectors locate and instigate correction of inadequacies in the equipment and its operation, thus improving service to the public.

INTERFERENCE INVESTIGATION

With each succeeding year the problem of keeping radio transmissions on an assigned frequency or within an allotted band grows in complexity. Corralling the strays is an annual task of major proportion. This problem reached a near record in fiscal 1965. Of special significance was the impact of three relatively new trouble sources.

In the Far West, garage door openers produced interfering signals that invaded vital aviation and navigation frequencies. In consequence, 285 offending units had to be located and removed from the air. Measurements on 192 of these openers showed that not one was within limitations provided in the Commission's rules.

In the Southeast, three instances of interference to air navigational frequencies were traced to radiation from malfunctioning intruder (burglar) alarms. Such signals are difficult to hear on the ground because of their rapid attenuation, but are audible in aircraft up to 15 miles from the source. Several hundred similar intruder alarms already are in the hands of the public and proposals to relax further the manufacturing requirements promise a bigger problem in the future.

Racing of miniature autos, a popular new hobby, was revealed to be a source of interference to TV reception in the immediate vicinity of a west coast track. These cars depend upon sliding contacts to a power source and arcing at the contacts produces undesired radiation. As a result of a Commission show cause order, a hearing was held in Los Angeles. In consequence, toy manufacturers have joined together to devise means of resolving this problem.

Also during the year, complaints were heard from widely scattered sections regarding invasion of privacy through the use of electronic

surveillance devices commonly called "bugs." Some of these devices use miniature radio transmitters and there are reports of such installations being found on telephone poles to monitor telephone lines, under auto bumpers to transmit a tracing signal, and concealed in residences to overhear conversations. Complaints of this nature seem destined to increase future investigative demands. Rules which would ban the use of radio devices for eavesdropping were proposed by the Commission on January 15, 1964 (docket 15262).

The transmission of profane language by radio is always a problem. The field staff is responsible for locating the offending radio station and assisting in collecting evidence to support prosecution or issuance of warning letters for violations of U.S. Code 1464.

The mushrooming Citizens Radio Service has placed radio equipment at the disposal of nontechnical and, in many cases, immature individuals. Disregard for the radio regulations by these persons has generated problems in many areas of the country.

The recent ban on the import of TV receivers which do not meet the requirements of part 15 of the rules has spawned another investigative responsibility. Foreign exporters, possibly through lack of knowledge, are shipping to the United States TV sets without UHF capability or certification of compliance and are failing to label the packaging cartons. Customs' officers notify the nearest FCC district office when a shipment of TV receivers in unlabeled cartons arrives in port. An engineer of the district office investigates to determine if the shipment meets requirements.

RADIO OPERATOR EXAMINING AND LICENSING

The Commission issues seven grades of commercial radio operator licenses of which three are classified as radiotelegraph and four as radiotelephone. Radio stations, in general, are required to be operated by licensed operators.

The Field Engineering Bureau is delegated responsibility for determining the content of commercial operator examinations, examining eligible candidates, and issuing licenses to those found qualified. It also examines candidates for the higher grades of amateur radio operator licenses and certifies those who qualify to the bureau administering the Amateur Radio Service.

Operator examinations are conducted at 30 field offices in accordance with published schedules and by appointment. Examinations also are given at 56 other places at regularly scheduled times. Changes are made in examination schedules as necessary. Thus, during the year the schedules were expanded to provide for more frequent examinations in western Texas and central Alaska.

The duties of a commercial radio operator include not only the handling of communications, the manipulation of controls and the keeping of station logs, but also the performance of technical duties which may affect the station's operation. In stations of certain classes, the operators do not need to be qualified or authorized to perform all of those duties, but in stations of other classes a fully qualified operator, authorized to perform all of those duties, is essential. Commercial radio operator licensees are therefore graded in accordance with the nature of the duties they are expected to perform.

No examination is required for the lowest grade commercial operator license—the Restricted Radiotelephone Operator Permit. This is the grade of license usually held by pilots of aircraft, owners of small boats and by many nontechnical operators in other than broadcast services. The candidate must certify in writing as to his knowledge, ability and responsibilities as operator. Arrangements were made during the year for central processing of applications for licenses of this grade. Except for cases of immediate need of a permit for safety, in which the permit is applied for and issued by the field office, applications are filled in the Commission's Gettysburg, Pa., office. After screening, they are sent to the Washington office for further processing and issuance of the permit by computer.

The Commission is permitted to waive the U.S. citizenship requirement for certain alien aircraft pilots who have need to use radio while operating in this country. The number of such applications has grown from approximately 400 in fiscal 1959, the first year they could be honored, to more than 1,600 during the past year. This enabled several groups of Europeans visiting the United States to tour the country in private aircraft. Similarly, a number of foreign commercial pilots were assisted in qualifying for employment with U.S. airlines.

During the year the Communications Act was amended to add another category of aliens to those whom the Commission may license as radio operators. It can now issue operator licenses to qualified citizens of the Trust Territory of the Pacific Islands, which is administered by the Department of the Interior.

During the year several persons obtained, or assisted another person to obtain, a radio operator license by fraudulent means. Use was made of false signatures and entries in applications, impersonation in examinations, and photographic copying of licenses. Steps were taken to minimize such incidents in the future by requiring more detailed identification on application forms and by placing personal descriptions on licenses to identify them with the rightful holders.

On a number of occasions the Commission took disciplinary action against operators by suspending licenses. Suspension was for such violations as transmitting profane language, improper operating procedure and cheating in examinations.

ANTENNA HAZARDS

Antenna proposals for new or altered transmitting towers are processed by the Commission to insure compliance with regulations governing the construction of such towers in the interests of aviation safety. Part 17 of the rules requires that towers in excess of 170 feet in height or towers that exceed established hazard criteria be painted and lighted.

The number of antenna proposals processed for all radio services during fiscal 1965 totaled 28,753, which is only slightly less than the record high of 29,261 in 1964. This was due to a decrease in proposals received from the safety and special services. Antenna proposals processed for broadcast and common carrier services totaled 1,783 and 1,746 respectively, each exceeding previous records.

The Commission has proposed legislation to amend section 303(g) of the Communications Act to control the marking and lighting of abandoned transmitting towers.

Information about tall TV towers in particular is contained in the chapter on "Broadcast Services."

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) 238 Post Office Bldg., Savannah, Ga., 31402
7. 51 SW. First Ave., Miami, Fla., 33130; (marine office) 738 Federal Office Bldg., Tampa, Fla., 33602
8. 829 Federal Office Bldg., New Orleans, La., 70130; (suboffice) 439 U.S. Courthouse and Customhouse, Mobile, Ala., 36602
9. 515 Rusk Ave., Houston, Tex., 77002; (suboffice) 301 Federal Bldg., Beaumont, Tex., 77704
10. 1314 Wood St., Dallas, Tex., 75202
11. 849 South Broadway, Los Angeles, Calif., 90014; (suboffice) 1245 Seventh Ave., San Diego, Calif., 92101; (marine office) 1300 Beacon St., San Pedro, Calif., 90731
12. 323—A Customhouse, San Francisco, Calif., 94111
13. 441 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. 1872 New U.S. Courthouse and Federal Office Bldg., Chicago, Ill., 60604
19. 1029 New Federal Bldg., Detroit, Mich., 48226
20. 328 Federal Bldg., Buffalo, N.Y., 14203
21. 502 Federal Bldg., Honolulu, Hawaii, 96808 (P.O. Box 1021)
22. 322–323 Federal Bldg., San Juan, P.R., 00903 (P.O. Box 2987)
23. 53 U.S. Post Office and Courthouse Bldg., Anchorage, Alaska, 99501 (P.O. Box 644)
24. 521 12th St., N.W., Washington, D.C., 20555

Class A stations	*Class B stations*	*Class C stations*
Allegan, Mich.	Ambrose, Tex.	Marietta, Wash.
Canandaigua, N.Y.	Anchorage, Alaska	Winter Harbor, Maine
Fort Lauderdale, Fla.	Chillicothe, Ohio	
Grand Island, Nebr.	Douglas, Ariz.	
Kingsville, Tex.	Fairbanks, Alaska	
Laurel, Md.	Spokane, Wash.	
Livermore, Calif.		
Powder Springs, Ga.		
Santa Ana, Calif.		
Waipahu, Hawaii		

STATISTICS

Field engineering statistics for fiscal 1965 in comparison with those of 1964 follow:

Inspection statistics

Stations	United States		Foreign	
	1964	1965	1964	1965
Ship				
Authorized stations	[1] 90,000	111,690		
Compulsory:				
Inspections	4,743	[2] 4,037	156	162
Discrepancy notices	1,653	1,622	43	32
Items cleared during inspection	4,054	3,934	116	160
Certificates issued [3]	2,853	2,447	130	128
Voluntary:				
Inspections	1,833	3,101		
Discrepancy notices	939	1,510		
Broadcast				
Authorized stations	17,231	18,544		
Inspections	2,061	2,149		
Discrepancy notices:				
Inspections	2,121	2,252		
Inspection monitoring	475	520		
Other services [4]				
Authorized stations	986,961	1,074,891		
Inspections	5,831	9,045		
Discrepancy notices:				
Inspections	2,707	4,553		
Inspection monitoring	1,208	1,557		

[1] Previously reported 159,390 total reduced by computer recount.
[2] Decrease due largely to ship strike.
[3] Safety Convention, Communications Act Safety Radiotelephony and Great Lakes Agreement Radiotelephony Certificates.
[4] Excludes ship, broadcast, and amateur.

Investigative statistics

	1964	1965	Increase or (decrease)
Interference complaints received by FCC:			
Interference to TV	27,135	24,892	[1] (2,243)
Interference to aural broadcast	3,725	4,052	327
Interference to other services	7,381	5,948	(1,433)
Total	38,241	34,892	3,349
Interference cases investigated by FCC	18,922	23,420	4,498
Other investigations by FCC	2,881	1,612	[2] (1,269)
Total	21,803	25,032	3,229
Number of cooperative interference committees	41	41	0
Number of TV interference committees	758	827	69
Total	799	868	69
Number of unlicensed stations found in violation of Communications Act	480	344	(136)
Indecent language cases	47	66	19
Certifications submitted by users of ISM equipment	975	892	(83)

[1] Increase in TVI Committees may account for decrease in TV interference complaints.
[2] Technological improvements and decrease in number of unlicensed stations contributed to the decrease in "other investigations."

Monitoring statistics

	1964	1965	Increase or (decrease)
Source and number of major interference complaints:			
U.S. military agencies	834	787	(47)
Civil government agencies	126	165	39
Commercial companies	1,406	1,773	367
Foreign governments	30	19	(11)
Total	2,396	2,744	348
Monitoring net alerts	3,354	3,462	108
Unlicensed stations detected and identified	32	603	571
Direction-finder bearings:			
Case bearings	28,837	29,086	249
Search-and-rescue bearings	481	888	407
Total	29,318	29,974	656
Cases monitored and developed:			
Major:			
Interference	2,685	3,332	647
Noninterference	277	1,014	737
Minor (local):			
Interference	6,090	3,844	(2,246)
Noninterference	4,696	4,783	87
Total	13,748	12,973	(775)
Survey cases	25	27	2
Contractual cases for other Government agencies	4	2	(2)
Signals identified and indexed	75,545	70,285	(5,260)
Monitoring reports to IFRB:			
FCC	44,865	51,303	6,438
Commercial companies (via FCC)	14,955	17,338	2,383
Total	59,820	68,641	8,821
Discrepancy notices issued:			
FCC licensees	11,418	16,760	5,342
U.S. Government stations	434	422	(12)
Foreign stations	5,385	7,448	2,063
Total	17,237	24,630	7,393

Commercial radio operator licenses

Class of license	Outstanding July 1, 1964	Outstanding June 30, 1965	Increase or (decrease)
Radiotelegraph:			
1st class	6,020	5,907	(113)
2d class	9,370	9,330	(40)
3d class	2,063	1,948	(115)
Radiotelephone:			
1st class	81,439	84,802	3,363
2d class	64,328	67,185	2,857
3d class	106,138	119,731	13,593
Restricted permits	2,344,517	2,422,934	78,417
Total	2,613,875	2,711,837	97,962

Applications processed by Antenna Survey Branch

Services	Pending July 1, 1964	Received in ASB	Completed by ASB	Pending June 30, 1965	Obstruction markings assigned
Broadcast:					
AM	20	335	335	20	249
FM	37	424	435	26	231
TV	80	984	1,000	64	334
International	0	1	1	0	1
Experimental	2	12	12	2	1
Total broadcast	139	1,756	1,783	112	816
Common carrier	249	1,542	1,746	45	814
Safety and special radio	548	24,880	25,224	204	1,076
Grand total	936	28,178	28,753	361	2,706

Applications requiring aeronautical study by Federal Aviation Agency

Services	Pending at FAA July 1, 1964	Additional during year	Final actions during year	Pending at FAA June 30, 1965
Broadcast:				
AM	11	265	256	20
FM	11	205	190	26
TV	30	378	344	64
International	0	1	1	0
Experimental	2	4	4	2
Total broadcast	54	853	795	112
Common carrier	50	936	941	45
Safety and special radio	141	4,420	4,357	204
Grand total	245	6,209	6,093	361

Research and Laboratory

TECHNICAL

In fulfilling its mandate to provide for efficient use of the radio spectrum, the Commission has found it effective to follow certain policies in the technical area which minimize the amount of interference electronic devices of all kinds may cause to users of the spectrum. Thus, technical standards govern the performance of licensed devices such as radio transmitters. Also, because ever-increasing interference is being caused by miscellaneous unlicensed electrical devices ranging from huge industrial induction heaters down to tiny transistorized electronic equipment in small home appliances, it has attempted to set up applicable radiation limits.

The Commission solicits, not always successfully, the cooperation of manufacturers and users in observing these limits. It also regulates, and at the same time attempts to encourage, the growth of radio by means of hundreds of research or development projects in the Experimental Radio Services. These are myriad and range from exploring the far reaches of space to research on the deep sea bottom.

Technical Standards for Licensed Equipment

FCC engineers participated in studies of the feasibility of channel splitting (fitting two channels into frequency space previously assigned to one) to provide more assignable frequencies in the 450–470 Mc band, and worked with industry engineers exploring ways and means of accommodating more and more stations in the land mobile radio services. Similar cooperative efforts resulted in the adoption of a new, lower power level for TV aural transmitters. Other studies were made of technical standards for radar devices and for the burgeoning CATV microwave relay operations.

Not only must the FCC set technical standards for the devices it licenses but it must also insure that the equipment in use actually meets those standards. One means of accomplishing this is provided by the type acceptance program through which the technical char-

acteristics of 469 different types of transmitters were examined closely by Commission engineers and found acceptable.

Regulation of Nonlicensed Radio Devices

The plethora of nonlicensed radio frequency devices continues to pose major problems. The numbers and types of such devices grow at explosive rate. Typical are radio controls, wireless microphones, radio and TV receivers, electronic intruder alarms, gadgets and toys and appliances of various descriptions, industrial heaters, medical equipment, and ultrasonic devices used in industry and in the home.

Nonlicensed operation of these devices is permitted if certain conditions are met or certain procedures are followed. In the interest of flexibility, various requirements are incorporated in the FCC rules for various categories of these devices. Depending upon their type, these may include provision for labels to be attached to the device, or certification by the manufacturer that the equipment meets certain radiation limits.

Since the Commission has no authority over manufacturers, its usual procedure is to direct a manufacturer's attention to the rule requirements and to ask his cooperation in marketing a product whose operation conforms with regulations. If this is not forthcoming, action to curb an individual interfering device can be taken.

The enormity of the task of regulating radio-frequency devices can best be appreciated by looking at their sheer numbers: the Door Operator and Remote Controls Manufacturer's Association estimates that some 500,000 residential garage door controls are in use today and that 90,000 to 100,000 are being manufactured annually; statistics compiled by the Bureau of Public Roads indicates that 86,297,133 automotive vehicles were in operation at end of 1964, an increase of 4 percent from a year earlier. Insofar as radiation from automobile generators and ignition systems are concerned, the Automobile Manufacturers Association in a program of self-regulation assures the Commission that these radiations are suppressed by shielding and filtering to levels specified in an industry standard to obviate interference to radio users, particularly TV viewers and AM and FM listeners.

During fiscal 1965, the Commission:

Amended its rules and revised FCC Form 724, Certificate of Compliance for Industrial, Scientific, and Medical Equipment, to provide a simpler prototype certification procedure;

Proposed to revise the rules for radio door controls to (*a*) preclude operation on aeronautical radionavigation bands, (*b*) require greater

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greater radiation suppression, and (*c*) delete the on/off timing requirements on the control transmitter;

Reviewed 819 prototype certificates submitted by both foreign and domestic TV receiver manufacturers;

Proposed further regulations to govern radio-frequency operated intruder alarms;

Again proposed legislation to give the Commission authority to regulate the manufacture and sale of devices capable of causing interference to authorized radio users; and

Issued a continuous flow of advice to individuals and industry groups about regulations governing operation of nonlicensed radio equipment.

Radio Experimentation

Encouragement to scientific investigations, research and development in radio communication and technology in general is provided through the Experimental Radio Services. As the number and complexity of these experimentation efforts increase, the problems involved in fitting frequency assignments and emission limitation into the existing patterns of use become more difficult. The Commission makes every effort to license all who supply a promising program of experimentation.

An increasing number of experimenters are studying not ony the surface of the oceans but are probing its depths. Subsurface communications and the telemetering of important oceanographic data have become indispensable tools in these studies.

In the upper atmosphere, many new "sweep frequency" experiments have been launched. These involve transmissions of short pulses which are scanned rapidly across huge bands of frequencies. The information returned from these transmissions helps applicants choose available frequencies best suited to their needs. Both Governmental and nongovernmental groups are actively pursuing sweep-frequency experiments.

Space communication, which was first licensed a few years ago under Experimental Radio Services rules, has developed with great speed (see special chapter).

Type Acceptance

Type acceptance is a procedure for determining the suitability of transmitting equipment for licensing by the Commission. The objectives of the type acceptance program are (1) improvement in spectrum utilization by limiting interference capabilities of transmitters, (2) elimination of duplication of effort among personnel in the various

Commission offices in assessing characteristics of transmitters for licensing purposes, and (3) relieving applicants of the burden of filing transmitter technical data with station license applications.

The following table compares the past 2 years of type acceptance activity:

Type of equipment	Number of applications granted		Increase or (decrease)
	1964	1965	
TV broadcast	15	12	(3)
AM and FM broadcast	55	47	(8)
Nonbroadcast	470	410	(60)
Total	540	469	(71)

Technical Standards Studies

Efforts were continued to find ways to accommodate the increasing number of stations in the land mobile services. Studies were made to determine the feasibility of channel splitting and narrow band operation to provide more assignable frequencies in the 450–470 Mc band. Other studies pertaining to the land mobile services are in progress. In several of these, liaison is being maintained with the Advisory Committee for Land Mobile Radio Services.

Technical standards for a new public air-ground radiotelephone service were developed and proposed (docket 16073). This new system, using single sideband, would provide at least sixty 2-way channels in the spectrum space now occupied by 6 channels using FM transmission. By use of this new single sideband technique, an adequate public air-ground radiotelephone service might be provided without excessive spectrum usage. The technical criteria proposed were developed from studies of developments, domestic and foreign, in utilizing single sideband techniques.

Technical standards studies are being conducted with a view to improving Commission requirements in such matters as frequency tolerance, bandwidth of emissions, antenna power gain and measurement techniques. This work is being done also in international technical committees to coordinate domestic and international requirements, thereby facilitating international communication and making equipment more generally useful throughout the world.

RESEARCH

General

As the radio spectrum becomes more crowded, and as technology becomes more advanced, the problems associated with efficient alloca-

tion and assignment of frequencies become more difficult to solve, and continual study and research are required to develop fundamental information which may be applied in dealing with these problems. Studies were made to obtain more information about the propagation of radio waves particularly as it pertains to specific allocation and assignment problems. Improved data processing techniques continued to be studied for solving various technical problems.

Radio Propagation and Service

Data obtained from the New York City UHF–TV project continued to be studied and additional reports were prepared for the U.S. preparatory committee of the International Radio Consultative Committee (CCIR) on the following phases of that project: "Comparison of Channel 31 Measurements With CCIR Propagation Curves," "Relationship of Aural to Visual Received Powers," "A Study of UHF Multicasting," "Relative Effectiveness of Indoor and Rooftop TV Reception" and "Height Gain Measurements for Antennas 3.0 and 9.1 Meters."

Plans were completed for a field strength measurement and analysis program to obtain data for a statistical approach to the problem of precipitation and other off-path scatter interference and its effect upon station assignments in satellite and terrestrial microwave radio communication systems. The Air Force, Coast Guard, Weather Bureau, FAA, and NASA are cooperating in this endeavor, which is known as the POPSI project. It would cost more than a million dollars to duplicate this work without such cooperation. The actual measurement program is expected to commence in September of 1965 and continue for approximately 1 year.

A new set of VHF and UHF field strength curves was developed for proposed adoption in the FM and TV broadcast rules (docket 16004).

FM station assignment techniques were studied particularly with respect to co-channel frequency offsets, station spacing configurations, signal to interference ratios, optimum antenna heights, and effective radiated powers.

Studies were also made concerning the allocation and assignment of TV frequencies and its effect upon other services.

Theoretical investigation of techniques for using information about the topographic characteristics of terrain for predicting UHF and VHF field strengths continued.

A comparative analysis of the reliability of airborne TV broadcast transmission on 800 and 2500 Mc was made.

Enhanced skywave transmissions of AM broadcast frequencies over tropical regions and the relationship between sunspot numbers and

this propagation were studied. This work is being coordinated with the Central Radio Propagation Laboratory of the National Bureau of Standards.

In the work of the FCC-sponsored Advisory Committee for Land Mobile Radio Services, the Commission provided the chairmen for two groups. One group is charged with establishing technical factors; the other is investigating the extent to which manmade noise limits the coverage of land mobile systems.

The Commission participated in the Joint Technical Advisory Committee study of electromagnetic compatibility. This committee is acting as a focal point for the initial study of needed technical programs in this field. The Commission is also represented on a number of committees of the Institute of Electrical and Electronic Engineers.

Its foreign collaboration includes CCIR study group work on satellite communication, tropospheric and ionospheric propagation, medium frequency broadcasting and television. It also participated in activities of the International Scientific Radio Union.

Data Processing Techniques

Studies continued on the use of data processing techniques in performing engineering calculations associated with application processing. A computer program for calculating radio paths (Report R–6501) was developed and used, for example, to study the possible adverse effect of a proposed TV antenna tower on an existing microwave radio link that passed close to the proposed structure.

The sharing of frequencies by earth stations and satellites with stations in the radio relay services and the increased congestion of radio stations in many areas pose increasing problems of the coordination of frequencies. Consequently, the Commission is commencing a study of the feasibility of using a computer and its data storage capability for producing tabulations and graphical plots of the terrain elevation between selected points.

Research Reports

The following research reports were issued during the year:

R–6408, "A Study of the Technical Factors Pertaining to the Assignment of FM CATV Microwave Relays";
R–6409, "The Interference Flutter Rate in Mobile Receivers";
R–6410, "Elevation and Depression Angle Tables";
R–6411, "Technical Problems Limiting Same-Area Concentration of Private-User Land Mobile Equipment";
R–6412, "Manmade Noise Survey";
R–6501, "Distance, Bearing, and Intersection Computer Program"; and
R–6502, "Development of New VHF and UHF Propagation Curves for Television Broadcasting".

LABORATORY

The Commission operates its laboratory near Laurel, Md., for practical studies of radio systems, equipments, propagation and interference and its suppression.

Research and Development

During the year further studies were made concerning the measurement of oscillator radiation from FM and TV receivers. Regulations which became effective in 1956–57 to prevent interference to other receivers have in general proved satisfactory. Some problems have arisen in the enforcement of these regulations because of measurement differences. It is important that the measurement accuracies be increased because of competitive problems. The measurement problems are being jointly studied with industry and professional groups, and it is hoped that the problems may be resolved within the next year. Consideration is also being given to international standardization in this area, as well as other interference measurement areas.

A study was made concerning a proposal for use of audio filters to permit increase in AM broadcast station powers without increased interference to adjacent channel stations. The study failed to show as great improvement as was expected by the proponents, but indicated some reduction in interference could be obtained on certain program material and on certain types of receivers.

Studies were also made on the characteristics of receivers currently manufactured for FM broadcast service. No significant differences were found over those characteristics of some years ago on which the allocation is based.

The need for simulation of on-the-air fading in the laboratory for testing systems and equipment led to the development of an effective fading simulator which will prove useful in a variety of studies on the practical application of systems and equipments both from service and interference standpoints.

Marine Radio

Tests were concluded on various proposed devices for the selective ringing of shipboard radiotelephone installations when an operator was not on duty. Tests included equipments proposed by the United States, Canada, West Germany and Japan. After several modifications of the systems and retesting, a German modified system was selected by an international working group of the CCIR.

Aid to Commission Enforcement and Monitoring Activities

Laboratory studies led to furnishing the Commission's three mobile FM–TV monitoring units with equipment and procedures for checking operation of stereo-FM stations, including those employing subsidiary communication channels. Refinements in the measuring methods were also introduced in the measurement of TV station emissions to insure proper station operation.

Calibration of Measurement Equipment

Calibration of measuring equipment used in the field and by the laboratory reached a satisfactory level with the construction of additional physical facilities and reorganization of methods and procedures. During the year the laboratory calibrated 41 field strength meters, 20 standard signal generators and 28 artificial antenna for power measurement. Besides these calibrations there were numerous checks and special calibrations performed.

UHF–TV

A number of UHF–TV receivers were tested to determine compliance with the all-band requirements. All were found substantially in compliance with the rules. The few deviations noted were of little import to the general UHF problem. Unfortunately, the receivers, in general, showed little tendency to greatly exceed the requirements. It appears that the minimum requirements established by the rules are close to becoming the design center. Perhaps the minimum requirements should be improved slightly each year until somewhat better performance is achieved.

Type Approval

One group of equipment tested for type approval consists of devices which unintentionally emit radio waves which may interfere with radio and TV communication. Other equipment type approved includes radio equipment used for required safety purposes or by inexperienced personnel. Following is a summary of type approval activity for the year:

Type of equipment	Submitted	Approved	Amended
Broadcast monitors	10	2	2
Marine transmitters	0	0	0
Marine radar	28	27	2
Marine autoalarm	0	0	2
Marine distress keyer	0	0	0
Wireless microphone	19	4	0
Diathermy	3	2	1
Epilators	6	4	8
Microwave ovens	5	2	2
Medical ultrasonic	2	2	4
Industrial ultrasonic	33	12	3
Total	106	55	24

Channel Occupancy and Automated Monitoring

Improvements have been made in the channel occupancy recorders for VHF and UHF. Further laboratory observations verify the great imbalance in channel loading between different licensed services, and the existence of numerous vacant channels.

Frequency Allocation and Use

GENERAL

The various Commission activities outlined in this chapter have a common objective, namely, achieving the most efficient use of the radio spectrum in the public interest. This is accomplished through coordinated domestic and international efforts to equitably allocate the usable spectrum among all of the various recognized radio services; provide frequencies to foster the development of new uses of radio; mitigate cases of radio interference involving FCC licensed stations; coordinate proposed new frequency assignments which can have an adverse impact on existing users of radio and promote the adoption and use of higher technical standards for radio communication equipment. Because there is only one radio spectrum for all, internationally agreed regulations on its use are essential. Furthermore, its domestic use by all non-Government services, which are administered by the FCC, must be closely coordinated with all of the various Government services. (See separate chapter on "International Cooperation.")

NATIONAL FREQUENCY ALLOCATIONS

On May 19, 1965, the Commission completed action to align the national table of frequency allocations, to the extent practicable, with the international table as modified by the Extraordinary Administrative Radio Conference in 1963 dealing with frequency allocations for space radio communication and radio astronomy.

The Commission instituted action looking toward the domestic establishment of an Ocean Data Service which would use certain maritime mobile frequencies to meet the needs for oceanographic radio communication. International developments in this field are noted under "International Frequency Allocations."

Continuing efforts were made in the matter of providing relief to the increasing congestion of stations in certain of the land mobile services on channels currently available, including the exploration of various long range solutions to this problem. For example, studies

were pursued in connection with outstanding proceedings, including the possible sharing of TV channels by the land mobile services under certain conditions.

Establishment of the Community Antenna Relay Service mentioned in the chapter on "CATV Systems" would involve use of the 12,700–13,200 Mc band on a shared basis with other services of a broadcast auxiliary nature.

Other services and techniques which are capable of utilizing frequencies above 10,000 Mc are also under consideration in order to afford some degree of relief to services now operating in lower microwave bands which are becoming crowded.

Technical developments have contributed to more effective use of available frequencies. In addition to sharing channels where possible, there is space economy in "split channel," "single-sideband" and "offset carrier" operations. In nontechnical words, it is now possible in some services to operate on half of the channel space required previously, to employ one instead of two sidebands as before, and to use a carrier frequency "offset" above or below the normal one. Proposals for the new airground radiotelephone service noted in the chapter on "Common Carrier Services" involves single-sideband techniques.

NATIONAL FREQUENCY COORDINATION

Frequency management policy matters of national importance are coordinated between the FCC and the Director of Telecommunications Management (DTM) to whom the telecommunication functions of the President are delegated. Stations of the Federal Government receive their authority to operate from the President.

For administrative and operational reasons, the national table of frequency allocations has been divided into three categories of bands: (1) Exclusive Government; (2) exclusive non-Government; and (3) shared Government/non-Government. Extensive coordination between FCC and other Federal agencies is required in administering the shared bands. The day-to-day assignment of frequencies in these bands to Government stations is made by the Frequency Assignment Subcommittee (FAS) of the Interdepartment Radio Advisory Committee (IRAC). The latter, which is advisory to the DTM, is composed of representatives of Federal agencies which make extensive use of radio. The Commission has liaison representation on the IRAC.

The frequency coordination function has been affected directly by the inauguration of major changes by the FAS in the procedures for processing applications for radio frequency assignments to Government stations. Modern machine methods introduced during the year look toward a computer system of record keeping.

Coordination with other Federal agencies for the resolution of cases of harmful interference between Government and non-Government stations is a continuing function which increases in complexity as the shared bands, particularly those below 25 Mc, become more congested.

The FCC also participates in the work of the IRAC's Technical Subcommittee. Among the areas of interest is the development of common, or closely parallel, technical standards and operating criteria. As a result of this coordinated effort, rules have been developed relating to Government operation of low power devices and ISM equipment which are compatible with long-standing FCC rules in this area.

In addition, the FCC and IRAC concluded joint study of the final report of the Panel of Experts and agreed to promulgate actions with respect to each of the panel's recommendations. The panel was created by the 1959 Geneva Conference for the purpose of developing international recommendations for relieving the severe congestion in the high frequency region of the spectrum between 4 and 27.5 Mc. The FCC, through previous actions in coordination with the radio communication industry, has already largely implemented the major recommendations of the panel.

NATIONAL NON-GOVERNMENT FREQUENCY LISTS

The selection of a frequency for a new radio station requires careful consideration of existing station operations in order to avoid causing or receiving radio interference. To provide the required information on existing assignments, the Commission maintains master files of data compiled from its authorizations. These records are transferred to punch cards which, in turn, are used in printing various non-Government frequency assignment lists, including lists for each of the radio services involved. Because of new assignments and the deletion or modification of existing assignments, these lists must be reprinted at frequent intervals in order to maintain their usefulness. Copies are made available to the communications industry, user groups and the general public through a contractual arrangement with a commercial printing firm.

During fiscal 1965, the frequency assignment lists continued to increase, both in the number of listings and in the number of printed pages. Thirty-seven regularly scheduled lists were printed along with numerous specialized lists. A total of 97,137 FCC authorizations were processed during the year to maintain the national non-Government lists. Last year's total was 96,766.

INTERNATIONAL FREQUENCY ALLOCATIONS

No conferences empowered to amend the international table of frequency allocations were held during the fiscal year. However, the Commission and other interested Federal agencies, in cooperation with the Department of State, continued their efforts to reach agreement with other countries in providing frequencies for the growing needs of oceanography. This was in response to a request by the ITU that consideration be given to an international allocation to meet the specialized need for oceanographic communication, pursuant to a resolution by the Intergovernmental Oceanographic Commission (IOC), a subordinate activity of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

As proposed, this would lead to the establishment of oceanographic radio stations on unmanned anchored buoys to transmit, for international use, scientific data concerning the physical properties of the oceans, meteorological measurements and solar radiation. It is expected that this will be one of the subjects for consideration at an ITU Extraordinary Administrative Radio Conference, probably in the spring of 1967, which will also consider maritime mobile and other matters. (See "National Frequency Allocations" regarding FCC proposal for a domestic Ocean Data Service.)

INTERNATIONAL FREQUENCY REGISTRATION

The International Frequency Registration Board (IFRB) of the ITU maintains a master international register of frequency assignments made by individual administrations showing the initial date of usage on each. That date is an essential ingredient in establishing the relative priority status of the stations involved in the event harmful interference occurs. The FCC serves as the clearinghouse for all U.S. assignments sent to Geneva for registration by the IFRB. Among the 7,193 notifications submitted during the fiscal year were the first notifications on behalf of radio astronomy and space radio communication interests in this country.

INTERNATIONAL FREQUENCY COORDINATION

The ITU encourages the coordination of proposed new frequency assignments between administrations as a means of eliminating or minimizing harmful interference. Because radio signals are not hindered by national boundaries, the assignment of frequencies on a unilateral basis would result in chaotic interference. The United States is particularly concerned because of its large size, with thousands of miles of international borders and outlying possessions.

Frequency coordination is most important along the Canadian border where there is a high concentration of population in both countries. Consequently, every proposed assignment above 30 Mc within approximately 75 miles of either side of the border is coordinated to guard against harmful interference. Of the thousands of such assignments made in this area, only five cases of harmful interference developed in 1965 and these were quickly resolved. There is like coordination on all proposed assignments below 30 Mc, although no formal international agreement exists. In this program, over 3,700 items of correspondence were exchanged with Canada during the year.

Coordination with other countries was carried out on a much smaller scale, due to the relatively few new assignments which presented serious potential international interference problems.

INTERNATIONAL INTERFERENCE AND INFRACTIONS

Procedures for dealing with international interference are outlined in the International Radio Regulations and, over the years, cooperation between nations has been effective in resolving most cases. The Commission is the centralizing office in the United States for interference complaints involving FCC licensees and stations of other countries, and is often the contact for foreign complaints involving U.S. Government stations. Cases which cannot be settled with the help of the licensees involved are negotiated with the countries concerned.

Prior to the forwarding of any official communication, all aspects of the radio operations at issue must be studied to evaluate the various engineering and administrative considerations. Monitoring is usually required to obtain positive identification of the interfering station and to determine whether its operations conform to the international record. In some instances, policy considerations may require formal representations through diplomatic channels. Since complications vary, the time required to resolve cases ranges from hours to months.

The number of interference cases handled annually has remained fairly constant during the past few years with a total of 336 for 1965, of which 296 were resolved and action continued on the remainder.

The international interference program is furthered by ITU procedure whereby administrations detecting infringements of the radio regulations by stations of another administration may report the incident. Since many of these infringements concern improper technical operation which could easily lead to interference to other stations, prompt reports followed by expeditious remedial action provide effective use of the radio spectrum by eliminating potential sources of harmful interference.

Participation in the program is largely by countries having monitoring systems capable of detecting and identifying offending stations. The Commission continues to be a major contributor in this work, having forwarded almost 4,200 reports to other countries concerning infringements during the year.

INTERNATIONAL FREQUENCY USAGE MONITORING DATA

In meeting treaty obligations pertaining to the international monitoring program for frequency usage data, the Commission continued to submit approximately 20 percent of the worldwide total of monitoring observations processed by the International Frequency Registration Board (IFRB). FCC monitoring stations are important to the program because of their number, strategic locations, quality of equipment and ability to locate transmitters through direction finding procedures, which facilitate positive identification.

In addition to the regular international monitoring program, the Commission was requested to furnish data on special projects where highly accurate information was required in eliminating harmful interference and in identifying operations in bands where future allocation changes may be necessary.

FCC's contribution to frequency usage data increased by 10 percent over 1964 and accounted for 91,500 monitoring observations sent the IFRB.

INTERNATIONAL CONFERENCES

During 1965, the Commission prepared for 42 international telecommunication conferences, including 39 multilateral and 3 bilateral meetings, some of which required continuing followup work. This participation was under Department of State sponsorship or concurrence.

In addition, the Commission furnished 7 chairmen and 51 other representatives on U.S. delegations to 28 international sessions which considered matters such as communication satellite arrangements, high frequency broadcasting schedules, ITU plenipotentiary conference preparation, technical standards, U.S.-Canadian coordination, regional and global telecommunication system planning, maritime and aeronautical communication and radionavigation. Most of these conferences were under the auspices of the ITU or its associated organizations.

The Commission continued its activity in the U.S. preparatory work, under the Department of State, for the ITU Plenipotentiary Conference at Montreux, Switzerland, in September 1965. This meeting, which is of major importance, will consider various ITU matters such as reorganization of its secretariat and the IFRB, finances, and tech-

nical cooperation planning. The Commission also did preparatory work for another major ITU meeting, the Extraordinary Administrative Radio Conference, to consider high frequency allotments for the Aeronautical Mobile Service (2d session) to be convened at Geneva in 1966.

CALL SIGNS

Call signs with various formats prescribed by the international radio regulations are assigned to radio stations throughout the world in order to identify them by country and class of service.

Studies of call sign assignment procedures continued during the year to insure that adequate numbers were available to meet current and future needs, particularly in view of the forthcoming use of computer techniques for processing applications. A program initiated to reassign call signs previously used by stations which no longer exist, as a means of meeting foreseeable needs, has indicated a potential shortage of call signs for ship radiotelephone and aeronautical stations.

Rule changes concernig the assignment of call signs to stations in the domestic broadcast service, which became effective December 22, 1964, have brought about a reduction in the number of complaints concerning the confusing similarity of broadcast call signs assigned for use in the same area. On January 12, 1965, the Commission started announcing requests for new or modified broadcast call signs.

Appendix

FCC LOG HIGHLIGHTS OF 1965 FISCAL YEAR

The following capsule summary is based primarily upon releases of the Federal Communications Commission during the 1965 fiscal year—July 1, 1964, to June 30, 1965. The dates shown are largely those of the covering releases and do not necessarily indicate the dates on which the actions were taken.

1964

July 1—Deletes amateur "dual identification" requirement.

July 2—Lifts AM "freeze"; adopts new AM station assignment rules; adopts rule requiring FM stations jointly owned with AM station in large cities to reduce duplication of programs after Aug. 1, 1965 (latter postponed on Mar. 10, 1965, to following Oct. 15).

July 6—Issues primer on "Applicability of the Fairness Doctrine in the Handling of Controversial Issues of Public Importance."

July 10—Appeals court upholds FCC authority to impose application file-fees (certiorari denied by Supreme Court Jan. 18, 1965).
Recommends legislation to remove "conflict of interest" inequities imposed on FCC commissioners and employees.

July 15—Adopts rules to curb speculation by common carriers in stock of Communications Satellite Corporation.

July 22—Grants application of Communications Satellite Corporation to provide for U.S. reception of satellite TV relay from Tokyo Olympics.

July 23—Tightens Citizens Radio Service rules, effective Nov. 1 (stayed Sept. 23 pending action on petitions for reconsideration).
Extends eligibility in Local Government Radio Service.
Adopts rules for single sideband radiotelephony in maritime services and by Alaska public fixed stations.
Adopts rules to permit railroad radio facilities to also handle public telegrams.

July 29—Adopts decision in NBC–RKO-Philco cases; requires return of NBC's Philadelphia radio properties to Westinghouse Broadcasting Co. in exchange for latter's stations in Cleveland.
Authorizes Communications Satellite Corporation to lease and modify

American Telephone & Telegraph Co.'s earth station at Andover, Maine.

Denies request by Press Wireless to engage in other services.

Will issue notices of apparent liability to licensees failing to respond to violation notices; delegates certain related authority to Broadcast Bureau.

Amend rules to permit blanket authorizations for dispatch stations in Domestic Public Land Mobile Radio Service.

July 30—Proposes new Community Antenna Relay Service; also proposes rules on common carrier service to CATV systems.

Approves Goodwill Stations sale in second largest group transaction, $21,141,330 total consideration.

Advises radio station concerning contract with answering service for technical logging.

Amends aviation frequency tolerance rules to conform with Geneva Radio Regulations.

July 31—Issues supplemental notice to "Use of Broadcast Facilities by Candidates for Public Office."

Aug. 4—Advises U.S. telecommunication companies and French and West German administrations that Administrations' proposals for channels in TAT–4 cable for record use meet objectives of Commission's rulings.

Sept. 2—Amends accounting systems for telegraph carriers.

Sept. 3—Holds broadcast of President's message in United Community Chest Campaign not exempt from equal-opportunities requirements of section 315.

Sept. 4—Common Carrier Bureau issues Recommended Decision to terminate investigation of American Telephone & Telegraph Co.'s Wide Area Telephone Service (WATS) and permit rates to remain in effect pending new studies.

Sept. 9—Permits increased telegraph rates expected to bring Western Union $4,089,000 additional annual revenue.

Sept. 11—Lists 279 FM stations conducting FM stereophonic operations.

Sept. 17—Initiates inquiry into investment group interests in broadcast stations.

Sept. 22—Announces that American Telephone & Telegraph Co. and Western Union Telegraph Co. private line tariffs become effective Oct. 1 pursuant to appeals court decree.

Sept. 23—Authorizes first telephone cable to link Virgin Islands and Venezuela.

Sept. 30—Makes changes and clarifications in broadcast "duopoly" rules adopted May 20.

Announces no further application fee refunds for overpayments of $2 or less.

Issues second inquiry notice concerning ocean data service.

Oct. 1—Rules on applicability of section 315 to press conferences of Presidential candidates.

Oct. 7—Adopts further amendments to FM rules to permit facility increases for existing stations; allocates FM channels to territories and possessions.

Oct. 14—Proposes rules to curb interference by radio garage-door openers to aviation navigation and safety radio operations.

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Oct. 21—Rules President's broadcast on events affecting country's security exempt from equal-opportunities requirements of section 315.
Proposes rules to permit use of 1990–2110 Mc by National Aeronautic and Space Administration to aid "Project Apollo."

Oct. 28—Removes height and power limitations in Local Government Radio Service.

Nov. 5—Rules Western Union intercity flower service not common carrier.
Acts on "idle" UHF permits or licenses.

Nov. 9—Makes public letter to Communications Satellite Corporation concerning foreign agreements.

Nov. 12—Institutes inquiry into stereophonic sound for TV.
Amends rules to assure FCC is informed of material changes in all applications.
Amends rules to require public notice of requests for broadcast station call letters (first of new series issued Jan. 12, 1965).
Amends broadcast auxiliary rules to further aid educational TV.
Eases TV frequency monitoring rules.
Makes 23 additional frequencies available to Business Radio Service in Puerto Rico and Virgin Islands.

Nov. 13—Rules contract by broadcaster for talent of another broadcaster not precluded by Commission's cross-interest policy.

Nov. 18—Amends procedural rules to require restricted radiotelephone operator applications be mailed to Gettysburg, Pa., field office.
Rules against "Tel-O-Total" promotion contest during rating survey period.

Nov. 20—Approves sale of Pittsburgh TV station for $20½ million (largest price yet paid for single station).

Nov. 25—Announces major reductions in interstate telephone rates to become effective Feb. 1, 1965, and Apr. 1, 1965; $100 million annual revenue reduction largest in Bell history.

Nov. 27—Institutes inquiry into "payola" and "plugola" violations.

Dec. 2—Institutes inquiry into broadcast contracts with newswire services.
Proposes rules to implement Geneva agreement on domestic space and radio astronomy frequency allocations.

Dec. 9—Institutes proceeding relating to ownership and operation of communication-satellite earth stations.

Dec. 18—Announces interim policy to designate for hearing applications to acquire interests in second VHF station in major markets.

Dec. 23—Affirms tentative decision in Telpak case but reopens record for limited purposes.

1965

Jan. 6—Recommends legislation concerning painting, illumination and dismantlement of radio towers.

Jan. 13—Approves first test of two-way air-ground communication via satellite relay.

Jan. 14—Clarifies supplemental service by taxicabs under FM station subsidiary communications authorization.

Jan. 27—Suspends American Telephone & Telegraph Co.'s revised rates for Teletypewriter Exchange Service (TWX).

Jan. 28—First notice of liability for forfeiture issued by Broadcast Bureau under delegated authority.

Feb. 2—Recommends legislation to give FCC authority to regulate devices which interfere with radio reception.

Feb. 3—Adopts rules to permit use of 1990–2110 Mc by National Aeronautics and Space Administration to aid "project Apollo."

Feb. 5—Recommends legislation to require filing of tariffs by connecting carriers.

Feb. 18—Approves exchange of NBC–Westinghouse Philadelphia-Cleveland radio stations.

Proposes rules to permit high power translator stations on unoccupied TV channels.

Testifies before House Committee on Interstate and Foreign Commerce on joint resolution to limit height of radio and TV towers.

Feb. 24—Affirms July 22, 1964, amendments to Citizens Radio Service rules; to become effective April 26.

Adopts rules governing alien amateur operation in United States (implements 1964 act amendment).

Feb. 25—Reports to Senate subcommittee on recent FCC activities in communications field.

Mar. 3—Terminates Wide Area Telephone Service (WATS) proceeding; rates to remain in effect pending new studies.

Mar. 5—Dr. Martin H. Seiden, economic consultant, submits "An Economic Analysis of Community Antenna Television Systems and the Television Broadcasting Industry" report to Commission.

Mar. 9—Recommends legislation to substitute "Secretary of Defense" (in lieu of Secretaries of Army and Navy) to receive official notice of filing of certain common carrier applications.

Mar. 10—Amends rules to reduce TV transmitter aural-to-visual power ceiling.

Facilitates issuance of radio operator licenses to alien aircraft pilots.

Mar. 11—Announces completion of work of two committees of Committee for Full Development of All-Channel Broadcasting; extends term of another committee.

Mar. 17—Proposes changes in application fee schedule.

Mar. 22—Proposes rule to foster competition in TV program production and procurement.

Mar. 23—FCC congratulates amateurs for their satellite Oscar III achievement.

Mar. 24—Replies to American Broadcasting Co. regarding its proposal for achieving a third TV network primary affiliation in selected two-VHF markets.

Mar. 31—Authorizes Communications Satellite Corporation to conduct tests of Early Bird satellite system.

Proposes incentive licensing and distinctive call signs for Amateur Radio Service.

Amends procedural rules to provide that public notice be given on petitions for reconsideration in rule making proceedings.

Relieves certain safety and special radio service applications of pre-grant notice.

Proposes rule for Aviation Instructional Stations.

Permits limited test of interservice sharing of certain land mobile frequencies.

Apr. 1—Rules use of station by newscaster candidate for public office subject to section 315 equal opportunities provision.
Amends rules to provide for local inspection of broadcast applications and certain other records.
Permits TV station WNDT to underwrite its educational programs on experimental basis.
Common Carrier Bureau issues Recommended Decision proposing elimination of separate rates for press users of private line services.
Proposes rules governing mileage spacing to protect FM stations from "IF" interference.

Apr. 2—Modifies broadcast call letter assignment policy.

Apr. 6—First commercial communications satellite, Early Bird, launched.

Apr. 9—FCC establishes advisory committee on broadcast of horse racing information.

Apr. 13—Recommends legislation consolidating previous proposals on "conflict in interest" provisions.

Apr. 21—Returns as unacceptable application by ITT Cable and Radio, Inc., for new earth satellite station in Puerto Rico.

Apr. 22—Returns as unacceptable eighth UHF–TV application by same interest.

Apr. 23—Adopts rules for microwave-served CATV systems; proposes rules to extend provisions to nonmicrowave CATV systems and institutes inquiry on related matters.

Apr. 28—Recommends legislation to conform act to Safety of Life at Sea Convention.

May 4—Announces reduction in long-distance telephone rates to Alaska (effective June 1) expected to result in about $1.1 million annual savings to customers.
Issues first alien amateur authorization under Public Law 88–313.

May 5—Commissioner Wadsworth takes office.
Testifies before Senate subcommittee on role of FCC in electronic eavesdropping.
Proposes further rulemaking on radio intruder alarms.

May 6—Proposes new FM and TV broadcast field strength curves; also proposes revision of broadcast logging rules; amends broadcast operator rules.

May 12—Adopts interim policy to govern issuance of authorizations for initial communications satellite earth stations.
Amends rules to further implement Safety of Life at Sea Convention which becomes effective internationally May 26.

May 19—Adopts rules to implement Geneva agreements on space and radio astronomy frequency allocation.
Testifies before House subcommittee on bill to conform act to Convention for Safety of Life at Sea.

May 20—Investigation of fairness compliance by eight Mississippi stations causes short-term license renewals of three stations and five others renewed with warning.

May 21—Grants 3-year extension of trial pay-TV authorization to WHCT, Hartford, Conn.

May 24—Supreme Court upholds FCC contention that evidence need not be taken in confidence unless proponent of confidential treatment demonstrates public interest would be served by closed rather than public proceedings.

May 25—Recommends legislation to extend suspension period of tariffs and require carriers to justify all new or revised schedules.

May 26—Proposes rules to establish antenna farms for broadcast towers more than 1,000 feet tall.
Ends restriction on sale of Communications Satellite Corporation stock by authorized common carriers.

May 28—Testifies before House Interstate and Foreign Commerce Committee on CATV.

June 1—Issues policy statement concerning height of radio and TV towers; proposes rules of procedures for establishment of antenna farm areas.

June 3—Announces inquiry and proposed rule making concerning territorial exclusivity of TV programs.

June 4—Adopts interim policy on TV translator grants.

June 7—Revises UHF-TV table of assignments; proposes new community-type TV stations on UHF channels 70–83.

June 16—Adopts notice of inquiry regarding authorized entities and authorized users under Communications Satellite Act.
Simplifies certification procedure for industrial heaters.

June 17—Acts on "idle" UHF permits and licenses.

June 21—Proposes rules to further restrict multiple ownership of TV stations in top 50 markets; adopts substitute interim policy.

June 23—Testifies before Senate subcommittee on six bills requested in FCC legislative program.
Authorizes commercial service via Early Bird satellite system and takes other related actions.

June 24—Directs questionnaire to CATV systems.
Technical group of Committee for Full Development of All-Channel Broadcasting issues report.

June 28—Inauguration of first commercial telephone service via communications satellite.

June 30—Adopts rules for aviation instructional stations.
Adopts rules to protect FM stations from "IF" interference.
Proposes rules for new single sideband system for air-ground radiotelephone; present developmental operations to terminate within 5 years.

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