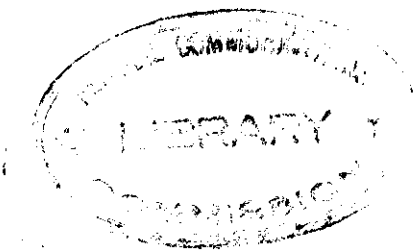
NINTH ANNUAL REPORT



FEDERAL COMMUNICATIONS COMMISSION

FISCAL YEAR ENDED JUNE 30, 1943

(With Notations of Subsequent Important Activities)

COMMISSIONERS

MEMBERS OF THE FEDERAL COMMUNICATIONS COMMISSION

(As of January 1, 1944)

CHAIRMAN
JAMES LAWRENCE FLY
(Term expires June 30, 1949)

PAUL A. WALKER
(Term expires June 30, 1946)

NORMAN S. CASE
(Term expires June 30, 1945)

T.A.M. CRAVEN
(Term expires June 30, 1944)

RAY C. WAKEFIELD
(Term expires June 30, 1947)

CLIFFORD J. DURR
(Term expires June 30, 1948)

(One Vacancy)

LETTER OF TRANSMITTAL

FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C., February 8, 1944

To the Congress of the United States:

The Ninth Annual Report of the Federal Communications Commission for the fiscal year ending June 30, 1943, is submitted herewith. Certain major developments since June 30 are also included to enhance the current usefulness of the Report.

Respectfully,

JAMES LAWRENCE FLY
Chairman

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INTRODUCTION

The Federal Communications Commission during the past year intensified its efforts to strengthen our own communications as a weapon of war and to thwart the use of enemy communications against us.

The demands upon our communications systems are increasingly urgent. The telephone, telegraph, radio and cable systems are used for vital war purposes: to direct troop movements, to speed the shipment of war materials, to issue orders to war plants, to shift manpower, to combat sabotage. Our fighting men in bivouacs around the globe tune in the radio for up-to-the-minute news and entertainment from the homeland. The radio flashes us our first news and photographs of the battlefront and rallies the homefront for such measures as rationing, bond sales, civilian defense, plasma collection, salvage drives, manpower recruitment. In the international field, broadcasting is aiding the citizens of the United Nations to understand each other better and is enabling us to oppose the Axis strategy of lies with the United Nations strategy of truth.

To facilitate the performance of these war tasks, the FCC: Conducted continuing investigations of compliance by the telegraph companies with Board of War Communications orders prohibiting domestic congratulatory messages and non-telegraphic services and curtailing deadhead and service messages, and made other studies to speed the handling of essential traffic; approved the merger of Western Union and Postal Telegraph; inspected communications plants and made recommendations for anti-sabotage precautions; aided in planning and authorized numerous lines of communications with foreign lands; called a meeting of government and industry authorities to discuss preliminary steps toward coordinating their planning for the postwar technical future of radio; enforced radio silence during air raid tests and alerts; provided engineering advice and other assistance to develop psychological warfare over international shortwave stations; moved to alleviate the materials and equipment shortages by curtailing non-essential radio construction, by making surveys of surplus and salvageable equipment and by saving wear and tear on valuable equipment through certain changes in operating rules; examined 76,210 applicants for commercial radio operator licenses; made available the results of several manpower surveys; continued the recording of sky waves and tropospheric waves in connection with frequency allocation studies; prepared statistics on various aspects of communications operations for use by the industry and allied fields; and took various other steps to assist the communications systems to meet wartime problems.

The Radio Intelligence Division, the largest unit of the FCC, safeguarded the radio channels from subversive operations by maintaining

an around-the-clock patrol of the ether, checked 3960 cases of suspected illegal transmissions, furnished direction-finding service for more than 300 aircraft including military planes and located sources of interference to commercial and military services. The Foreign Broadcast Intelligence Service, the second largest unit of the FCC, recorded, translated, digested and analyzed foreign broadcasts from around the globe in 35 languages and dialects for the information of the State, War and Navy Departments, Foreign Economic Administration, Office of War Information, Coordinator of Inter-American Affairs, Office of Strategic Services and many other agencies of this government and the United Nations.

As the nation continued to produce an unprecedented number of ships, all requiring radio, the inspection activities of the Commission to enforce regulations for the safety of life and property at sea had to be greatly expanded. Additional work was created by the increasing use of radio in the emergency services including police departments which were employing radio to offset their loss of personnel.

A reduction agreed to on January 20, 1943, by the Bell System, in the rates for interstate toll calls and private-line services will result in a saving to the public of upwards of $34,700,000 annually. Annual savings of $300,000 resulted from reductions made by the A. T. & T. in certain telephone and telephoto rates between this country and Canada. Western Union and Postal telemeter rates were reduced by $1,300,000 annually, telegraph rates between United States and Latin America by at least $2,000,000.

The network rules adopted by the Commission to end practices by which the chains restricted competition, limited the rights of stations to make their own selection of programs and curtailed the opportunities of listeners were upheld by the Supreme Court on May 10, 1943.

To meet the problem raised by concentration of control over standard broadcast stations serving substantially the same area, the Commission adopted a rule against multiple ownership. Another change in its rules extended the license period of standard broadcast stations from two to three years.

* * *

CHAPTER I

GENERAL

1. Administration

On March 25, 1943, the Commission adopted an Administrative Order establishing a Personnel Division and a Budget and Planning Division.

2. Commission Membership Changes

The term of George Henry Payne expired June 30, 1943. As of December 1943, this vacancy had not been filled.

3. Staff Organization

The Commission's organization consists of eight units: the Accounting, Statistical and Tariff Department, the Engineering Department, the Foreign Broadcast Intelligence Service, the Law Department, the Office of the Secretary, the Office of Information, the Personnel Division, and the Budget and Planning Division. The latter two units were not organized until July. The Chief Accountant, the Chief Engineer, the General Counsel and the Secretary constitute an Administrative Board, which handles routine actions in accordance with established Commission policy, and a Committee on Rules, which considers and recommends revisions of the rules and regulations.

4. Personnel

Employes of the Commission on June 30, 1943, numbered 2153. Of these, 382 were regular employes in Washington, 617 were national defense employes in Washington; 206 were regular employes in the field, 948 were national defense employes in the field.

5. Appropriations

For the fiscal year, the Commission was appropriated $2,085,000 for its regular activities, $5,668,535 for its war activities and $23,600 for printing and binding - a total of $7,777,135.

6. Legislation

The basic law under which the Commission operates is the Communications Act of 1934, as amended. During the fiscal year three amendments were made to that Act.

Two amendments were effected by Public No. 4, 78th Cong., 1st Sess., approved March 6, 1943. This Act added a new Section 222 and amended Section 214 of the Act. Section 222 authorizes the Commission to approve an application for consolidation or merger of domestic telegraph companies if the requirements imposed by that section are met. Paragraph (a) of Section 222 sets out definitions; paragraph (b) declares it lawful for domestic telegraph companies to merge upon receiving the approval of the Commission; paragraph (c) specifies the criteria and standards to be applied by the Commission in acting upon an application for merger; paragraph (d) prohibits Commission approval of a merger if as a result of such merger there is more than a specified percentage of alien participation in the new company; paragraph (e) provides for the establishment of an equitable formula for the distribution of traffic to the international telegraph carriers, and the division of charges between those carriers and the merged carrier; paragraph (f) makes provision for the protection of employes involved in the merger, and endows the National Labor Relations Board with jurisdiction to enforce and protect the rights, privileges, and immunities granted or guaranteed to employes under paragraph (f).

Section 214 was amended to require a certificate of public convenience and necessity for the discontinuance, reduction, or impairment of service to a community. Paragraph (d) thereof was also amended to empower the Commission to authorize or require any carrier to establish a public office.

Section 606 of the Communications Act, relating to war emergency powers, was amended by Public No. 850, 77th Cong., 2nd Sess., approved December 29, 1942, which added paragraph (h) to Section 606. In general the amendments suspend or limit, or authorize the Secretary of the Navy to suspend or limit, for the duration of the war certain provisions of the Communications Act relating to the Safety of Life at Sea.

Two important bills were introduced, one each in the Senate and House of Representatives, which would amend the Communications Act in

many important respects. S. 814, a bill to alter the structure of the Commission and to amend many important procedural provisions of the Communications Act of 1934, was introduced on March 2, 1943, by Senators White and Wheeler. This bill contains features derived from H. R. 5497 and S. 1806, both introduced in the 77th Congress. Hearings on this bill were commenced on November 3, 1943, and concluded on December 16, 1943.

H. R. 1490, a bill also designed to alter the structure of the Commission and amend important procedural provisions of the Communications Act of 1934, was introduced on January 25, 1943, by Representative Holmes. This bill is substantially identical with H. R. 5497, 77th Congress, upon which extensive hearings were held. No hearings have yet been held on this bill.

During the fiscal year the Commission also answered requests from Congress for its views on seven other bills. The Commission has also furnished information to State officials with respect to the bearing of the Communications Act on proposed State legislation.

7. Litigation

At the beginning of the fiscal year there were pending six cases to which the Commission was a party, four of which were in the United States Court of Appeals for the District of Columbia, and two in the United States District Court for the Southern District of New York.

During the year three new cases were filed. Two of them were appeals to the Court of Appeals for the District of Columbia from orders of the Commission, and one was a suit filed in the United States District Court for the District of Massachusetts pursuant to the Urgent Deficiencies Act, to enjoin Commission action. In addition, two appeals to the Supreme Court of the United States were filed from decisions of the United States District Court for the Southern District of New York, and a petition for certiorari to review a decision of the United States Court of Appeals for the District of Columbia was granted.

Six cases were finally disposed of during the year. The Commission won five of these cases and lost one. Thus, three cases were pending at the end of the year, two in the Court of Appeals for the District of Columbia, and one in the United States District Court for the District of Massachusetts.

Of the cases finally disposed of, those decided by the Supreme Court are worthy of further comment. The cases of National Broadcasting Company v. United States; No. 554, decided May 10, 1943, and Columbia Broadcasting

System v. United States; No. 555, decided May 10, 1943, represented the final phase of the litigation in which the validity of the chain broadcasting regulations was challenged. Extensive investigation and hearings, conducted by the Commission, disclosed the existence of certain contractual restraints and practices, imposed by networks upon their affiliated stations, which had the effect of curtailing competition and limiting the rights of licensees to make their own selection of programs. The eight network regulations promulgated by the Commission were designed to eliminate these restraints upon licensees and limitations upon the opportunities of listeners.

Regulation 3.101 provides that network affiliation contracts may not be so drawn as to prevent a station, if it so desires, from carrying programs from another network. Regulation 3.102 provides that the regular affiliate may not prevent some other station from carrying a network program in the event that the regular affiliate rejects it. Regulation 3.103 provides that an affiliation contract shall not be entered into for a period longer than two years. Regulation 3.104 provides that time subject to a network option shall not be subject to call on less than 56 days notice; that not more than three hours in each of four specified segments of the broadcast day shall be subject to option; and that the options shall not be exclusive as against other network organizations. Regulation 3.105 provides that the licensee may not contract away his right to reject unsuitable or improper programs. Regulation 3.106 provides that no network shall own more than one station in any locality, nor be the licensee of a station in any locality where the existing stations are so few, or of such unequal desirability, that competition would be substantially restrained. Regulation 3.107 forbids the ownership of two networks by a single network organization. Regulation 3.108 provides that networks may not hinder or prevent affiliates from fixing or altering their own non-network rates.

These regulations were attacked by CBS and NBC on the grounds that the Commission was without statutory authority to promulgate them; that they were arbitrary and capricious and without support in the evidence; that they constituted a deprivation of due process; and that they abridged freedom of speech in violation of the First Amendment.

The three-judge District Court, to which the cases had been remanded by the Supreme Court for a decision on the merits, upheld the validity of the regulations and granted the Commission's motion for summary judgment. On appeal from these decisions the Supreme Court affirmed, holding that the regulations were within the statutory authority of the Commission, were reasonable exercise of the Commission's power, and entailed no deprivation of any constitutional rights. Upon the expiration of a stay granted by the Supreme Court during the course of the litigation, the regulations became effective and are now operative.

In the case of Federal Communications Commission v. National Broadcasting Company, Inc. (KOA), No. 585, decided May 17, 1943, the Supreme Court affirmed the decision of the Court of Appeals for the District of Columbia, holding that the licensee of a station classified as a Class I station under Section 3.25(a) of the Commission's Rules and Regulations, was entitled as a matter of right to intervene in proceedings on an application, the granting of which would permit nighttime operation of another station on the channel occupied by the Class I station.

8. Dockets

The Commission heard 108 docket cases, and six oral arguments en banc; acted on 476 motions, petitions and other pleadings, of which it granted 323, denied 136 and dismissed 17.

9. International

A revised table showing the latest frequency allocations from 10 kc to 401000 kc and above was prepared by the International Division of the Engineering Department during the year. In addition, it prepared a Master Frequency List showing the allocated, assigned and received frequencies in the United States and possessions. A frequency plan for the allocation and assignment of frequencies in the aviation service for the Alaskan, Arctic and Inter-American International Routes was developed and coordinated.

Courses in telecommunications techniques were given to eight South and Central American holders of scholarships which were sponsored by the Inter-American Training Administration.

The International Division prepares basic information on all phases of international communications, and advises the War and Navy Departments on the best frequencies available for special military communications. The Division's major report, the International Telecommunications Survey, is supplied to all interested government agencies. Master frequency records are maintained for both transmission and reception of all radio frequency assignments in the United States and foreign countries.

The Division furnishes technical information and advice to the Interdepartment Radio Advisory Committee and the Interdepartmental Committee for International Radiobroadcasting Facilities of the Board of War Communications and supplies the secretariat for these two committees.

It serves as liaison between the Commission and the State Department Committee on Cooperation with the American Republics, the State, War and Navy Departments, the Office of the Coordinator of Inter-American Affairs, and other government agencies.

10. Interdepartment Radio Advisory Committee

The Commission is one of the 12 Federal agencies comprising the Interdepartment Radio Advisory Committee which advises the President on the assignment of frequencies to government agencies or classes of stations. During the year, IRAC approved 3374 new assignments, 1546 deletions, and numerous modifications in existing assignments, bringing the total number of outstanding assignments made by IRAC since its inception to 29,463.

IRAC is now a committee of the Board of War Communications and advises the Board of assignments involving new frequencies or changes in method or type of employment of existing frequencies.

CHAPTER II

WAR ACTIVITIES

1. Radio Intelligence Division
2. Foreign Broadcast Intelligence Service
3. Board of War Communications
4. Enforcement of Radio Silence
5. Protection of Facilities Against Sabotage
6. Manpower Problems
7. Post War Planning
8. Other Commission Activities

1. Radio Intelligence Division

Following the pattern developed during previous years, the Radio Intelligence Division of the Engineering Department continued during the past year to guard against secret enemy radio transmission and to protect vital war communications by acting as traffic officer on the overcrowded ether highways, by tracing and identifying sources of interference to military and commercial radio services and by locating stations which were unlicensed, had pirated call letters or were unidentified.

A total of 3960 cases of suspected illegal operation were investigated. Most of these were based on information received from law enforcement agencies.

Maintaining an around-the-clock watch for distress signals from ships and military and civilian planes, the RID performed some of its most spectacular activities of the year. SOS calls and reports of submarine attacks picked up by RID monitors were promptly relayed to naval stations. More than 300 aircraft including military planes were aided by the RID direction-finding services. Some of these planes were headed

for disaster because they were lost, some had already been forced down, others needed to check their positions. As soon as an RID station tuned in one of these calls, it arranged to have other RID units tune in so that they could secure bearings to be used in plotting a fix on a chart. The location or fix thus obtained was flashed to the appropriate officials for transmission to the lost planes or for use in rescue operations.

More than 55,000 words of valuable information intercepted by RID monitors from messages radiotelegraphed by the enemy were provided daily to agencies of this government and the United Nations. This intelligence, covering economic conditions, war production, materials, supplies, morale and other pertinent data, furnished a guidance not otherwise obtainable. (These messages are sent in radiotelegraph code to specific points, whereas the enemy broadcasts recorded and studied by the FBIS are in speech and designed mainly for propaganda purposes.)

All this patrolling of the ether to detect Fifth Column stations, to enforce regulations insuring safe, speedy communications, to assist ships and planes in distress and to intercept enemy messages, was performed by a far-flung monitoring system. At the close of the fiscal year, the RID was operating 12 primary monitoring stations, 79 secondary stations scattered over the Continental United States, its Territories and Possessions, 121 mobile units, of which 30 were cruising up and down the 5000-mile shoreline of the Atlantic, Pacific and Gulf Coasts maintaining special vigilance for illegal shore-to-ship or ship-to-shore communication, and three intelligence centers located in Honolulu, San Francisco, and Washington, D. C. This network makes it possible to investigate immediately any radio signal heard anywhere in America. The RID was supervising the engineering facilities of five broadcast recording units of the Foreign Broadcast Intelligence Service of the FCC. During the year, a new monitoring station was established for the FBIS at Hayward, Calif. Additional high-frequency direction finders were installed in Alaska at the request of the Alaska Defense Command.

The security of the Western Hemisphere was considerably strengthened during the year by the construction of RID-type monitoring stations in certain Latin-American republics under the supervision of RID engineers. The engineers also assisted in training the operators. This service was rendered in accordance with the plans for hemispheric defense formulated at the Rio Conference.

The specialized training and experience of the RID staff were made available to two other groups. Army Air Forces commissioned officers were assigned to the Division for training in direction-finding and evaluation of fixes. RID procedures in locating planes were furnished to the School of Applied Tactics, Orlando, Fla. Personnel of the Office of Strategic Services were trained in direction-finding, detection and monitoring.

The full story of scope of RID activities during this period cannot be told until after the war.

2. Foreign Broadcast Intelligence Service

The content of available foreign broadcasts which FBIS surveys to discover clues for war agencies on the activities and plans of the enemy and to foster closer relations with friendly nations is now over 2,500,000 words a day and comprises 35 languages and dialects.

The reports on foreign broadcasts prepared by the FBIS are studied by some 1000 officials of this government and United Nations governments as an aid in planning foreign policy, military strategy, economic warfare, counter-propaganda and the promotion of understanding and unity among the Allies.

This service was set up when the ordinary sources of intelligence such as cable service, diplomatic staffs, press representatives and travelers were cut off.

Propaganda drives originated by the enemy almost invariably follow lines emphasized previously in shortwave broadcasts. These propaganda shifts usually presage new political, diplomatic or military moves.

FBIS cruises the ether at five listening posts, assembles and compares the information collected by other United Nations listening posts, samples new programs.

The FBIS listening posts are located at Portland, Oregon; Kingsville, Texas; Santurce, Puerto Rico; Silver Hill, Maryland, and San Francisco, California. Each post has a battery of receiving and recording sets.

Because of the great volume of material now being broadcast, not all of it can be monitored. A selection is made daily based on (1) requests from war agencies for special programs, (2) changing atmospheric conditions and air raids, and (3) the monitored material readily available from other United Nations listening posts.

All the programs thus selected are recorded. As a program is recorded, a monitor listens and types up the main points in English. From these brief summaries, the editors eliminate duplications, identify the significant and especially requested items, order the full texts translated from the recordings and put on the wire to Washington the most valuable texts and excerpts thus selected.

There is a third selection in Washington where the incoming material from all sources is surveyed, duplications eliminated and the material prepared for distribution.

Distribution is also a selective process. To the major governmental units which demand minute-by-minute service, an omnibus teletype wire carries the bulk of the broadcast summaries and texts as they are received. To the OWI Overseas Branch in New York and San Francisco go separate teletype wires with propaganda summaries and texts. Similarly, broadcast material from and to Latin America goes by a third wire service to the Coordinator of Inter-American Affairs. The day's grist from Far Eastern broadcasts is similarly selected for a special cable file to the London FBIS office for the use of British Ministry of Information and the American Intelligence units in the British Capital. So, also, prisoners' messages are earmarked for immediate dispatch to the War Department.

The whole incoming volume of monitored material is, for other users, classified by geographic areas, with emphasis on excerpts and full verbatim texts, and organized each day into a general mimeographed report sent by messenger service to 300 or more government desks where, for the most part, it is used by regional intelligence specialists. A small number of agencies, by assigning personnel to FBIS offices or by standing order for copies of text transcripts, themselves have access to large portions of the unselected raw material.

Copies of the mass of recorded broadcasts are channelled also to the small group of FBIS analysts organized into geographical sections. Here a careful quantitative review is made and a general picture of propaganda trends, emphases and continuity is constructed. Cumulated week by week and month by month this serves as a background and perspective for evaluating new broadcast items as they appear. The Analysis Division issues weekly and fortnightly reviews of broadcasts, region by region, which are distributed to the 350 governmental officials who have requested them.

Finally, in addition to the FBIS regular output, there is a steady stream of requests from individual agencies for items of information about current broadcasts which in some cases can be answered by telephone immediately, in other cases require an hour's intensive search, and in still others call for several days' work ending in a special report. In all, the estimated daily output of FBIS is over 150,000 words, or six per cent of the available broadcasts.

Started nine months before Pearl Harbor, and expanded rapidly after that date for the succeeding nine months, FBIS had by July, 1942, developed its essential structural character and organization. Briefly this consists of a central editorial and distribution headquarters in Washington, serving also as a major listening post for broadcasts from Europe; two listening posts on the Pacific Coast, one at Portland, the other at San Francisco, to cover broadcasts from across the Pacific;

a post in Kingsville, Texas, to cover broadcasts from Latin America; a small post in Puerto Rico to listen to programs from South Europe and the Antilles; and a London editorial outpost attached to the BBC central monitoring unit and serving as a selection agency for broadcast material to be cabled to the U. S. - also serving as distribution center to the American war agency and diplomatic units in London. All these posts are connected by two-way telecommunication with the Washington headquarters.

During the past year, the principal developments have been as follows:

1. Enlargement of the San Francisco station as authorized by Congressional supplemental appropriation and construction of a first class broadcast reception station at Hayward, Calif., to replace the inadequate post turned over by CBS on August 1, 1942. Establishment of an auxiliary translation center for Far Eastern broadcasts at Denver.

2. Installation of a regular cable file of Far Eastern monitored material to the Ministry of Information in London.

3. Installation of an editorial staff at the new BBC country listening post with full direct access to the whole volume of a million words or more monitored there.

4. Provision of teletype service to the Foreign Service Division, OWI, to form a part of an auxiliary news service furnished by that agency to press and news associations.

5. Dispatch of FBIS editors and monitors from London to North Africa at the time of the landing last November, at the request of the Army field headquarters, to organize monitoring units there, and later in advancing Army units, functioning as a part of the Army Psychological Warfare Branch.

6. Completion of cooperative arrangements with OWI, MOI, and BBC, for coverage of broadcasts not available or well-heard in the United States or Great Britain. Under these arrangements FBIS does not undertake the construction or maintenance of monitoring posts overseas but assigns editors to overseas posts maintained by BBC, MOI, OWI or other United Nations governments, to select material valuable for transmission to Washington. In effect, the arrangements imply a joint planning of world broadcast coverage with complete interchange of monitored material. Under this agreement FBIS has an editor assigned to Stockholm, an editor in Algiers, and plans are being completed for assignments to six other strategic points overseas.

7. Physical integration of the FBIS Analysis Division with the Overseas Intelligence Division of OWI, making FBIS analysts directly

available to the OWI Overseas Branch for special reports and queries and making available for FBIS analysts the foreign press and other intelligence collected by OWI. This unusual cooperative arrangement relates FBIS organically to one of its principal users, at the same time retaining its independent character as a radio analysis service for other government agencies.

8. Cooperative arrangement with the Coordinator of Inter-American Affairs by which CIAA takes over Latin American analysis as a general service to other federal agencies and edits the Latin American section of the FBIS weekly review of broadcasts.

9. Setting up of expedited delivery to the War Department of all messages concerning American prisoners broadcast from enemy countries.

10. Increased service to United Nations missions in Washington, including teletype service for Canada, China and the Philippines. In the case of Canada, the wire service ties in the Dominion with the British-American network without any necessity of setting up a duplicate monitoring service.

3. Board of War Communications

(As the Board of War Communications is an independent agency, the emphasis in this report is on those actions which involved the cooperation of the FCC.)

Organization

The Board of War Communications (formerly the Defense Communications Board) was created by Executive Order No. 8546 on September 24, 1940, for the purpose of determining, preparing, and coordinating plans for the most efficient control and use of the country's radio, wire and cable communications facilities during the national emergency. Thereafter, by Executive Order No. 8964, dated December 10, 1941, and by Executive Order No. 9089, dated March 6, 1942, there was delegated to the Board the President's wartime authority under Section 606(a) of the Communications Act to direct that communications essential to the national defense and security shall have preference or priority and, under Sections 606(c) and (d), to direct the use, control or closure of radio and wire communication stations and facilities.

FCC Chairman James Lawrence Fly is also Chairman of the Board of War Communications. The other members of the Board are Major General Harry C. Ingles, Chief Signal Officer of the Army; Rear Admiral Joseph R. Redman, Director of Naval Communications; Hon. Breckinridge Long, Assistant Secretary of State in Charge of the Division of International Communications; and Hon. Herbert E. Gaston, Assistant Secretary of the

Treasury in Charge of Treasury Enforcement Activities, who is Secretary of the Board. Captain E. M. Webster, Chief of Communications, U. S. Coast Guard, is Assistant Secretary of the Board.

The Board reports to the President through the Office for Emergency Management. It has no paid personnel, appropriation or funds. It operates through a Coordinating Committee and a Law Committee staffed by personnel from the agencies represented on the Board; through Labor and Industry Advisory Committees and an international Broadcasting Coordinating Committee; and through 13 "numbered committees" for radio amateurs, aviation communications, cable, domestic broadcasting, the Interdepartment Radio Advisory Committee, international broadcasting, radiocommunications, state and municipal facilities, telegraph, telephone, U. S. Government facilities, the Communications Liaison Committee for Civilian Defense, and the Priorities Liaison Committee.

Activities

As of December, 1943, the Board had issued a total of 29 orders, with various amendments. Order 12 dealt with the removal and impounding of radio equipment in Puerto Rico and the Virgin Islands; Order 13 instituted a questionnaire concerning transmitting tubes; Orders 14 and 23 delegated certain communications powers to the Army; Orders 15, 17, 18, 19 and 19-A dealt with international radiotelephone restrictions; Orders 16 and 21 created an exemption to the provisions of Order 11 requiring the closure of point-to-point radiotelegraph circuits in the Agriculture Service; Order 20 provided priority for urgent telephone toll calls essential to the war effort or public safety; Order 22 dealt with the leasing of communications circuits in submarine cables; Order 24 concerns operation of certain international radiobroadcast stations; Orders 25, 25-A, 25-B, 25-C, and 28 prohibited certain non-telegraphic services and certain types of messages; Orders 26, 27 and 27-A provided priority for urgent TWX calls and for telegraph messages essential to the war effort or public safety; and Order 29 dealt with the institution of negotiations regarding the establishment of new foreign points of communication.

Perhaps the most important of all the Orders issued by the Board during the year covered by this report, and certainly from the viewpoint of their widespread public application, were Orders 20, 25-C, 26, and 27-A. Order 25-C prohibited substantially all non-telegraphic services by telegraph carriers and the acceptance of domestic messages of congratulation and felicitation. The reasons for the issuance of this Order, and the investigation conducted by the Commission which led to the issuance of the Order, are discussed in Chapter III, page 32 of this report. *Orders 20, 26 and 27-A set up new wartime systems of precedences*

for telephone and TWX calls and for telegraph messages essential to the war effort or public safety and provided for the expedited handling of these calls and messages.

Under Order No. 20, persons and organizations engaged in essential activities were designated "preferred callers" and entitled to request preferred service for toll calls of particular importance and urgency. Priority 1 service was reserved for those calls requiring immediate completion for war purposes or to safeguard life or property and relating to one or more of the following matters:

(1) Arrangements for moving armed forces during combat operations.
(2) Extremely urgent orders to armed forces.
(3) Immediate dangers due to the presence of the enemy.
(4) Hurricane, flood, earthquake or other disaster materially affecting the war effort or public security.

For other toll calls related to the national defense and security or the successful conduct of the war, preferred callers may use Priority 2 if immediate completion is necessary, or Priority 3 if prompt completion is necessary and if the calls relate to one or more of the following matters:

(1) Important Governmental functions.
(2) Machinery, tools or raw materials for war plants.
(3) Production of essential supplies.
(4) Maintenance of essential public services.
(5) Supply or movement of food.
(6) Civilian defense or public health and safety.

Order 26 contained similar provisions for preferred service for TWX calls.

The priorities system established for telegraph messages was substantially similar. Under Order No. 27-A, four categories of essential telegraph messages were set up to be accorded preference in transmission and delivery. In order of decreasing importance these categories are "US URGENT", "OP PRIORITY", "PRIORITY" and "RAPID". The "US URGENT" category is limited to domestic and international messages filed by the War and Navy Departments and to international messages filed by the State Department and the Federal Bureau of Investigation and the "OP PRIORITY" classification to domestic and international messages of the War and Navy Departments. The "PRIORITY" classification in addition to being available to the State, War and Navy Departments and the Federal Bureau of Investigation is also available for any full rate domestic message which requires

immediate transmission for war purposes or to safeguard life or property and which relates to one or more of the following matters:

(1) Immediate dangers due to the presence of the enemy.
(2) Emergency communications in connection with actual military or naval requirements.
(3) Hurricane, flood, earthquake, or other disaster.

The "RAPID" classification is comparable to the Priority 3 classification for telephone messages and is available for full rate domestic messages which require prompt transmission and delivery for the national defense and security, the successful conduct of the war, or to safeguard life or property, and which relate to one or more of the following matters:

(1) Important governmental functions.
(2) Machinery, tools, or raw materials for war plants.
(3) Production, movement, and diversion of essential supplies.
(4) Maintenance of essential public services.
(5) Supply, movement and diversion of food.
(6) Civilian defense or public health and safety.

The Board has circulated a number of memoranda addressed to the heads of all government departments and agencies designed to aid in the improvement of telegraph service. These have included a request to eliminate superfluous words in the address or signature of government telegrams; a request to file telegrams as early in the day as possible avoiding any tendency to accumulate telegrams for filing in the late afternoon when the peak load of the carriers is reached; and a request that certain prescribed procedures be followed in the filing of multiple address, or book, telegraph messages. All these memoranda and the procedures suggested for the guidance of the government departments and agencies were designed to reduce the peak loads of the carriers and the amount of work required of clerical and operating personnel in the handling of government messages.

4. Enforcement of Radio Silence

At the close of the fiscal year, 19 four-man Units of the Interceptor Section of the Field Division of the Engineering Department were in operation with the primary function of maintaining liaison between the Army and the Commission for the silencing of radio stations in the event of an air raid. The Section was established on June 20, 1942.

The Section carries out this function as follows: (1) Assists in the preparation of instructions to radio stations participating in radio

silence. (2) Supervises the required tests necessary to maintain the efficiency of the system. (3) Enforces radio silence when ordered by the War Department and monitors during such periods of silence to insure compliance with orders.

The Interceptor Units are located in Army Air Forces Information Centers along the East, West and Gulf Coasts.

A number of projects were completed during the year. Restricted Order No. 2, Wartime Operation of Radio Stations in the Continental United States, a thirteen page brochure with map, was distributed to 6000 radio stations and hundreds of Army and Navy posts. A Tactical Call Book, containing over 5000 calls, calculated to reduce the danger of radio transmissions being used for homing purposes, was prepared and distributed to authorities concerned, and tactical call forms were mailed to licensees for making application to the local Intercept Officer for assignment. A Composite Bi-weekly Report, summarizing the Weekly Progress Reports received from Intercept Officers assigned to constituent Regional Headquarters within the respective Commands, was inaugurated and supplied to Commanding Generals at their request, thus making available to the Headquarters Command a day by day working summary of air raid warning activities.

In addition to the above, the Section handled numerous special assignments at the request of Regional Controllers such as the preparation of Area Radio Silence Control Manuals, interference monitoring, investigation and development of the alert receiver for automatic silencing, and other developmental work leading to the expansion and perfection of the system.

5. Protection of Facilities Against Sabotage

The Security Section of the Field Division of the Engineering Department began functioning with the opening of the Washington office in October, 1942.

The Section was organized in accordance with Executive Order 9165 of May 19, 1942, which directed the Commission to conduct surveys to ascertain the security status of communications facilities, to make recommendations to the owners and government officials, and to "take all other necessary steps within the scope of its authority for the protection of essential facilities against sabotage and other destructive acts or omissions."

The Washington office was staffed with three engineers and one traveling investigator. The field staff consists of six traveling supervisors who have received special training at plant protection and

security schools. Part-time assistance is given by members of the Enforcement Section of the Field Division.

To date, the Section has completed surveys of all international radiotelegraph and radiotelephone stations, key broadcast stations, cable properties and the more important offices of the Bell Telephone System. Surveys of the more important offices of Western Union and Postal Telegraph Companies are now under way.

As a result of whole-hearted cooperation from companies the protective measures for the communications facilities of the nation have been extensively improved.

6. Manpower Problem

A survey conducted by the Economics Division of the Accounting, Statistical and Tariff Department to assist the broadcast industry to obtain radiotelephone license holders, had covered 2000 such holders as of October 1943, of whom 10 per cent signified their availability for full-time or part-time jobs.

The Division is also maintaining a monthly index of the manpower situation in the communications industry. A report on current employment and on future labor requirements, together with analyses of occupational deferment policies, training facilities and turnover problems in the communications industries has been furnished to the Board of War Communications. The Division cooperated with the Board in drawing up a list of essential occupations in the industry. This was accepted by the War Manpower Commission and transmitted by Selective Service to its local boards. A survey conducted by the Division in cooperation with the War Manpower Commission and the U. S. Office of Education disclosed the inadequacy of employee training facilities in the industry.

7. Post War Planning

The Federal Communications Commission invited the Board of War Communications, the Interdepartment Radio Advisory Committee and the Radio Technical Planning Board to meet informally with the Commission on November 17, 1943, to discuss preliminary steps toward coordinating their planning for the technical future of radio. It was the consensus of the meeting that, subject to priorities of work related to the war, the studies should start as quickly as possible so that manufacturers can be ready with plans to produce equipment when materials are again available. An exchange of information between the government departments and the RTPB so that all concerned in the field could coordinate their work was agreed upon. The various panels of the RTPB and the government groups will study such problems as (a) Major changes which may be required by each service, i.e., standard broadcasting, FM broadcasting, television, aviation (domestic and international), police and

emergency services, international point-to-point, maritime and government; (b) Changes to be made in the Federal Communications Commission's present standards of good engineering practice and other technical rules, and (c) The possibilities of utilizing frequencies above 300 megacycles.

8. Other Commission War Activities

In addition to the major war activities described above, the various units of the Commission carried on the following projects to promote the war-effort during the past year:

1. With special funds granted by Congress, it expanded its examination of domestic foreign language programs.

2. Cataloged surplus and salvageable broadcast equipment for use by Army, Navy, WPB and other war agencies, as well as for use by the industry to minimize the need for new parts.

3. Ordered a new class of stations for Civil Air patrol activities and for use during emergencies involving the public safety.

4. Prepared an analysis of idle standard broadcast transmitters as an aid in relieving the equipment shortage.

5. In cooperation with the Board of War Communications issued an order decreasing power of broadcast transmitters one decibel to conserve life of vacuum tubes without causing noticeable change to the listener.

6. Relaxed requirements for commercial radio operators in an effort to relieve manpower shortage.

7. Instituted an investigation of the speed, accuracy and general adequacy of wartime telegraph service. Reported findings to Board of War Communications which adopted orders designed to improve the service by prohibiting substantially all non-telegraphic services and messages of congratulation and felicitation.

8. Issued many experimental authorizations to scientific laboratories and industrial organizations engaged in radio research in connection with government war contracts.

9. Prepared a table showing the latest international frequency allocations from 10 kc to 401,000 kc and above.

10. Studied use made of frequencies assigned to international and domestic carriers to obtain for the War and Navy Departments any frequencies not absolutely needed by the carriers.

11. Continued world-wide telecommunications survey in the interest of the State, War and Navy Departments.

12. In line with the policies of the Office of Price Administration, scrutinized all changes in telegraph and telephone tariffs to forestall any unwarranted increases.

13. Continued studies of the earnings and results of operation of telephone and telegraph companies for the purpose of developing the trends and their probable effect on wartime service.

14. Reviewed applications under Section 214 of the Communications Act for the extension of telephone and telegraph facilities, coordinating such applications with the wartime policies of the Army and Navy and the War Production Board.

15. Examined financial condition of numerous small broadcast stations and their ability to remain on the air in the light of operating losses, with particular emphasis on the possibility of curtailment of radio service in communities having only one station.

16. Prepared confidential maps for use by several war agencies.

CHAPTER III

TELEPHONE AND TELEGRAPH

1. Telephone
2. Telegraph
3. Ocean Cable
4. Radio Common Carriers
5. Tariffs
6. Supervision of Accounts

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1. Telephone

Rate Investigations

American Telephone and Telegraph Company Long Lines Rates - Part of the agreement between the Commission and the American Telephone and Telegraph Company which resulted in telephone rate reductions totalling an estimated $34,700,000, provided for an increase of $19,000,000 in the compensation to the associated Bell and connecting companies with respect to their share of the revenues from long distance telephone business. The Commission has made available to the various State Commissions personnel and data to assist them in determining the effect of the increased compensation on the ability of the local telephone companies to reduce intrastate telephone rates.

Special Telephone Charges of Hotels, Apartment Houses and Clubs on Interstate and Foreign Communications - The principal issue involved was whether surcharges collected by hotels, apartment houses and clubs in the District of Columbia on interstate and foreign telephone toll calls to and from telephone stations located on their premises were subject to regulation by this Commission. A hearing was held jointly with the District Public Utilities Commission. The Commission in a final report and order issued on December 10, 1943, held that such surcharges on interstate and foreign toll calls are subject to its jurisdiction finding that in the collection of such surcharges, the hotels, apartment houses and clubs were agents of the telephone companies involved. The telephone companies were ordered to file proper tariffs with the Commission covering such surcharges. The District Commission reached a similar conclusion as to its jurisdiction over surcharges on local calls.

Northwestern Bell Telephone Company Increased Rates for Interstate Telephone Exchange Service in Iowa - The increased charges for interstate telephone exchange service in Iowa which were suspended and ordered investigated by the Commission were cancelled by the Company, and the investigation was, therefore, postponed.

Illinois Bell Telephone Company and American Telephone and Telegraph Company Increased Rates for Radiotelephone Service Through Coastal Harbor Radio Station WAY - In this proceeding proposed increased rates for radiotelephone service through coastal harbor radio station WAY, located at Lake Bluff, Ill., which had been suspended and investigated by the Commission were found by the Commission to be unjustified, and unjust and unreasonable and were ordered rescinded. Lower rates were prescribed. The Commission also found that the zoning arrangement for the determination of rates had not been justified and was unjust and unreasonable, and that the payment to or retention by vessels involved of one-third of the radio-link charges was an unjust and unreasonable practice. Revised tariffs have been filed pursuant to the Commission's order and are now in effect.

Michigan Bell Telephone Company Rates for Radiotelephone Service Through Stations WFR, WFS and WFV - This was a proceeding of investigation into rates for radiotelephone service through coastal harbor radio stations WFR, WFS, and WFV located in and near Detroit and Port Huron, Mich. This proceeding involved considerations like those presented in the above case involving the rates of the Illinois Bell Telephone Company through station WAY, except that the rates here under investigation were initial rates for the service. The Commission's decision in this proceeding was generally similar to that reached in the above Illinois Bell case, and resulted in a similar reduction in rates.

Other Investigations

Separation of Telephone Property Revenues and Expense - In accordance with an order adopted June 9, 1942, the Commission held hearings to determine what property of carriers of telephone communications should be considered as used in interstate and foreign services, and what revenues and expenses should be associated with such services, as distinguished from the property, revenues and expenses related to intrastate services. Representatives of the Bell System, numerous independent telephone companies and various state regulatory commissions appeared at the hearings. The proceeding has been conducted cooperatively with the State Public Service Commissions, and representatives of the State Commission presided at the hearings with the members of this Commission designated to sit therein. The matter is now pending before the Commission for decision.

New York Telephone Company Accounting - Hearings were held in this matter, cooperatively with the New York Public Service Commission, to investigate the accounting performed by the New York Telephone Company with respect to certain property acquisitions. In its final report of December 14, 1943, issued concurrently with that of the New York Commission, this Commission required the carrier to make certain accounting adjustments relating chiefly to the "Original Cost" of certain acquired properties.

Bell System License Service Contracts - As part of a long range program for the study of certain fundamental problems of telephone rate regulation, the Commission, acting in close cooperation with the State Commissioners' Committee designated for the purpose, is conducting an investigation into the Bell System license service contracts. This investigation should result in the compilation of data and the enunciation of guiding principles which should be of material assistance to this Commission and the state regulatory commissions concerned with the regulation of telephone rates.

Telephone Facilities

Fifty applications for construction certificates were received during the fiscal year. Fifty-seven applications were approved, including nine filed during the 1941 fiscal year. These projects involved construction ranging from a few thousand dollars to $2,557,000. The total construction cost was $8,683,627.

Wire Telephone Applications for Construction Approved by the Commission from July 1, 1934 to June 30, 1943

Period	Number of Applications	Estimated Construction Cost	Miles of Cable Placed		Miles of Open Wire Placed
7/1/34 to 6/30/35	7	$1,145,851	234.3	1/	-
7/1/35 to 6/30/36	15	275,625	24		475
7/1/36 to 6/30/37	50	5,551,702	206		17,045
7/1/37 to 6/30/38	45	3,921,000	499		1,212
7/1/38 to 6/30/39	45	6,960,123	646	2/	1,967
7/1/39 to 6/30/40	72	9,070,952	1,209.2	3/	3,501
7/1/40 to 6/30/41	137	38,319,399	5,263		15,521
7/1/41 to 6/30/42	169	45,046,250	5,099.7	4/	34,583
7/1/42 to 6/30/43	48	8,683,627	418		4,501
Total	588	$118,974,529	13,599.2		78,805

1/ Of which 94.5 miles is coaxial cable containing 2 coaxial units.
2/ Of which 195 miles is coaxial cable containing 4 coaxial units.
3/ Of which 42 miles is coaxial cable containing 4 coaxial units.
4/ Of which 296 miles is coaxial cable containing 4 coaxial units and 101 miles is coaxial cable containing 6 coaxial units.

It will be noted that the estimated construction cost covered by the applications approved during the fiscal year represents a drastic reduction from the preceding fiscal year despite the increased demands for telephone toll service. The reason for this reduction lies in the restricted use of critical materials made necessary by the war and the greatly increased use of multichannel carrier current systems.

The use of the "EB" type of carrier equipment, hereinafter referred to, has provided on an emergency basis some 400,000 miles of additional telephone channels during the fiscal year.

The following paragraphs discuss the applications falling into the various specific provisions of the Communications Act relating to granting of the authority required.

Supplementing of Existing Facilities Under Section 214 - During the fiscal year, 28 applications for authority to supplement existing facilities were received only one of which was filed by a company not a part of the Bell System. Twenty-five of these were approved and three are pending.

In connection with these projects, it is the policy of the Commission to require periodic construction and progress reports and a full report on their completion. The reports are received and analyzed by the Engineering and Accounting Departments.

On July 14, 1942, the Commission requested full and complete information with respect to certain wire, carrier and phantom line facilities the Bell System had constructed, are constructing, or propose to construct since January 1, 1939 without prior authorization from this Commission. 1/ In response to said order the Bell System Companies filed 4535 items totaling $99,401,342 in cost, 1386 of which totaling $20,242,957 were for open wire construction and 1176, totaling $20,764,110, were for cable construction. These facilities are used for interstate communication in the normal operation of toll telephone service but are not continuously an integral part of lines crossing state boundaries, being connected during the duration of successive interstate telephone calls. An investigation is in progress to determine whether authorization for such construction should have been obtained from the Commission.

1/ The proceeding involving the question as to whether Commission authorization is required for construction of carrier projects, i.e., In the matter of A.T.& T. and New York Telephone Co., for construction and operation of carrier systems between New York, N.Y. and Boston, Mass. (Docket No. 6256) is still pending.

Telephone Service - Telephone toll calls have increased tremendously under wartime demands. The total number of calls handled through the Bell System's toll boards will reach 750,000,000 in 1943 with an additional 500,000,000 short-haul toll calls handled through other than toll boards. Within the past four years the traffic of the Long Lines Department of the American Telephone and Telegraph Company has doubled and is now running at the unprecedented rate of 150 million messages annually. This increase is equivalent to the total business reached after steady and almost uninterrupted growth of some 65 years. Such growth has resulted in an overloading of telephone facilities and in a deterioration of service. In October of 1943, the average connection speed of toll board calls was 3.7 minutes, as compared with a speed of 1.7 minutes two years ago. In 1916, the average speed was 16 minutes. The companies have had the collaboration of the Commission, the Board of War Communications and the War Production Board in their efforts to meet service demands under the difficult conditions caused by the war.

Abandonment of Telephone Service - Pursuant to the requirement of Board of War Communications Order No. 10, the Commission has been notified of the closing of 8 small rural exchanges, 8 telephone toll stations, 220 telephone toll stations with telegraph tariff listings and the removal of 15 miles of steel wire, 587 miles of iron wire, 62,612 miles of copper wire, 157 miles of cable and 419 miles of poles. Excepting in the case of the small rural exchanges serving a very few subscribers, these abandonments have not affected service and result from the substitution of cable for aerial wire routes and the involuntary removals of telephone stations. The materials salvaged, particularly copper, as a result of these operations are available for future construction, thus supplementing the Nation's stockpile of critical materials.

Telephone Developments - The Bell System completed and placed in operation twin transcontinental toll cables connecting the toll cable networks of the East and of the Pacific Coast which permits telephone conversations to be transmitted from coast to coast by "K" carrier systems in cable for the first time. For example, it is now possible to talk through cable for the entire distance between Bangor, Maine and San Diego, Calif.

The Bell System has installed a system of crossbar switching at Philadelphia for handling toll telephone connections. Toll operators in 32 cities within a radius of about 250 miles now will be able to dial directly subscribers in Philadelphia and in many other cities reached through Philadelphia.

In order to obtain a greater utilization of existing plant, the Bell System Companies have developed carrier equipment known as the "EB" type which permits the splitting of a regular telephone carrier

channel into two lower grade channels thus meeting in part and on an emergency basis the need for additional telephone channel requirements in certain areas, and assisting in the conservation of critical materials.

Acquisitions and Consolidations - During the fiscal year, the Commission approved the application of the American Telephone and Telegraph Company to acquire the assets of its subsidiary, the American Telephone and Telegraph Company of Missouri. The assets involved amounted to approximately $12,000,000. The Commission also approved an application by the Southern Bell Telephone and Telegraph Company for authority to acquire and operate the Christian-Todd Telephone Company with assets of approximately $1,200,000 and of the Ohio Bell Telephone Company to acquire and operate the Highland County Telephone Company, with assets of about $156,000.

While the matter of the application of the New Jersey Telephone Company to acquire the capital stock of Imperial Securities Company was pending before the Commission for decision, the New Jersey Bell Telephone Company and The Bell Telephone Company of Pennsylvania filed an amended application which included a request by the applicants for authorization to consolidate with the properties of the applicants the physical properties of the Keystone Telephone Company of Philadelphia, and the physical properties of the other subsidiaries of Imperial Securities Company. The Commission thereafter authorized the acquisition and consolidation for which approval was sought.

Through Routes and Interconnections - The Commission heard oral argument and considered exceptions and briefs to its Proposed Report of October 12, 1943, on the latest rehearing of the matter of the petition of the Oklahoma-Arkansas Telephone Company for physical connection with the facilities of the Southwestern Bell Telephone Company. By its order of December 8, 1943, the Commission denied the relief sought by the petitioner, and dismissed the proceeding, adopting its Proposed Report as the final Report of the Commission.

2. Telegraph

Merger

On March 6, 1943, the Communications Act of 1934, as amended, was amended to provide for permissive consolidations or mergers of domestic telegraph carriers. On May 25, 1943, the Western Union Telegraph Company and Postal Telegraph, Inc., filed with the Commission an application for approval and authorization of the proposed merger of Western Union and the Postal Telegraph System. Extensive hearings

before the Commission en banc were held on this application, as subsequently amended. The hearing was conducted cooperatively with the various state regulatory authorities, the National Association of Railroad and Utilities Commissioners appointing, at the invitation of this Commission, a committee of State Commissioners to preside with this Commission at the hearings. The principal participants at these hearings, in addition to the applicants and the state commissions, were the Commercial Telegraphers Union (American Federation of Labor), the American Communications Association (Congress of Industrial Organizations), and the various United States carriers engaged in international telegraph operations. On September 27, 1943, the Commission issued its final report and order authorizing and approving the proposed merger.

Government Message Rates

The Commission set for public hearing the question of the rates to be prescribed by it for the year ended June 30, 1944, for United States Government telegrams under the Post Roads Act of 1866, as amended. After public hearing and argument, in which various interested government agencies participated, including the War, Navy and Justice Departments and the Office of Price Administration, the Commission ordered that the rates for United States Government telegrams should be 80% of the rates applicable to commercial telegrams in the corresponding classifications. This ratio represented an increase for government telegrams in certain classifications for which the rate had previously been 60% of the rate for commercial messages.

Rate Investigations

Rates Between the United States and South America, Central America and the West Indies - In the proceeding of general investigation of the rates for telegraph communications between the United States on the one hand, and South America, Central America and the West Indies on the other, the Commission ordered All America Cables and Radio, Inc., the principal United States carrier operating in this field of communications service, to reduce its rates in the estimated amount of $1,320,000 on an annual basis. The Commission also enunciated certain general principles which were to be followed by All America in establishing the new reduced rates. These principles included the equalization of rates for messages northbound to the United States with those for messages southbound from the United States; the unification of the rates for ordinary plain language and code messages; and uniformity of rates on a regional basis, for messages between the United States and each of the three regions of South America, Central America and the West Indies. The Commission indicated in its Report that the principles set forth

for revision of All America's rates should also be followed by the other telegraph carriers engaged in communication service between the United States and Latin America. The Commission also ordered adjustment of inter-American telegraph rates to reflect the existence of operating "gateways" based on direct radio circuits between San Francisco, New Orleans, Miami and Boston on the one hand, and points in the other American republics on the other, and to equalize such rates with the rates for service over cable and radio circuits between New York City and such other points. The Commission's order also established a basic four cent factor applicable to the landline handling within the United States of inter-American messages originating in or destined to points in the United States outside of the gateway cities, which factor is the same regardless of the point of origin or destination of the messages. Reductions, in accordance with the Commission's order, by all carriers furnishing inter-American telegraph service are expected to result in annual savings to the public in an amount between two and two and one-half million dollars.

International Press and Government Rates - Following issuance of a proposed report and the filing of exceptions thereon, the Commission has reopened the hearings with respect to the rates of Press Wireless, Inc. for ordinary press radiotelegraph service between the United States and China in order to take further evidence on this matter, and, at the same time, ordered a general investigation into all of the rates of Press Wireless, Inc. This general investigation, which was instituted in view of the extremely high rate of earnings of Press Wireless, Inc., includes rates for government service which the carrier has been authorized to furnish for the duration of the war, as well as its rates for press service. Hearings on these matters are now pending.

Photo Service Rates - Since it appeared that increasing use is being made of photo service, and that the charges for such service may not be established on a proper basis, the Commission instituted an investigation into the lawfulness of the charges for interstate and foreign photo service, by wire or by radio. Hearing on this matter is now pending.

Marine News Service - The Western Union Telegraph Company proposed an increase in its rates for marine news service. This service consists of furnishing to subscribers, by means of tickers placed on subscribers' premises, reports of the movements of ships in New York harbor. The proposed increased rates were suspended by the Commission and a hearing was held. In a proposed decision issued by the Commission, it was found that although some increase in Western Union's rates for the service may be justified, the proposed increase had not been justified and was unjust and unreasonable. The matter is now pending for final decision.

Timed Wire Service - Finding that the practices and regulations of The Western Union Telegraph Company and the Postal Telegraph-Cable Company with respect to the timed wire service classification of communications were unjust and unreasonable because of the discriminations and undue and unreasonable preferences and advantages given to particular persons, the Commission ordered the classification terminated. The carriers substituted the so-called "Day Letter/ Longram" classification, which represented a modification of the Day Letter classification and provided lower charges for longer messages.

West Coast Telephone Company Teletypewriter Exchange Service - The Commission suspended the operation of a proposed $30 minimum monthly charge and a one year initial contract period proposed by the West Coast Telephone Company for its teletypewriter exchange service. After a hearing, the Commission issued a proposed decision concluding that the proposed minimum charge and initial contract period had not been justified. After oral argument, the Commission adopted its Proposed Report as a final report and required the carrier respondent to cancel its tariff provisions which established a $30 minimum monthly charge and which required an initial contract period of one year. There was then established a $10 minimum monthly charge and a one-month contract period.

Charges for Channels for Teletypewriter Service - The Commission instituted an investigation with respect to new charges filed by the Public Utilities California Corporation for channels for teletypewriter service to agencies of the United States Government. After investigation, the Company placed into effect a substantial reduction in these charges, and the proceeding was thereupon dismissed.

"X" and "RX" Messages - The Commission issued a proposed report in which it found unjustified and unjust and unreasonably discriminatory the practices and regulations of telegraph carriers in according to messages marked "X" and "RX" priority over regular messages for the same charge. Oral argument was held at the request of certain of the users of "X" and "RX" service. After oral argument, the Commission deferred further consideration of the matter until January 1, 1944.

Increased Charges for Stock Exchange Quotation Bond and Stock Ticker Services - The Western Union Telegraph Company proposed an increase in its rates for New York Stock Exchange bond and stock ticker services. These proposed rates were suspended by the Commission and an investigation was instituted. After investigation, Western Union withdrew the proposed increases in charges, and the proceeding was dismissed insofar as it related to the increased charges. The proceeding with respect to the investigation of the existing charges for these services is still pending.

Increased Charges for Telegraph Communications from the United States to New Hebrides - The Western Union Telegraph Company proposed increased rates for telegraph communication service from the United States to New Hebrides via the Vancouver Cable which were in excess of its rates via another route. The Commission suspended the proposed increase in rates and ordered an investigation of these rates and similar rates of the Postal Telegraph-Cable Company. After investigation, the carriers withdrew the higher rates and established the same lower rates for service over the Vancouver Cable route as were in effect for service over the other route, and the proceeding was dismissed.

Changes in Directory Listings Resulting in Rate Adjustments - The Western Union Telegraph Company and the Postal Telegraph-Cable Company (New York) filed amendments to their directory of station listings relative to several specified points in the United States and Canada which were not directly served by the carrier, termed "other line" points. The changes had the effect of increasing the charges for telegraph service to and from certain points and lowering the charges with respect to other points. The proposed increased charges were suspended by the Commission. After investigation certain of the proposed charges were modified, and it was determined that the remaining rate adjustments occasioned by such changes in the carriers' directory of station listings should be considered on a system-wide basis, and the proceeding was dismissed without prejudice.

Limitation of Liability for Leased-Wire Service - The Western Union Telegraph Company proposed a tariff provision limiting its liability for its own negligence for interruptions of leased-wire facilities. The Commission suspended the proposed tariff provision and also ordered an investigation of the liability provision of the leased-wire service tariff of Postal Telegraph-Cable Company which contained similar provisions. After investigation, the carriers deleted the questioned provisions from their tariffs, and the proceeding was dismissed.

Charges for Delivering Telegrams to Closed Office Points - The Commission suspended and designated for hearing certain proposed revisions in the tariffs of The Western Union Telegraph Company relating to charges for delivering telegrams after the Company's office had closed. The proposed tariffs would have had the effect of providing for an indeterminate charge for delivery and might have resulted in increased charges. Prior to the hearing, the Company filed revised tariffs which eliminated the objectionable features of the suspended provisions, and the proceeding was dismissed.

Tourate Messages - The Commission suspended and ordered an investigation of a tariff filing of Western Union and Postal proposing to accord priority handling to messages in the Tourate classification. Thereupon, the carriers proposed that the Commission permit them to abolish the Tourate classification on the ground that it was a non-essential service. After informal investigation of the matter, the Commission advised the carriers of its desire to continue this classification of service, but without according it priority handling. Accordingly, the carriers withdrew the suspended tariff filing, and the matter was dismissed.

Other Investigations

Discontinuance, Reduction, or Impairment of Telegraph Service - Upon formal complaint of the American Communications Association, and on its own motion, the Commission ordered an investigation of any discontinuance, reduction or impairment of telegraph service to any community or part of community by The Western Union Telegraph Company or the Postal Telegraph System, which might be a violation of Section 214 of the Communications Act of 1934, as amended. This investigation was occasioned by numerous telegraph office closings which had been effected without prior application to or authorization by the Commission.

Interception of Radiotelegraph Communications Between the United States and Colombia - The Commission conducted an investigation based on an informal complaint that one of the United States carriers engaged in communication services with South America had followed the practice of intercepting radio communications from Colombia intended for reception by competing United States carriers, and had used the intercepted material for soliciting patronage and for other business purposes. As a result of the investigation steps were taken to prevent recurrence of the practice concerning which complaint had been made.

Investigation of Telegraph Service - A number of orders designed to improve the speed and quality of telegraph service were issued by the Commission as the result of an investigation carried on during the year.

On July 2, 1942, the Board of War Communications requested the Commission to undertake promptly an investigation into the service rendered in the telegraph field. Pursuant to this request, the Commission, by Order No. 103 dated July 7, 1942, instituted an investigation of the speed, accuracy, and general adequacy of wartime telegraph service; the manner and method of conducting operations and the extent to which such operating

methods are suitable and adequate to wartime needs; matters pertaining to technical developments and improvements in such service; and the cause or causes for any inadequacies in service which may be found to exist.

The investigation was carried on, as requested by the Board, with the cooperation of the telegraph companies and the labor unions at 12 key Western Union and Postal Telegraph offices - New York, Chicago, Atlanta, New Orleans, Dallas, Cleveland, Detroit, St. Louis, Los Angeles, San Francisco, Portland and Seattle. Thereafter, in October 1942, the Commission reported its findings to the Board.

On the basis of the material contained in the Commission's October 1942 Report the Board adopted a number of orders (25-C, 27-A and 28) calculated to improve service. The principal effects of Order 25-C were the prohibition of substantially all non-telegraphic services, effecting a complete concentration of the industry's available manpower and resources on the movement of telegraph traffic, and the prohibition of domestic messages of congratulation and felicitation in an effort to reduce the peak wartime load of the carriers and to improve the service rendered on essential messages. Order 27-A, previously described, established a system of wartime telegraph precedences designed to insure the expedited handling and delivery of important telegrams. Order 28 placed various restrictions on the use of deadhead and service messages appreciably curtailing their volume and the load of the carriers.

Under the terms of Order 25-C the Commission was also requested to make periodic reports to the Board concerning the state of telegraph service. In order to obtain the necessary data for the submission of these periodic reports, the Commission on April 27, 1943, issued its Order No. 113 requiring daily speed-of-service tests to be conducted by The Western Union Telegraph Company and the Postal Telegraph-Cable Company. These studies were required to be made in the 25 cities handling the largest volume of telegraph traffic and in accordance with detailed instructions which accompanied the order.

The first speed-of-service reports made pursuant to Order No. 113 were filed with the Commission on July 20 covering the service rendered during the month of June 1943. These initial reports, with other material, were discussed in the September 1943 Commission report to the Board on telegraph service, the first of the periodic reports on telegraph service made pursuant to the request contained in Board Order 25-C. Various investigations were also conducted from time to time by the Commission to

determine the extent of compliance by the public and the telegraph carriers with the provisions of the Board's Orders Nos. 25-C, 27-A and 28 as well as other aspects of telegraph service. The results of these investigations made during the year ending June 1943 were also described in the Commission's September 1943 report to the Board.

On September 22, 1943, the Commission also began an investigation regarding the telegraph and telephone facilities leased for non-essential purposes such as the speedy dissemination of racing information by other than press associations, newspapers and radio stations in the regular course of their business of supplying information for the general public. This investigation was undertaken pursuant to the Commission's Order 117, in the light of the testimony presented in the merger proceeding of Western Union and Postal, which indicated that critical materials and skilled telegraph personnel were being employed in connection with the leasing of telegraph facilities for the rapid dissemination of horse racing information for gambling purposes.

Illegal Construction and Operation of Radio Stations by the State of Michigan - The Commission conducted an investigation of the construction and operation by the Michigan State Police organization of police and forestry radio stations without first obtaining authorization from the Commission. A hearing was held on the matter to develop the facts, ascertain the reasons for such action, the persons responsible, and the steps taken to prevent recurrences of such actions. The respondent admitted the impropriety of its acts and gave certain assurances as to future behavior. The matter is pending Commission decision.

Wire Telegraph Facilities

Applications - During the fiscal year 125 applications for wire telegraph certificates were filed with the Commission. One hundred and seventeen applications were granted, 91 of which authorized extension of lines to military and naval establishments and involved the leasing of approximately 3291 circuit miles and the construction of 142 wire miles. Thirteen applications were withdrawn as a result of the proposed telegraph merger. One application was returned for failure to show a military or vital public need.

After public hearings the Commission issued reports denying the applications of Postal Telegraph-Cable Company for extension of its lines to Springfield, Vermont; Messena, New York; Orange,

Texas; and Florida City, Florida. In the first three cases, the Commission found that the proposed extensions of lines would result in uneconomical duplication of facilities with no improvement in service or reduction in rates, and with a greater expense to the telegraph industry as a whole for handling the same volume of traffic. The application for extension of line to Florida City was denied on the ground that a substantial expenditure of critical material was involved for which no justification in terms of essential public need or military necessity had been made.

Discontinuance of Telegraph Service -- Fourteen applications for the discontinuance of telegraph service were received. Six of these were granted and the remainder are pending.

Abandonment of Telegraph Service -- Pursuant to the requirements of Board of War Communications Order No. 10, the Commission has received notification from telegraph companies of the abandonment or suspension of service as follows: 97 offices, 1444 miles of iron wire, 302 miles of copper wire and 970 miles of pole line. These abandonments are generally the result of removals of railroad lines authorized by the Interstate Commerce Commission.

3. Ocean Cable

Cable communication services of the American companies to continental Europe and to Far Eastern points continued to be suspended because of the war. Direct facilities are available to the United Kingdom, Eire and the Azores. The Pacific cable is operated to Hawaii and Midway only. Direct cable service has also been maintained to the West Indies, Central and South America.

4. Radio Common Carriers

Radiotelegraph

In spite of the technical difficulties caused by the war, the radiotelegraph carriers have been able to maintain efficient communication with the various regular points throughout the world and at the same time to establish additional new circuits. It is expected that the pre-war circuits, to enemy and enemy occupied countries, will be restored immediately after the countries are liberated by the Allied Forces.

During the past fiscal year direct radiotelegraph circuits were established for the first time to Algeria, Afghanistan,

Bermuda, Ecuador, French West Africa (Dakar), Gold Coast (Africa), and Madagascar. Direct circuits to French Morocco and Tunisia were authorized and it is expected that these circuits will be open for service in the near future.

In January, 1943, the Board of War Communications cancelled its policy with respect to the establishment of parallel and forked radiotelegraph circuits between the United States and a foreign country under which the Commission had previously authorized competitive circuits to the same foreign country, and requested that in the future the Commission authorize no new international and transoceanic commercial radio circuits without the Board's express approval. The Commission adopted this policy on February 2, 1943, and since this date each application for a new circuit has been referred to the Board for its recommendation. With respect to all such applications, the Board has recommended that only one company be authorized to communicate with the point in question and that the company be required to handle all classes of official, press, personal and commercial traffic. The Commission, therefore, has authorized one company only to operate with each new point of communication. Further, on May 13, 1943, the Board adopted Order No. 29, which reads in part, that "no carrier engaging in international wire or radio communication, except as to circuits on the North American continent, shall institute any negotiations or arrangements with any foreign administration or organization regarding the establishment of a new foreign point of communication unless such carrier shall have given prior written notice to the Board of the proposed institution of such negotiations or arrangements and shall have received the Board's advice thereupon."

In this connection, a procedure set up by the Board provided that upon receipt of notification from a carrier of its proposal to establish a new circuit, the Board will determine whether such a circuit is necessary. If it is determined that a circuit is desirable, the Board will then invite other interested carriers to make application to the Commission for authority to communicate with this point. The Commission will authorize one company to communicate with the point in question and will notify the Department of State of its action. After the selected company receives the written approval of the Department of State, it may begin negotiations with the foreign administration for the establishment of the circuit.

All inactive points of communication, including points in enemy and enemy-controlled countries were deleted from, and active points of communication under special temporary authority were incorporated in, the renewed licenses which became effective December 1, 1942. Pursuant to the Board's recommendations made to the

Commission in April 1943, all new points of communication are authorized under temporary authorizations for periods not exceeding one year.

One regular point-to-point telegraph station has been authorized during the fiscal year 1943. This station is licensed to a cable company in Puerto Rico for the purpose of insuring adequate communication service between this strategic island and the United States. Operation of the station is authorized only during such times as all of the company's cable circuits between the United States and Puerto Rico are interrupted. In addition, four very high frequency keying control stations were authorized. These latter stations are used for short distance communication in conjunction with established regular stations.

A total of 462 applications, covering various related matters, were received and of these, 417 authorizations were granted. As of June 30, 1943, there were 50 point-to-point radiotelegraph stations licensed by this Commission whereas on June 30, 1942 there were 87 such stations. This decrease was brought about by Board of War Communications Order No. 8 which closed all domestic radiotelegraph circuits, except those used to relay international traffic, resulting in the subsequent closure by the licensees of stations which were used for domestic service. The Commission did not renew these station licenses when they expired on November 30, 1942.

Work was continued on the study to determine whether efficient use was being made of frequencies authorized to the carriers. This was necessitated primarily by the military need for more frequencies to be used in connection with important war operations.

Investigations

Exclusive Foreign Radiotelegraph Traffic Contracts - In connection with the authorization of new radiotelegraph circuits to foreign points, it developed that certain of the radiotelegraph carriers had entered into traffic contracts with foreign carriers or administrations which hampered the institution of additional circuits by competing United States carriers. The Commission instituted an investigation into the matter by designating for hearing the applications of R.C.A. Communications, Inc., for renewal of its station licenses. Before hearing on the matter was held, the company consented to the inclusion in its licenses of a condition prohibiting it from entering into or operating under contracts

with foreign correspondents which might prevent or hamper the establishment and unrestricted operation of circuits with any other United States carrier. The Commission included an identical condition in the licenses of all other radio carriers engaged in the fixed public and fixed public press services. In accordance with such license condition, the radio carriers waived the restrictive provisions in their foreign traffic contracts.

Divisions of Charges Between United States Radio Carriers and Their Foreign Correspondents - The Commission instituted formal proceeding for modification of radio licenses in the fixed public and fixed public press services with the view to incorporating in such licenses a condition requiring the licensee to divide charges with its foreign correspondents on a fifty-fifty basis. This proceeding was instituted to provide a uniform and equitable basis of division of charges for foreign radio communications for the protection of the United States carriers in their dealings with foreign correspondents. Hearing on this matter is now pending.

New Direct Radiotelegraph Circuits Between the United States and North and West Africa - Applications were filed by R.C.A.Communications, Inc., Mackay Radio and Telegraph Company and Press Wireless, Inc., for authority to establish direct radiotelegraph circuits between the United States and various points in North and West Africa. The Commission, after receiving a recommendation from the Board of War Communications that only one carrier be authorized to establish such a circuit with each of the points involved, authorized Mackay to communicate with Algiers, and authorized RCA Communications, Inc., to communicate with Dakar and Rabat, and denied the remaining applications. Thereafter, the three carriers requested reconsideration of such of their applications as were denied, public hearings have been held thereon, and the matters are now pending before the Commission for decision.

Application of Press Wireless, Inc., for Modification of Its Licenses so as to render "fixed public service" - On July 28, 1943, Press Wireless, Inc., a carrier licensed to handle only press and government service, filed applications to modify its licenses so that it might render "fixed public service," i.e., handle all classes of traffic. By subsequent amendment, the applicant asked that the modification sought be granted only for the duration of the war, and only as to those foreign points where, because of the policy of the Joint Chiefs of Staff, only one American carrier rendering fixed public service would be permitted to serve. The matter was designated for hearing, and other competing carriers were permitted to intervene. The hearing has been concluded, proposed findings have been filed by the parties, and the matter awaits issuance of a Proposed Report by the Commission.

Ship Radio Stations

License Renewal Proceedings - Because of alleged violations of the Commission's Rules and Regulations relative to ship radio service, the Commission set down for hearing the license renewal applications of Parker Bros., Inc., for Station WDUG, and of W. A. Wansley for Station WOAF, both at Houston, Texas. Hearings were held and the matters are pending before the Commission for decision. The applicants were licensed on a temporary basis pending a decision on the renewal applications.

License Revocations - One ship radio station license was surrendered when the Commission instituted revocation proceeding against the licensee based on evidence that the station was being operated in violation of the Commission's Rules.

Radiotelephone

War conditions have seriously affected transoceanic radiotelephone traffic and the Board of War Communications Orders Nos. 19 and 19-A have imposed restrictions on public telephone calls between the United States and many foreign countries.

It is expected that the pre-war circuits to enemy and enemy occupied countries will be restored as soon as they are freed from the Axis. The only new point of communication to which direct radiotelephone service has been extended during the year was Santiago, Chile. However, tests with U.S.S.R. (European) and Curacao (Dutch West Indies) have indicated that satisfactory service can be provided, and it is expected that service to these countries will be opened in the very near future. Tests are also being conducted with China and Afghanistan with a view of establishing service to these countries when such tests indicate that satisfactory service can be provided.

No new point-to-point radiotelephone stations were licensed during the past year. A total of 91 applications, covering various related matters, were received, and of these, 89 authorizations were granted.

5. Tariffs

Rate Schedules - At the close of the fiscal year, 396 communication carriers had tariffs and concurrences on file with the Commission. They filed 23,558 tariff publications, containing changes in rates, regulations, practices, and classifications of service, or establishing new communication services and new or revised instruments of concurrence. A total of 203 tariff publications were rejected for failure to conform to statutory requirements.

Numerous irregularities in the rate schedules were corrected or eliminated through correspondence with the carriers.

Special Permission.- During the year upon application special permission was granted telephone carriers to make changes in, or file tariffs on less than statutory notice in 15 instances. During the same period 288 applications for similar authority were received from telegraph carriers. Of this number 259 were granted and 18 were denied. Eleven applications were withdrawn. Three applications relating to both telephone and telegraph service were received and granted.

Tariff Changes - In the Commission's Eighth Annual Report certain data were submitted regarding the reductions in rates for interstate services negotiated with the American Telephone and Telegraph Company and its associated companies aggregating approximately $34,700,000, based on the volume of business handled during the months of September, October and November, 1942, on an annual basis. The changes in rates filed by the respective carriers, giving effect to these reductions, were as follows:

> Effective February 15 and March 1, 1943, respectively, the American Telephone and Telegraph Company and its associated Bell Telephone Companies filed revised tariff schedules reducing the overtime rates for two-point and conference interstate toll telephone service within the United States, with an estimated annual saving to the users of approximately $22,900,000.
>
> The American Company and its associated Bell Companies also filed revised tariffs effective February 1 and March 1, 1943, respectively, which reduced interstate private line telephone and telegraph, and program transmission service rates, with an estimated annual reduction to the users of approximately $11,800,000.

Other significant changes in rates filed by the carriers since June 30, 1942, were as follows:

> The American Telephone and Telegraph Company filed reduced overtime rates for two-point message toll telephone service between points in the United States and certain points in Canada, effective March 15, 1943, and also reduced rates for interstate channels for telephotograph transmission effective June 1, 1943. These reductions were estimated to produce annual savings of approximately $300,000 to the users of the service.

Effective March 1, 1943, the Western Union Telegraph Company and Postal Telegraph-Cable Company revised their tariff schedules which reduced the maximum charges for telemeter service and lowered charges for leased facilities. It was estimated that these reductions would save users approximately $1,300,000 annually.

As the result of its inquiry into the justness and reasonableness of charges for telegraph communications between the United States and South America, Central America and the West Indies, the Commission ordered reductions in rates which are expected to save users at least $2,000,000 annually. The carriers handling this traffic have filed revised tariff schedules covering reductions in rates on the southbound traffic, but most of the filings to cover revisions of the charges for northbound traffic are being held in abeyance, pending completion of negotiations of the carriers with the foreign connecting carriers in those localities as to the appropriate rates and the bases for the division of revenues.

6. Supervision of Accounts

Outstanding activities of the Commission in the field of accounting regulation were:

Uniform System of Accounts - The new classification of accounts, part 35 (Uniform System of Accounts for Wire-telegraph and Ocean-Cable Carriers) of the Commission's Rules and Regulations were made effective January 1, 1943. In addition to substantial changes in the previously effective system of accounts, the new classification of accounts provides for the restatement of property accounts on the basis of original cost, the determination of appropriate amounts to be provided as allowances for depreciation which will have the effect of restating the net book cost of plant on the basis of its remaining service life, and requires the installation and maintenance of continuing property records.

Restatement of Plant Accounts on Basis of Original Cost - Studies of the restatements filed by communications carriers were continued, but were primarily limited to the instances where the matter was under consideration by State Commissions with respect to certain carriers and to the domestic telegraph carriers in connection with the merger proceedings.

New York Telephone Company Accounting - REFER TO CHAPTER III, PAGE 23.

Western Union Telegraph Company Original Cost and Restatement of Plant Accounts - Investigation by the Commission's staff disclosed that Western Union's recorded investment in outside plant for the period June 30, 1910 to December 31, 1931 was overstated in the amount of $26,475,876. Negotiations with the company resulted in an agreement to reduce the plant and equipment accounts by that amount by charges of $9,236,349 to surplus, in respect of right of way, and $17,239,528 to the reserve for accrued depreciation. The company further agreed to transfer, concurrently, $17,500,000 from surplus to the reserve for accrued depreciation.

Pacific Coast Restatements - Examinations were made in connection with proposed restatements of plant accounts by three telephone carriers on the Pacific Coast in cooperation with representatives of the local State regulatory commissions.

The assignment of most of the personnel to more urgent matters in connection with the war has necessitated the deferment of most of these studies to the post-war period. On the basis of the studies undertaken thus far, it is apparent that the pursuit of this work in the future will result in showing that there should be substantial reductions in the recorded investments of the carriers in communication plant. State Commissions have requested, through the Committee on Accounts and Statistics of the National Association of Railroad and Utilities Commissioners, that this Commission participate in a survey and an appropriate ensuing enforcement program directed toward full compliance with the uniform accounting regulations requiring reclassification of accounts on the basis of original cost and the correction of various other misstatements in related accounts of the carriers.

Continuing Property Records - The presently effective Uniform System of Accounts for Communications Carriers provides for the establishment and maintenance of continuing property records. The value of these records from the viewpoint of the Commission and the industry is unquestioned, and while the present manpower shortages may delay somewhat the establishment of these records, arrangements have been made for the preparation and filing by the carriers of plans for such records which is considered a valuable forward step.

Depreciation - Participation in the activities of the Committee on Depreciation of the National Association of Railroad and Utilities Commissioners has continued and a comprehensive report covering all phases of depreciation was submitted by the Committee at the National Convention held in September 1943, and publication of the report was authorized by the Association. In the meantime studies of the changes in depreciation rates of common carriers by wire and radio

is being continued in view of the vital importance of this work in connection with the control of prices for communication services by the Commission in line with the Federal anti-inflation program.

Relief and Pensions - Certain studies in connection with data submitted by communications carriers with respect to relief and pension plans were also continued during the year. Announcement of decisions by the Commission with respect to compliance or non-compliance of the carriers with the applicable regulations were being held in abeyance, pending decision by the United States District Court of the District of Massachusetts upon the complaint of the New England Telephone and Telegraph Company against the Commission's Order of December 2, 1942, in Docket No. 5188, which decision will have a material bearing upon a number of controversial points involved in this matter.

Miscellaneous - Communication carriers that operate separate departments of a holding, servicing, manufacturing, or other non-carrier company nature and of an operating company nature, were required by Commission order to furnish the Commission with supplemental supporting statements indicating the effect of such other activities upon the affairs of the company. Other projects included:

Prepared an assigned portion of a symposium on income and excess profits taxes for use by the Committee on Accounts and Statistics of the National Association of Railroad and Utilities Commissioners.

Reduced the period of retention of domestic telegraph messages from one year to three months, after extensive studies, which included correspondence and conferences with representatives of other agencies such as the War Department, the Navy Department, the Federal Bureau of Investigation, and the Bureau of the Budget.

Amended the Rules of the Commission to permit filing copies of Securities and Exchange Commission Forms, instead of similar FCC forms, by certain holding companies.

Made a complete revision of Annual Report Form O (for wire-telegraph and ocean-cable carriers) which was necessary as a result of the adoption of the aforementioned new uniform system of accounts for those carriers.

Condensed somewhat Annual Report Form M (for telephone companies) to lighten the burden upon the carriers because of the present manpower situation.

Maintained continuing studies of the Long Lines Department of the American Telephone and Telegraph Company with

respect to plant additions, working capital requirements, depreciation reserves, receipts and payments for leased and jointly used plant, and division of revenues from joint interstate business with other participating carriers.

Continued analysis of current international cable, radiotelegraph and radiotelephone traffic.

Completed a comprehensive study of the capital structure and operations of a large international communications carrier and its many subsidiaries.

Made an extensive analysis of license contract costs of American Telephone and Telegraph Company, including cost of development and research work performed, and fees collected from associated companies and their subsidiaries.

Investigated compliance of wire and radiotelegraph carriers with the new uniform system of accounts.

Examined records of international carriers to verify refunds to customers for excess amounts collected for urgent traffic, as directed by a Federal Court.

Investigated practices of telegraph carriers in handling messages filed directly with carriers.

Made examination of methods of telegraph carriers in accounting for transactions involving foreign exchange.

CHAPTER IV

STANDARD BROADCAST

1. General

A total of 912 standard broadcast stations were in operation or under construction on June 30, 1943.

During the fiscal year the Commission received 35 applications for the assignment of broadcast station licenses and 21 for the transfer of control of corporations holding broadcast station licenses. Forty-two of these applications were granted without a hearing, six after a hearing. Three were dismissed at the request of the applicants, five were pending before the Commission at the close of the fiscal year.

As the use of the standard broadcast facilities increased, the readily available and simple engineering assignments decreased. Directional antenna design has become so complex that various factors and effects which could be safely ignored in simple arrays must be given consideration in any future allocation of facilities. Difficulties in actually obtaining in practice many of the theoretically possible proposals presented to the Commission, and later difficulties in maintaining inherently critical arrays, have occurred from time to time. The Commission has, therefore, engaged in a study of some of these problems preliminary to revision of existing rules and standards. It appears desirable, however, to delay actual revision until it is possible for engineering consultants and others now engaged in war activities to provide the benefit of their experience in this regard.

2. Material and Manpower

The necessity for maintaining existing standard broadcast facilities in spite of shortages in vital replacement equipment and equipment requirements of other government agencies, without undue recourse to production facilities now geared to war production, resulted in several extensive studies by the Commission.

During the fiscal year, the Commission conducted and prepared for the Board of War Communications an analysis of vacuum tubes in the hands of broadcast licensees. The purpose of this analysis was to determine the general condition and reserve of transmitting vacuum tubes in the standard broadcast industry.

The Commission upon the recommendation of the Board of War Communications prepared a 1075-page catalog of surplus and salvageable equipment and published and distributed this catalog to key points in the United States on January 12, 1945. Current information is maintained by supplements which are issued from time to time. Two such supplements have been issued and a third is being prepared.

An analysis was made of idle standard broadcast transmitters available throughout the United States to determine their age, general condition and serviceability.

The above studies have been utilized by the Army, War Production Board and other war agencies as well as the radio industry to obtain transmitters and other items of equipment not otherwise available.

The Commission, in addition to supplying data with regard to available technical equipment, has continued to provide technical information whenever required by the armed services or the various war agencies. These data include several studies of a confidential nature for the Army, Navy and Board of War Communications.

On November 7, 1942, in further recognition of the scarcity of materials and manufacturing facilities, the Commission, in cooperation with the Board of War Communications, adopted Order No. 107 requiring the readjustment of broadcast transmitters in the interest of conservation of equipment. As a result of these readjustments radiated power was decreased by approximately 21% (one decibel) and the life of broadcast equipment (vacuum tubes in particular) has been materially prolonged without a noticeable change to the broadcast listener. The licensed power of stations remains unchanged.

Radio engineers both in the government and in industry have long agreed that the change in power by one decibel could not be detected by

the listener. In order to substantiate this opinion, tests were made by the Commission in cooperation with certain stations. Listeners, aware of the tests, were unable to determine when the power was reduced and when it was not.

In conjunction with the above Order, there was issued a "Manual on the Adjustment of Standard Broadcast Transmitters" prepared and approved by the Board of War Communications setting forth the procedure to be followed in readjusting the equipment and in making regular checks of such adjustments.

The Commission at the same time adopted Order No. 94-A superseding its previous Order No. 94 and suspending Section 3.71 of the Rules and Regulations with respect to requiring each standard broadcast station to operate at least two-thirds of the authorized time during the broadcast day, i.e., 6 A.M. to midnight, and in lieu thereof only required operation for one-third of the broadcast day. This permitted a voluntary reduction in time of operation from 12 hours daily, in the case of an unlimited time station, to 6 hours daily. There is no restriction on the maximum hours of operation except as provided by individual licenses and the Rules and Regulations of the Commission.

On January 19, 1943, the Commission, in recognition of the shortage of radiotelephone operators because of the additional demands of military services, adopted Order 91-C. This Order superseded Orders 91, 91-A, and 91-B and provided for an even greater relaxation of requirements for commercial radio operators.

3. Policy on Use of Critical Materials

In view of the equipment studies, an analysis was made of pending applications and those dismissed because of equipment requirements to determine, if possible, whether needed service could be obtained by utilizing idle equipment not involved in established programs or possible future requirements.

On September 22, 1942, the Commission published the following modification of the so-called "Freeze Order":

> "The Commission today relaxed slightly its interpretation of the Memorandum Opinion of April 27, 1942, in order that applications involving shifts in frequency in which no materials will be utilized other than quartz crystals, may be granted, provided:
>
> (a) Such applications involve no inconsistencies with Order No. M-146 of the War Production Board relating to quartz crystals;

(b) Such applications involve no engineering conflict with any other application pending at any time since February 22, 1942;

(c) Such applications involve no inconsistencies with the Commission's Rules and Regulations;

(d) Such applications tend toward a fair, efficient, and equitable distribution of radio service, are consistent with sound allocation principles and offer substantial improvement in standard broadcast service; and

(e) Such applications are otherwise in the public interest.

The Committee studying this matter advises that it will make further recommendations relative to the Memorandum Opinion."

On August 11, 1943, Commission policy with regard to standard broadcast applications was further modified by the following statement:

"Upon consideration of a report and recommendations of its Committee on Critical Radio Materials, the Commission on August 10, 1943 determined that under certain stated conditions it would be in the public interest to grant applications for permits involving the use of idle equipment to increase power of 100-watt local channel standard broadcast stations to 250-watts and for construction of new 100-watt or 250-watt local channel stations.

"Applications for permits to construct new 100-watt and 250-watt local channel standard broadcast stations in cities or towns where no station is located at present and not located in metropolitan districts already served by a radio station; and applications to increase power of local channel stations to 250 watts may be granted upon a satisfactory showing that:

1. All required materials, except vacuum tubes, may be obtained without priority assistance. 1/

"1/ The Commission is informed by the War Production Board that building construction requires a clearance which may be obtained only when that agency is satisfied that a direct contribution toward winning the war is clearly indicated."

2. Such applications involve no inconsistencies with the Commission's Rules and Regulations.

3. Such applications tend toward a fair, efficient and equitable distribution of radio service, are consistent with sound allocation principles, offer substantial improvement in standard broadcast service, and

4. Such applications are otherwise in the public interest.

"Applications for local channel stations or changes in such stations which have been dismissed without prejudice pursuant to the policy announced April 27, 1942, may be reinstated for consideration in the light of the new circumstances upon submission of a petition within thirty days of this date showing (1) that such application is in conformity with the foregoing enumerated conditions; and (2) any and all changes with respect to facts and circumstances as represented in the original applications."

Based upon the vacuum tube survey in August, 1942, it appeared that approximately 67.5% of the 872 broadcast stations considered would be forced to remain silent prior to July 1, 1943 by reason of vacuum tube failure alone. In addition, it appeared that the lack of skilled manpower and shortages in replacement equipment of various types would cause the closing of additional stations. It will be noted, however, that as the result of the Commission's policy with regard to applications involving the use of materials; the reduction in operating power of broadcast stations; the recommendations made as the result of equipment surveys; the collection and distribution of information regarding surplus and salvageable equipment in the United States; the temporary relaxation of the commercial radio operator requirements under Orders 91, 91-A, 91-B and 91-C; the allocation of some new vacuum tubes and other equipment by the War Production Board; and the cooperation and efforts of the broadcast industry in general, only fourteen stations, or slightly more than one percent, were forced to cease operation or surrender construction permits from all causes during the fiscal year ending June 30, 1943.

4. North American Regional Broadcasting Agreement

It is apparent, after more than 2 years of operation, that the North American Regional Broadcasting Agreement is functioning successfully. Conflicting notifications and interference problems, normally expected in a plan of this magnitude, have been settled without friction and with a minimum of negotiation.

There are several assignments, specifically allocated to the United States under the terms of the Agreement, that have not yet been completely utilized because of shortages in equipment and trained personnel. The Agreement provides a period of five years from March 29, 1941 for this country to accomplish full utilization.

The Commission continues to prepare technical data and lists of assignments for transmittal to other signators in accordance with the Agreement.

5. Chain Broadcasting Regulations

On May 10, 1943, the Supreme Court upheld the validity of the chain broadcasting regulations and upon the expiration of a stay granted by the Court, the regulations went into effect in June 1943 (see Chapter I, page 3). One of the most important of the chain broadcasting regulations was Regulation 3.107 which was directed against the ownership of more than one network by a single network organization. This regulation had been suspended indefinitely in order to afford adequate time for the disposition of the properties involved. On August 11, 1943, an application was filed with the Commission for the transfer of control of the Blue Network from RCA to the American Broadcasting System, a company entirely owned by Mr. Edward J. Noble. A hearing was held on this application on September 10 and 20, 1943. On October 12, 1943, the Commission issued its Decision and Order approving the application and authorizing the transfer.

6. Multiple Ownership

Order No. 84-A promulgating Regulation 3.35 which sets forth the Commission's policy regarding multiple ownership of standard broadcast stations was adopted by the Commission on November 23, 1943. This regulation provides that no license shall be granted for a standard broadcast station, directly or indirectly owned, operated or controlled by any person where such station renders or will render primary service to a substantial portion of the primary service area of another broadcast station, directly or indirectly owned, operated or controlled by such person, except upon a showing

that public interest, convenience and necessity will be served through such multiple ownership situation. This policy was adopted after extensive consideration of the problem raised by concentration of control over standard broadcast stations serving substantially the same area.

7. License Period Extended

On December 14, 1943, the Commission adopted an amendment of Section 3.34 of the Rules and Regulations, to become effective with respect to licenses granted on and after December 15, 1943, extending the normal license period of standard broadcast stations from two to three years. A transition period was ordered during which initial renewals will be for staggered periods, ranging from one year to two years and nine months. Thereafter, all regular licenses will be for the full three-year period.

8. Foreign Language Programs

Because of the increasing importance of examining domestic foreign language broadcasting, Congress granted funds to the FCC in October 1942, to expand the work it was already doing in this field.

Foreign language broadcasts had assumed increased significance after the outbreak of the war in Europe in 1939. Certain groups affiliated with foreign organizations were attempting to use broadcasting as a medium of propaganda to create Axis sympathies in this country. Many of the prominent performers on these programs had been interned as dangerous enemy aliens, some had been arrested for failure to register as agents of foreign governments, some had been barred from certain areas of the United States. Many complaints came to the Commission.

In the fall of 1940, the Commission made a comprehensive survey of programs and personnel. At the same time it expanded its work of recording and analyzing the broadcasts. After Pearl Harbor there was a decided change in the tenor of many programs, but many questionable ones still remained and the Commission continued its vigilance. The granting of special funds by Congress in 1942 enabled the Commission to intensify its surveillance.

The information obtained by the Commission was used in determining whether the stations were operating in the public interest. It was also made available to the Office of War Information, Office of Censorship, Department of Justice, Federal Bureau of Investigation, Treasury Department, Coordinator of Inter-American Affairs and other agencies interested in some aspect of foreign language broadcasting.

Foreign language broadcasting as a whole has been invaluable in mobilizing the homefront for total war. The last survey, made in February 1943, showed 169 stations presenting programs in 27 languages and having a potential audience of 15,000,000 listeners. The broadcasts have been utilized by the Treasury Department in the sale of bonds, by Selective Service to register men for military service, by the Office of Price Administration to explain rationing regulations, by the U. S. Employment Service to obtain labor for war industries, by the Office of War Information to counteract Axis propaganda beamed to American foreign-speaking groups by the short-wave radio, by the Office of Civilian Defense and many other government agencies.

CHAPTER V

NONSTANDARD BROADCAST

1. General

The limitation during wartime of authorizations for station construction, indicated by the Memorandum Opinion of April 27, 1942, includes nonstandard broadcast stations of the following classes: high frequency (FM), television (commercial), facsimile and relay broadcast. Few applications have been granted during the year for construction permits or for extension of time in which to complete construction of stations in these services. However, on February 23, 1943, the Commission announced that in order to sustain interest in high frequency (FM) and television broadcasting, it would not dismiss those applications which could not qualify under the provisions of the Memorandum Opinion, but instead would retain the applications in the pending files without present action. In addition, a relaxation of the "freeze order" regarding relay broadcast stations was announced on August 28, 1943, providing for additional relay broadcast facilities where needed and where equipment is readily available.

To conserve materials and yet make use of authorized and existing station construction, licenses have been issued for FM and television stations to cover construction in part where a satisfactory broadcast service could be rendered. Other means have also been taken to maintain existing broadcast services as much as possible without conflicting with the war effort. To assist in the maintenance of service in the face of the shortage of transmitting tubes and replacement equipment, the Commission on July 6, 1943 adopted a simplified procedure

for authorizing changes in technical operation of FM, television, and noncommercial educational broadcast stations. During the fiscal year 111 authorizations were issued in accordance with the procedure established by the Commission's Administrative Order No. 2 for temporary changes in operation of equipment and for similar matters in the nonstandard broadcast services.

2. High Frequency (FM) Broadcast Service

It is noteworthy that while several stations have had to operate with reduced power and hours of operation, no station in this new field has ceased broadcasting activity during the war, although hampered by loss of personnel, difficulty in obtaining replacement tubes and equipment, general financial loss from operation, and limited distribution of FM receiving sets. The construction of high frequency (FM) broadcast stations continues to be restricted, in accordance with the Memorandum Opinion of April 27, 1942. Three new stations were authorized in this service during the year, where existing experimental or other previously authorized equipment was employed. The total number of FM stations authorized decreased from 61 to 48, due to the expiration of a number of construction permits for which equipment was not available. At the close of the fiscal year 41 stations were in operation, in addition to six experimental high frequency broadcast stations also furnishing FM programs.

On August 4, 1942, the Commission announced that it would issue wartime licenses for FM stations for the operation of existing facilities, provided construction had reached a point where a substantial public service could be rendered. Applications for licenses under this policy require a showing of diligence in proceeding with construction and willingness to complete construction when equipment and personnel become available. By the close of the fiscal year, 26 of the FM stations authorized had been licensed under this policy and several others either had applied or were preparing to file applications for such wartime licenses, with their stations in operation under program tests or other authorization. Ten FM stations have received regular licenses following completion of construction and testing.

On February 23, 1943, the Commission announced that because of the shortage of material, equipment, and skilled personnel and in order to sustain interest in high frequency (FM) broadcasting (and television, as later described), it would not dismiss applications for such facilities that are contrary to the provisions of the Memorandum Opinion of April 27, 1942, but instead would retain such applications in the pending files of the Commission without present action. This policy also provided for the reinstatement of FM applications which had been dismissed under the Memorandum Opinion. New FM

applications, as well as applications refiled for authorizations which had previously been granted but which had been permitted to expire due to wartime difficulties, are retained in the pending files instead of being dismissed pursuant to the Memorandum Opinion.

Several FM rules were waived during the year. On March 30, 1943, the Commission adopted Order No. 111, permitting FM stations to furnish the required minimum six hours daily of programs during any part of the broadcast day. Previously it was necessary to operate at least three hours before 6:00 p.m. and three hours after 6:00 p.m. each day (Sundays excepted) in accordance with Section 3.261 of the rules. To insure that at least a partially independent program service is furnished to FM listeners, the Commission has heretofore required that a minimum of two hours daily of the broadcast schedule consist of programs not duplicated in the area by a standard or other FM broadcast station. However, because of the increasing shortage of manpower, the Commission on July 6, 1943, adopted Order No. 111-A, relaxing this requirement and permitting FM broadcast station licensees (who generally also have a standard broadcast station) to use duplicated program material for all FM programs if necessary. One method of alleviating the manpower shortage has been adopted in Philadelphia where the five FM stations each broadcast one day out of five in accordance with a cooperative arrangement approved by the Commission.

On March 30, 1943 Order No. 112 was adopted, suspending until further notice the rule (Sec. 3.229) requiring FM stations to make field intensity measurements of station coverage. Such coverage surveys, which indicate the correlation of a station's service area with the area authorized, require skilled personnel and mobile measuring equipment.

On August 24, 1943 the Commission adopted letter calls for FM stations, effective November 1, 1943, replacing the letter-numeral combinations (like K37LA) previously used. Under the old system the two figures indicated assigned frequency and the final letter or letters indicated the city in which the station is located. Thus, the call K37LA denotes a station operating on 43,700 kc at Los Angeles and W45D a station on 44,500 kc at Detroit. Licensees of FM stations found, however, that the letter-numeral system was somewhat cumbersome and did not meet with general public acceptance. In addition, a change in frequency would require a change in call, causing some confusion.

The new system provides four-letter calls for FM stations like those used in standard broadcasting, television and most other

services. Licensees may request particular call letter combinations from those available for assignment. An FM broadcaster who also has a standard broadcast station in the same city may, if he so desires, be assigned the call letters of the standard broadcast station plus the suffix "FM". For example, a standard broadcast station with the call KQO may thus use "KQO-FM" as identification for the FM broadcast station. Call letters of stations in the United States begin with the letter "W" or "K", depending, with some exceptions, upon whether the station is located east or west of the Mississippi River.

3. Television Broadcast Service

Throughout the fiscal year commercial television has been subject to the Commission's policy adopted April 27, 1942, namely, that no authorizations would be issued which involved the use of any materials to construct or change the transmitting facilities of a television broadcast station. Although this policy did not preclude authorization of experimental television station construction, no applications concerning new experimental stations were received.

As of June 30, 1943, four television broadcast stations were licensed for commercial operation. Three of these stations have maintained a minimum program schedule of four hours per week, presently required of such stations by the Commission's rules and regulations, during the entire fiscal year. Two of these stations are located in New York City and have arranged their broadcasts so that only one station is on the air at a time, providing at least eight hours program service per week to the area. The other two commercial stations are located in Schenectady and Philadelphia, the latter station having been licensed to begin commercial operation on April 20, 1943. This station had previously rendered experimental program service. Each of the licensed commercial stations has devoted a part of its program service to civilian defense subjects.

Five experimental television stations have also provided scheduled program service of two or three hours per week throughout the greater part of the year. One of these stations is located in New York City, two are in Chicago, and two in Los Angeles. These experimental stations likewise included civilian defense subjects in their program service. Of the total of 28 experimental television stations authorized, about one-half are television relay broadcast stations used for transmitting from places where suitable wire facilities are not available or for relaying programs from one television station to another for rebroadcast purposes. Both the Schenectady and Philadelphia

stations rebroadcast television material being broadcast in New York City. The use of similar relay stations in connection with possible future network television broadcasting has been proposed, and present operation should furnish substantive data regarding the feasibility of such a project.

On October 27, 1942 the Commission deferred action on pending applications pertaining to commercial television broadcast stations which must be denied under its wartime policies regarding station construction. Thereafter, on February 23, 1943 the Commission announced that it would not dismiss television applications that may not be granted under the Memorandum Opinion of April 27, 1942 but would retain these applications in the pending files without present action. It was further provided that television applications which had been dismissed under the "freeze order" could be reinstated.

It was also announced on February 23, 1943 that holders of construction permits for television stations might obtain licenses to operate existing facilities during the war on either an experimental or commercial basis, provided construction had reached a point where the station was capable of rendering a substantial service. Two television stations have such wartime licenses and another application is pending.

4. International Broadcast Service

At the close of the fiscal year there were 13 international broadcast stations in operation within the United States, one less than the number operated during the previous fiscal year. This reduction was occasioned by the discontinuance of a low-power station to facilitate the construction, at the same site, of additional high-power equipment. In accordance with the plan proposed by the Interdepartmental Committee for International Radiobroadcasting Facilities a number of 50 and 100 kw stations were under construction. During the month of August 1943 three new 50 kw stations were licensed, two at Scituate, Mass., and one at Cincinnati, Ohio, while one new 50 kw station began testing at San Francisco, Calif.

All international broadcast stations are programmed by the Office of War Information and the Office of the Coordinator of Inter-American Affairs. These two offices have proposed a total of 36 international broadcast transmitters to provide adequately for the needs of psychological warfare. The Commission has cooperated closely with these agencies in providing engineering advice.

Although international broadcast stations are not included in the restrictions on the construction or change of the facilities

of other broadcast stations, the scarcity of materials due to the war has delayed the construction of new stations. In order to meet immediate needs, available equipment of point-to-point stations not required for their regular service is being used under special authorization for international broadcast service. During the fiscal year, seven such authorizations were issued, bringing the total number of stations authorized to engage in the international broadcast service to twenty.

5. Noncommercial Educational Broadcast Stations

Five channels are allocated for noncommercial educational broadcast stations adjacent to the commercial FM broadcast band. Since these stations may be tuned in on the usual FM broadcast receiver, the programs may be received by the public.

At the end of the fiscal year seven stations were authorized, as compared to eight the previous year. While these stations have not been subject to the wartime restrictions on construction contained in the Memorandum Opinion of April 27, 1942, equipment shortages and lack of skilled personnel have served to limit present development. However, considerable interest is shown by educators in the establishment of these stations and this may bring faster development in the postwar period.

6. ST (Studio-Transmitter) Broadcast Service

ST broadcast stations are used for providing program circuits between the studio and transmitter of high frequency (FM) broadcast stations and international broadcast stations. Particularly where the transmitter is located at a remote point (such as mountain-top FM stations), the use of an ST station provides a more satisfactory and dependable program circuit. Principally due to the restricted construction of FM broadcast stations, no significant development in the ST broadcast service has occurred during the year.

7. Relay Broadcast Service

Relay broadcast stations are employed for the transmission of broadcast programs from places of origination where wire facilities are not available. These stations may also be used for emergency circuits between studio and transmitter of standard broadcast stations when the regular wire facilities are interrupted. While new relay broadcast construction has been restricted, the number of stations increased during the year from 523 to 549. This resulted from the duplicate licensing of some relay broadcast transmitters, with leasing arrangements between licensees.

Upon consideration of a report of its Committee on Critical Radio Materials, the Commission on August 28, 1943, announced that under certain conditions it would authorize the use of equipment for additional or improved relay broadcast facilities. The shortage of telephone line facilities has increased the need for relay broadcast transmitters in many instances, and the use of these small radio stations permits the origination of programs from camps and other places where telephone lines may not be available for this purpose. Applications for relay broadcast facilities under this relaxation of the "freeze order" must show that the required materials may be obtained without priority assistance, and it is believed that use will be made of idle equipment found unnecessary or unsuited for other services.

8. Facsimile Broadcast Service

Stations in this service are used to transmit still pictures and text to facsimile receivers in homes and other places equipped with proper receiving apparatus. Interest in facsimile broadcasting continues to be limited and only three stations are authorized, a decrease of one from the previous year.

Although the rules provide for the multiplex transmission of facsimile by high frequency (FM) broadcast stations, no regular FM stations provide this service and little interest in this development has been indicated.

9. Developmental Broadcast Service

Developmental broadcast stations provide a facility for use by equipment manufacturers and experimenters when needed for development or research in connection with broadcast equipment. The operation of such stations during the past year has been slight because of the concentration by manufacturers on military radio development and production, with a reduction in the number of stations authorized from eight to four. Activity in this field will likely increase as the postwar period approaches.

CHAPTER VI

SAFETY OF LIFE AND PROPERTY

1. War Emergency Policies on Use of Materials

Since it became increasingly apparent that the public interest required a curtailment of the use of critical materials for the construction or change of the transmitting facilities of certain classes of non-government radio stations, including those operating in the various safety radio services, the Board of War Communications, in June, 1942, made the following recommendation to the War Production Board and to the Federal Communications Commission:

> No future authorizations involving the use of any materials shall be issued by the Federal Communications Commission nor shall further materials be allocated by the War Production Board, to construct or to change the transmitting facilities of any station operating in the Emergency, Miscellaneous, Coastal, Marine Relay, or Fixed Public Services; or of any Aeronautical Fixed (domestic) Station; Itinerant Aircraft Station; or Flying School Station; provided, however that upon a proper showing that any such station serves an essential military need or a vital public need, which cannot otherwise be met, the Commission and the War Production Board will take action commensurate with the importance of the particular facility in question.

The Commission announced adoption of this recommendation in its Memorandum Opinions made public under dates of July 7 and July 21, 1942. The Commission now requires that all applications submitted which involve the use of any material to construct or to change the transmitting facilities of any radio station operating in these services must be accompanied by a verified statement showing all the facts and circumstances which the applicant believes to

demonstrate that the facilities to be constructed or changed will serve either an essential military need or a vital public need, which cannot otherwise be met. At the close of the fiscal year, however, it had been determined through experience in the administration of this policy that applications pertaining to certain classes of stations, such as itinerant aircraft stations in Alaska, did not require an individual showing of vital public need or essential military need in view of such need having been established with respect to all stations of these classes.

2. Marine Services

Exemptions

The Commission is authorized, pursuant to the International Convention for the Safety of Life at Sea, London, 1929, and Section 352(b) of the Communications Act of 1934, as amended, to grant exemption from the ship radio requirements prescribed by the Convention and the Act to certain vessels or classes of vessels when navigated under specified conditions when the Commission is satisfied that the route or conditions of the voyage involved or other circumstances are such as to render compliance with those requirements unnecessary or unreasonable. It has been the continued policy of the Commission to grant exemption on an annual basis for certain classes of vessels and to exempt individual vessels for limited periods of time sufficient to cover specified voyages.

The exemption previously granted to small passenger vessels of less than 100 gross tons operating in the coastal waters between Naples, Florida and New Orleans, La., was renewed for another year.

The Commission renewed the general exemption previously granted to small passenger vessels of United States registry, as a class, up to and including 15 gross tons. Many of the vessels to which these exemptions apply are engaged in sportfishing, sightseeing and the water taxi business.

The exemption previously granted to certain U. S. passenger ferry boats over 100 gross tons which operate on international voyages on Puget Sound was renewed.

Coastal Radiotelegraph Stations

As of June 30, 1943, there were 26 coastal telegraph stations licensed by the Commission, exclusive of those in Alaska. Three such stations were licensed for limited (governmental) coastal service, the remainder being licensed for public service. This is a decrease of 22 outstanding licenses for coastal stations during the year. The reduction is attributed indirectly to the sharp curtailment in ship to shore message traffic as a result of the war, and to the policy adopted by the Commission on January 12, 1943, of not renewing licenses for stations of this class which had been closed and were not in active commercial operation. No new coastal telegraph stations were authorized during the year; however, 74 applications were received, resulting in the issuance of 57 authorizations pertaining to the existing coastal telegraph stations.

Ship Station Inspections

A total of 8110 ship radio station inspections were made by the Field Division of the Engineering Department, 6069 on U. S. vessels and 2041 on vessels of foreign registry. The inspections resulted in the serving of 5924 violation notices and the clearing of 2773 violations.

Coastal Radiotelephone Stations

As of June 30, 1943, four stations were licensed by the Commission for public coastal telephone service. As a result of the war these stations are inactive insofar as communication with ships is concerned but are being utilized nevertheless, on a temporary basis in the Fixed Public service. During the year six applications were received, resulting in the issuance of four authorizations. No new stations were established during the year.

Marine Relay Radiotelegraph Stations

During the year 55 applications were received, 35 authorizations were issued to stations in this service. Fifteen marine relay stations were licensed as of June 30, 1943. No new stations were established in this service and since the service rendered by stations of this class is closely allied to the coastal service, activities of marine relay stations have also been curtailed as a result of the war. A petition was received and is under consideration concerning changes in the Commission's rules to permit the use of Marine Relay radiotelegraph stations in connection with the coastal harbor telephone service on the Great Lakes.

Coastal Harbor Radiotelephone Stations

As of June 30, 1943, 35 coastal harbor stations were licensed by the Commission (exclusive of those in Alaska), of which two were licensed for limited (governmental) coastal service and 33 for public coastal service. During the year 81 applications were received, 80 authorizations issued. As a result of the war, all communication between ships and coastal harbor stations is subject to control and supervision by the naval authorities under Section 606 of the Communications Act. The volume of commercial communication accordingly has been drastically curtailed. Nevertheless, considerable activity is permitted ship and coastal stations on the Great Lakes and inland waters where the service rendered is of substantial benefit to the efficient operation of bulk cargo carriers and other classes of ships engaged in activities essential to the war.

Authorizations for Transmission of Weather And Hydrographic Information

For reasons of security certain restrictions were placed by naval authorities on the dissemination of weather and hydrographic information by radio stations; whereupon it developed that vessels on the Great Lakes and connecting inland waters required more extensive information of this nature. The U. S. Weather Bureau, with the cooperation of interested naval authorities, this Commission and the Canadian radio administration, and after consultation with licensees of coastal harbor radio stations in the Great Lakes area, developed a schedule for the encoded transmission of weather and hydrographic information. The Commission authorized the following coastal harbor stations serving vessels in the Great Lakes area to transmit the encoded information on daily schedules: WAY, Lake Bluff, Ill.; WLF, Rogers City, Mich.; WAD, Port Washington, Wisc.; WAS, Duluth, Minn. and WMI, Lorain, Ohio. In addition, the Commission authorized certain coastal harbor stations serving vessels on the Mississippi River and connecting inland waters to transmit river level stages and flood warnings.

Hearings on Applications

Two public hearings were held involving the public coastal service. One was on an application for a construction permit to use additional frequencies at coastal harbor station KMP, Cape Girardeau, Mo. to extend the communication range of this station substantially. The other was on the proposed establishment of a new coastal harbor station at Joliet, Ill. and on an application for authority for Great Lakes coastal harbor station WAY, at Lake Bluff, Ill. to communicate with ships navigated on the Mississisppi River and connecting inland waters.

A public hearing was held at Houston, Texas, on applications for renewal of the licenses of two radio stations located on board barges and licensed as ship stations, for the purpose of determining, among other things, the nature of the service rendered by these stations and whether or not such service is within the purview of the Commission's rules governing ship radio service.

Services in Alaska

The Board of War Communications, by Order No. 14, delegated to the War Department broad powers with respect to radio stations in Alaska. All stations in Alaska licensed by the Commission are subject to this Order, except ship, coastal and marine relay stations, which are subject to control by the Navy Department under Orders No. 1 and 2 of the Board which were issued during the previous year.

Because conditions in Alaska are unfavorable to the construction of public land wire communication facilities, there are numerous small point-to-point radio stations which are used for communication wholly within the Territory. Since many of these stations communicate with the stations of the Alaskan Communications System, applications for licenses and construction permits normally are reviewed by the latter before they are presented to the Commission. Because the Western Defense area includes Alaska and because of the War Department's responsibility concerning Alaskan radio stations as evidenced by Order No. 14 of the Board of War Communications, many of the applications concerning these stations are reviewed by the Alaska Defense Command and the Western Defense Command before they reach the Commission for action.

At the close of the last fiscal year 158 public coastal stations and 275 point-to-point stations in the fixed public service in Alaska were licensed by the Commission. Several of these stations are cooperating with the armed forces.

Marine Watch on 500 KC

The Commission maintains, in connection with its other monitoring and intercept activities, a continuous listening watch on 500 kilocycles, the international marine distress frequency. These stations, which are operated by the Field Division of the Engineering Department, are so placed as to make almost certain the interception of any distress message originating on board merchant ships anywhere within several hundred miles of our coast line. Provision is made for immediate liaison with the U. S. Coast Guard and the headquarters of all coastal defense areas where remedial action is taken. A continuing analysis of intercepts of distress communication is furnished the U. S. Coast Guard to assist the latter in evaluating the effectiveness of its coastal radio facilities.

Approval of Equipment

Numerous new types of marine radio equipment for oceangoing vessels to meet the changing wartime requirements for more suitable equipment and to conserve materials and manpower have been approved by the Commission. Certain tests were conducted at the Commission's laboratory near Laurel, Md., and on board a boat - the latter tests with the cooperation of the U. S. Coast Guard - relative to the communication range of lifeboat transmitters, both with the conventional lifeboat antennas and with recently developed balloon and kite-supported antennas. Fifteen additional types of receivers were approved during the past year as capable of being used on board ship without attracting the attention of the enemy. Four types were disapproved.

Several new types of lifeboat radio transmitters were approved, bringing the number of approved types to ten. To take advantage of the increased communicating range which may be obtained by using a relatively high antenna, acceptable topmasts were devised by the lifeboat manufacturers and others for attachment to the sailing masts of the lifeboats, which will support the antennas at a height of 26 feet above the water. The simpler topmasts are constructed of appropriate lengths of bamboo which are lashed to the sailing masts; the more elaborate ones are of sectionalized wood and metal construction and are provided with halyards for raising and lowering them.

The Commission on August 18, 1942, amended its rules to require a reliable artificial antenna for use in testing, in port, a ship's emergency radiotelegraph transmitter, with a minimum of

radiation, for effective operation on the distress frequency 500 kc. Such tests are considered necessary to insure proper operation of the transmitting equipment when it is needed during an emergency at sea and to allow inexperienced operators an opportunity to familiarize themselves with the operation of the equipment.

The Commission approved the use of steel instead of aluminum for fabricating the enclosed case and front panel of an auto alarm, the second device of this kind in which steel has supplanted more critical materials.

The Commission suspended until further order its rule which requires the installation of automatic alarm-signal keying-devices in connection with radio transmitters installed on certain vessels. This action was taken because critical material and manpower is necessary to manufacture and install such equipment and because the need for such equipment has been greatly minimized due to the exigencies of wartime ship operation.

Because antenna entrance-insulators were observed during inspection on board ship to cause undue transmitting power losses and to lack uniformity in insulating qualities, tests were conducted by the Commission's laboratory on certain antenna entrance insulators of the kind used on board merchant ships. The insulators were subjected to tests over a period of ten months during which time the insulators were exposed to the elements and were occasionally subjected to salt water spray. The power losses caused by all insulators tested appear to depend largely on the ability of the insulator's surface to hold a continuous water film after wetting.

Due to the more stringent frequency stability which would normally be required of radio transmitters effective January 1, 1944, under the Commission's Rules and the International General Radio Regulations, a survey was initiated to determine the number of radio transmitters which would not meet the new frequency tolerances. The new tolerances, if enforced, would make necessary the replacement of some transmitters and the modification of others, thus requiring the use of critical material and manpower.

3. Aviation Radio Service

General

Radio stations in the Aviation Service include aircraft stations aboard itinerant and scheduled aircraft, airport control stations, aeronautical stations, aeronautical-fixed stations, instrument-landing stations, radio marker stations, flight-test stations and flying-school stations. All such stations transmit only communications necessary for safe aircraft operation and the protection of life and property in the air.

A majority of the commercial aeronautical and aeronautical-fixed radio station facilities are providing communication service in conjunction with operations of the military forces. Much of this activity revolves about the operation of air-cargo aircraft by the various commercial airlines for the U. S. Army Air Forces. Due to the increased activities of the airlines in connection with air-cargo operations, several aeronautical and aeronautical-fixed stations previously closed down have been reopened by the airlines and several entirely new stations have been built.

Because of the lack of governmental air navigation radio facilities at certain locations, Aeronautical Radio Inc., radio licensee agency for the majority of U. S. domestic commercial airlines, has been authorized to construct and operate several radio marker stations as aids to air navigation. It is anticipated that the Civil Aeronautics Administration will take over the operation of these stations as soon as possible or will provide adequate substitute facilities.

There was only a slight increase during the fiscal year in the number of scheduled aircraft radio stations licensed to the commercial airlines. The apparent reason for this was the continued inability of the airlines to obtain additional or replacement aircraft.

During the year a frequency assignment plan for aeronautical, aircraft, and aeronautical-fixed stations operating in the Hawaiian area was approved and was incorporated in the Commission's Rules and Regulations. This plan makes available to airline operators in the Hawaiian area additional frequencies for aeronautical service and a completely new set of frequencies for aeronautical-fixed service. This action was taken as a result of the continued growth of commercial airline operations in the Hawaiian area and the consequent need for additional radio facilities on the same basis as equivalent facilities in the continental United States.

Non-Scheduled Aircraft Radio Stations

There has been a substantial decrease in the number of aircraft stations authorized during the past fiscal year as compared with the preceding year. This may be attributed to the transfer of aircraft from the commercial airlines to the War Department, to the sharp reduction of non-essential civilian flying, and to the requirements of the Commission's Memorandum Opinion of July 7, 1942, relative to the use of materials. In some cases, new aircraft station licenses for itinerant aircraft have not been granted because of inability of the applicants to meet the Commission's wartime requirement that the proposed station would serve an essential military or vital public need.

Applications for aircraft radio stations which have been found to meet the requirements of the aforementioned Memorandum Opinion fall into several groups. These groups include applications for licenses for radio stations installed aboard aircraft used for civil pilot training pursuant to contracts with the Civil Aeronautics Administration, for aircraft radio stations aboard aircraft used in carrying out the terms of contracts with some branch of the armed forces, such as the making of aerial maps for the Army or Navy, for stations installed aboard aircraft used for personnel and small consignment transportation by manufacturers and individuals in connection with the production of war materials, for aircraft stations in Alaska, and for stations aboard aircraft used by persons engaged in pilot training activities. It has been determined that these activities meet a vital public or essential military need and that applications for licenses for aircraft radio stations involving materials to be used in conjunction with such activities should be granted.

Airport-Control Radiotelephone Stations

An airport-control station provides communication limited to actual aviation need for the control of airport traffic between an airport control tower and aircraft operating in the immediate vicinity of an airport.

Although the construction of five new airport-control stations was authorized by the Commission during the fiscal year, the total number of such stations licensed by the Commission continued to decrease. This is attributed to the cancellation and expiration of the licenses of some stations located at airports where flying activities have substantially decreased because of the war and because the Civil Aeronautics Administration has taken over

operation of a large number of airport-control stations. The latter stations are located at airports where greatly increased flying activities, both civil and military at the same airport, has necessitated government operation of the tower radio facilities to insure uniformity of operating procedure in the interest of safety.

The majority of the airport-control station licenses indicated during the fiscal year that attempts had been made to obtain very-high-frequency equipment in conformity with the Commission's Rules and Regulations as previously reported. However, because of the scarcity of critical materials to construct such radio equipment, none of the licensees were able to secure the necessary equipment to inaugurate the desired operation on very-high-frequencies. Three of the airport-control stations are operated in conjunction with radio-localizer transmissions for use in connection with aircraft instrument landings. Radio-localizer facilities at an airport make it possible to use the airport under weather conditions which otherwise would not permit safe landings and take-offs.

Flight-Test Radio Stations

Flight-test stations aboard aircraft undergoing test, and flight-test stations on the ground, are used for the transmission of essential communications in connection with the tests of aircraft and components thereof. Such stations are licensed only to manufacturers of aircraft and major aircraft components. During the year seven new flight-test stations were licensed, making a total of twelve such stations licensed by the Commission at the end of the fiscal year. The majority of these stations are operated on a specially assigned frequency made available to flight-test stations through the cooperation and interest of the War and Navy Departments. A number of these stations are operated also on the one very-high frequency allocated by the Commission for this purpose.

Flying-School Radio Stations

Flying-school radio stations are used for communicating with students and pilots during flight training. Such stations are licensed only to bona fide flying-schools and soaring societies. The use of flying-school stations for communications other than for instructional purposes and the promotion of safety of life and property is strictly prohibited. Two new stations of this classification were authorized during the year making a total of twelve such stations licensed at the close of the fiscal year.

A number of these stations are authorized through special arrangements with the War Department to operate on frequencies other than the flying-school frequencies normally allocated by the Commission. Such stations are licensed on behalf of schools which are engaged in the instruction of air cadets for the United States and for other countries of the United Nations.

There has been a decrease in the total number of flying-school stations authorized. This is attributed primarily to the consolidation of air cadet training schools and the consequent reduction in the number of flying schools. The operation of flying-school radio stations contributes directly to the safety of life and property in the air and aids the war effort through increased efficiency in the instruction of student pilots.

International and Alaskan Aviation Radio Service.

International air traffic continues to increase as a result of the war. The number of United States aircraft flying international routes has increased rapidly during the year. This has resulted in the international route frequencies becoming overloaded with communications and has increased the need for additional frequencies to provide necessary communication on these routes. Not only has traffic increased on the existing international routes, but many new international routes have been established and thus an immediate and critical need for additional frequencies to serve these routes is evident. Because of the many routes covered most of the aircraft on international routes have been equipped to operate on many more transmitting frequencies than in former years.

Non-military air traffic in Alaska has continued to increase. On March 22, 1943, the Alaska Aeronautics and Communications Commission adopted regulations requiring that all aircraft operating within the Territory of Alaska must be equipped with two-way radio communication facilities. This regulation became effective July 1, 1943. On April 6, 1943, the Commission received a telegram from the Governor of Alaska, and Chairman of the Alaska Aeronautics and Communications Commission, requesting that all itinerant aircraft in Alaska be deemed to be serving a vital public need and therefore that the use of radio apparatus installed therein be considered as meeting the requirements of the Commission's Memorandum Opinion of July 7, 1942. Aircraft frequently afford the only means of transportation to isolated points in Alaska. In view also of the fact that all aircraft in Alaska are required to be radio equipped, the Commission adopted the policy that all radio stations aboard itinerant aircraft operating in the Territory of Alaska are considered to meet the requirements of the Memorandum Opinion of July 7, 1942, on the basis that such stations are fulfilling a vital public need which cannot otherwise be met.

4. Emergency and Miscellaneous Radio Services

Emergency Radio Service

Emergency Radio Service includes all types of radio communication, except marine and aviation, which is carried on for emergency purposes. The various classes of stations in this service are state and municipal police, zone and interzone police, special emergency, forestry and marine (harbor) fire. With the exception of special emergency and forestry, authorizations for radio stations in this service are issued only to instrumentalities of state or municipal government. In addition to authorizations issued to governmental bodies, special emergency stations and forestry stations may, under certain conditions, be authorized for use by public utilities and private organizations.

Fewer applications for authorizations in the emergency radio service were received this year than last. This is attributed to the fact that the license term for all stations in the emergency service was changed, effective April 2, 1942, to two years instead of one year. As a result, the only applications for renewal of license which were necessary during the fiscal year were those of Special Emergency stations. The number of authorized stations in the emergency service as compared with the previous fiscal year has increased about three per cent. The number of stations licensed in the last three fiscal years, together with the increase or decrease over the number in the previous fiscal year is shown in the following table:

	Number of Stations Fiscal Year			Change during Fiscal Year	
Class of Station	1941	1942	1943	1942	1943
Municipal Police	1196	1672	1708	+ 476	+ 36
State Police	513	378	- 135	- 135	+ 53
Zone Police	69	85	94	+ 16	+ 9
Interzone Police	30	33	30	+ 3	- 3
Special Emergency	340	435	448	+ 95	+ 13
Forestry	807	844	837	+ 37	- 5
Marine Fire	6	8	10	+ 2	+ 2
Totals	2961	3455	3558	+ 494	+ 95

The trend toward the use of frequency modulation in the emergency service continues. Nearly all applications for new radiotelephone stations specify the use of frequency modulated equipment on the very-high-frequency communication channels. Relatively few applications for the use of amplitude-modulated equipment are received. In most cases such applications are filed by licensees who are making

additions to their existing radio facilities. Undoubtedly the change-over of existing radiotelephone facilities from amplitude-modulated systems to frequency-modulated systems would have been greatly accelerated during the year except for the critical shortage of material.

Police Radio Stations

War conditions have greatly increased the need of police departments for radio communication. Boomtown evils have been created in many communities by new or expanded war production plants. Large increases in population, inadequate housing, lack of recreation facilities and other civic needs have promoted lawlessness and increased the work of the police. Police forces have lost men to the services and to war industry.

A number of police departments have tried to meet these problems by increasing their radio communication facilities. It has been the Commission's policy to grant applications for increased facilities only where an essential military or vital public need has been demonstrated.

In some of the metropolitan areas the number of police radio stations and police messages has increased to such an extent that mutual interference between stations operating on the same or adjacent frequencies is becoming a serious problem. The expected increase in the use of frequency-modulated systems will alleviate this condition to a certain extent.

The establishment of a statewide police communication system presents an entirely different problem from the establishment of a municipal police radio system because of the larger service area to be covered for states and because of the effect on radio waves of the variation in terrain over which communication must be established. For this reason, the first installed police communication systems usually consisted of a number of strategically located land stations at fixed locations operating with comparatively high power on medium frequencies. During the last few years, however, it has been found that a very successful statewide radio communication system could be effected by the use of a somewhat greater number of land stations of lower power operating on the very-high-frequencies and making use of frequency-modulated transmitters and associated receivers.

The necessary coverage of fairly large state areas has been attained by placing the transmitting antenna as high as possible above the average elevation of the particular area, even though in some instances the radio station is located at some distance from the state

police substation. In such cases the equipment is usually unattended by operators and is electrically controlled by means of land-wire lines between the transmitter location and the state police substation. The trend toward the latter type of statewide system has continued during the past fiscal year although, like the same trend in municipal police systems, it has been retarded by the lack of equipment.

Forestry Radio Stations

Forestry radio stations are operated usually by state forestry and conservation departments although in a few cases such stations are operated by private organizations which are legally responsible for the protection of wooded areas. There are two major uses of radio in forestry protection. The first is to provide rapid communication between fire towers to expedite the exact location of smoke observed from the towers; the second is to coordinate the movement of personnel and equipment to the fire and to direct activities at the fire.

In using radio it is the practice to equip forest fire towers with low power, very-high-frequency, radiotelephone equipment. By the use of such stations, it is possible for two or three towers which may observe a "smoke" to locate it quickly by triangulation. Mobile units are then dispatched to the location of the smoke either by the tower man or by the district fire warden's office, which is also equipped with radio facilities. If the fire develops to the point where it is necessary to mobilize large numbers of fire fighters and pieces of fire-fighting equipment, the battle against the fire is facilitated through the use of radio. At times the person in charge of the fire fighting facilities may even direct operations from a radio-equipped airplane over the scene of the fire.

Like the police, the forestry services have suffered a substantial loss of personnel and have attempted to compensate for this by increasing the efficiency of the communication facilities. In addition, the forestry services have been given additional duties in connection with the protection of war-vital areas from the damage caused by fires originating in the nearby forests and the smoke resulting from such fires.

Marine Fire Radio Stations

Marine fire radio stations are operated by a few of the larger cities for the purpose of directing water-borne equipment to fight fires along waterfronts. During the past fiscal year there has been only a small increase in the number of such stations; however, a number of previously licensed stations in this classification have expanded their radio communication facilities. At the close of the fiscal year the Commission had under consideration the advisability of expanding the scope of service for this class of station in order to permit the use of radio communication in connection with large fires in sections of the cities located some distance from the waterfront. Most municipal fire departments maintain elaborate wire communication facilities for receipt of alarms and the direction of equipment. There are occasions, however, when the senior fire department official present at a large fire, needs to communicate with other officials or with the fire department headquarters from a point where no wire communication facilities are available.

Special Emergency Radio Stations

Special emergency stations are for use in emergencies jeopardizing life, public safety, or important property. The licensees of these stations are usually public utilities although organizations established for relief purposes and persons having establishments in remote locations are, under certain conditions, eligible licensees. The importance of continuous maintenance of electricity, gas, water and other public services to plants engaged in manufacture of war equipment is unquestioned. Maintenance of transportation is also essential. The use of radio facilities for communicating with repair trucks and maintenance crews in emergencies has assisted public utilities handicapped by personnel loss and greatly expanded demand for service.

During the past fiscal year wire telephone and telegraph companies have made increased use of their special emergency radio stations for the purpose of restoring communication when wire lines were disrupted by storms, floods and other disasters. Such stations are in readiness at strategic points and are rushed to the scene of such disasters for the purpose of closing gaps in wire communication circuits during the period that is required to repair such breaks. The number of these stations has increased during the past fiscal year although the increase was not as large as in previous years because of the difficulty in obtaining equipment.

Miscellaneous Radio Services

The number of geological and provisional radio stations has increased somewhat during the fiscal year. All other classes of stations in the Miscellaneous Services have decreased or remained the same. The following table shows the number of stations and the changes therein during the past two years:

Service and Class Station	Number of Stations Fiscal Year 1942	Number of Stations Fiscal Year 1943	Changes Fiscal Year 1942	Changes Fiscal Year 1943
(1) Geophysical Service				
Geological Stations	302	325	+ 33	+ 23
(2) Special Press Service				
Relay Press Stations	7	5	+ 0	- 2
Mobile Press Stations	3	3	1	+ 0
(3) Intermittent Service				
Motion Picture Stations	15	10	+ 3	- 5
Provisional Stations	22	36	+ 15	+ 14
Totals	349	397	+ 50	+ 30

Geological stations are those in the Intermittent Service authorized primarily for geological studies. Some of the stations are used by field parties in connection with seismograph explorations for oil.

Statements made by licensees of Geological stations indicate the use of the small, low power portable stations results in a considerable saving of critical materials and man hours. Generally, the portable stations are used to provide communication between the different sections of the exploring parties and to furnish a means for recording the output of the various geophones at the centrally-located recording truck. Insulated copper wires temporarily laid on the ground formerly were used for connecting the pickup devices with the recording instrument. The importance of petroleum products to the armed forces and to the war industries is generally understood and the continued exploration for oil reserves by the petroleum industry is necessary to assure an ample supply.

The use of provisional radio stations as an aid to the protection of large war plants has increased considerably. These localized systems function like a small municipal police system, affording a means of instantaneous communication between the plant guard headquarters, isolated guard houses and cruising guard vehicles.

War Emergency Radio Service

The War Emergency Radio Service is a temporary wartime service to meet the need for rapid emergency communication in connection with national security. This service initially was composed of two classes of stations, namely, civilian defense and state guard stations, which are intended to provide distinct and separate short-distance communication facilities on frequencies above 112,000 kilocycles for use by Citizens' Defense Corps and State Guards, or equivalent officially-recognized organizations.

Pursuant to the recommendation of the Board of War Communications and following several conferences with representatives of the National Headquarters of the Civil Air Patrol, a new class of station designated "Civil Air Patrol" was included in this service, effective January 19, 1943. This class of station is defined as a station to be used exclusively for essential communications relative to the activities of the Civil Air Patrol except when such activities are under direct military control. These stations may be used only during emergencies when life, public safety, or important property are endangered; or for essential communication relative to Civil Air Patrol activities, when other communication facilities do not exist or are inadequate.

On August 22, 1942, a civilian defense station license was issued to the City of Lawrence, Massachusetts, which was the first authorization issued for any class of station in this new service. The initial state guard and civil air patrol authorizations were issued on August 26, 1942 and May 24, 1943, respectively. The following tabulation indicates the number of stations in the War Emergency Radio Service which were licensed during the fiscal year:

Class of Station	Number - 1943
Civilian Defense	199
State Guard	8
Civil Air Patrol	4
Total	211

Under the rules for this service, the term "station" does not necessarily mean one transmitter but may, and usually does, include several fixed, portable and portable-mobile units which are operated as a coordinated emergency-communications system. In a few instances civilian defense station licenses issued to municipalities include over 100 units.

Because of reports received from numerous licensees and the Office of Civilian Defense, indicating that insufficient time was

available to civilian defense licensees for making adjustments to equipment, training personnel, and perfecting methods of operating procedure, the rules were modified on June 8, 1943, to increase the authorized test period for all civilian defense stations from an aggregate of two hours to an aggregate of six hours per week. This modification permitted all stations to use the Sunday and Wednesday test periods without the previous restriction on the Wednesday periods, and included a new two hour test period on Mondays.

At the request of the Board of War Communications, the rules were again modified on June 22, 1943, to permit civilian defense stations to render emergency communication service in accordance with a new Mutual Aid Plan sponsored by the Office of Civilian Defense. Upon proper application and showing of need, certain specific stations may be authorized to communicate for the first fifteen minutes of each hour for the exclusive purpose of handling essential communications preparatory to any anticipated emergency involving safety of life or important property. This privilege was considered necessary inasmuch as under wartime conditions, the loss of life, personal injuries, and property damage resulting from fire, earthquake, hurricane, sabotage, etc., could seriously hinder the war effort. The purpose of this Mutual Aid Plan is to assure the maximum use of available and remedial facilities throughout the continental United States and for effective operation is dependent upon the continuous availability of adequate communication facilities, especially in rural areas between various fire department headquarters.

The rules also were amended at this time to permit civilian defense station licensees to use their stations during emergencies endangering life or property to provide essential communications for the United States Government when requested to do so by the government department or agency concerned. In addition, stations of this class are now permitted to operate during any emergency endangering life, public safety, or important property relative to civilian defense or national security.

During the 1943 spring floods in the midwest, three civilian defense radio stations were used to the advantage of the general public in the affected area.

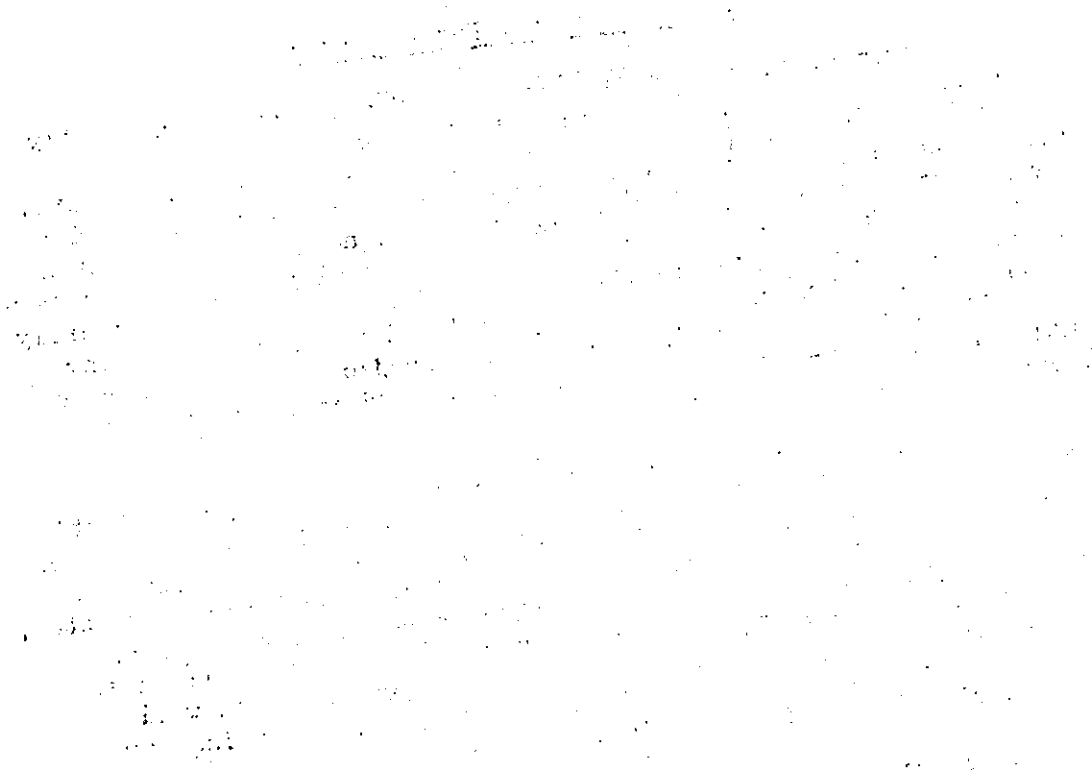
5. Experimental Radio Service

Experimentation in various phases of radio has been greatly stimulated by the war. More emphasis is being placed on radio research today than at any other period in the history of the art. Fundamental research is being supported and financed by the federal government acting primarily through the National Defense Research Committee. One large educational institution alone employs hundreds of engineers and physicists whose activities are directly primarily to the development and perfection of radio detecting and ranging, generally known as "radar". Other radio projects equally as revolutionary and far-reaching are being conducted in hundreds of laboratories throughout the country.

Many experimental authorizations have been issued to scientific laboratories and industrial organizations engaged in radio research and development under contracts issued by government organizations including the Army, the Navy and National Defense Research Committee. For military reasons the results of this unprecedented research cannot be revealed at this time; however, it is commonly predicted that after the war the whole field of radio communication will be greatly affected by the revolutionary discoveries now being carefully guarded in the laboratories.

In accordance with the Commission's rules, experimental stations are licensed for fundamental, general, or specific radio research and experimentation directed toward the general advancement of the radio art, while Class 2 experimental stations are authorized for experimentation in radio directed toward the development of a new or proposed radio service, or some new methods of operation in an established radio service.

Class 3 experimental stations were authorized to citizens of the United States interested in radio technique solely with a personal aim to conduct certain experiments on their own behalf which required radio transmissions for a limited time. In some respects this class of station resembles the type of authorizations previously issued in the amateur radio service. In accordance with the Commission's Memorandum Opinion of July 7, 1942, no additional authorizations for this class of station are being authorized under present conditions.



CHAPTER VII

RADIO OPERATORS

1. General
2. Commercial Operators
3. Amateur Operators

1. General

The extraordinary role played by radio in this war created a scarcity of operators at the very outset. To meet the emergency, many courses were conducted by commercial radio schools, Civilian Defense organizations, public educational systems and other groups. The Commission, which is charged with the responsibility of examining and licensing all operators of non-government stations, issued several orders somewhat relaxing its requirements.

Despite these emergency measures, a substantial shortage of licensed operators continued throughout the year.

The large number of trainees prepared in the wartime classes greatly increased the number of applicants examined by the Field Division of the Engineering Department during the past fiscal year.

The Commission prescribes the qualifications of both commercial and amateur operators, classifies them, fixes the form of licenses, examines applicants and issues licenses to those who qualify.

The Communications Act authorizes issuance of radio licenses only to citizens of the United States. By its Order No. 75 issued in 1940, the Commission requires each licensed radio operator and each applicant for new or renewed license to file a standard questionnaire under oath, fingerprint card and documentary evidence to prove United States citizenship. On April 27, 1943, the Commission, by Order No. 75-C, authorized a formal inquiry into any pertinent phase of the applicant's or licensee's qualifications to hold an operator license under wartime conditions demanding loyalty and integrity. Under this order, all licensed radio operators and

every person who applies for a radio operator license must furnish such additional information bearing upon his qualifications as the Commission may request. Revised applications for radio operator license require the submission of information bearing upon any criminal record of convictions.

Approximately 238,800 responses had been received and analyzed as of June 30, 1943, since the adoption of Order No. 75, the number for the fiscal year being 56,800.

Similar information had been obtained from a total of 58,765 communications company employes, the number for the year being 13,000.

The former requirement of an oath on application forms for operator licenses was eliminated during the year as a result of the broad provisions of Section 35 (A) of the United States Criminal Code making it an offense punishable by fine and/or imprisonment to make a false statement or representation to any government department or agency as to any matter within its jurisdiction. As a precautionary measure, a caveat is conspicuously printed on the revised forms directing the applicant's attention to the criminal penalties of Section 35 (A) of the Code.

As a result of the more stringent requirements as to evidence of citizenship, numerous licenses were surrendered and cancelled; more were allowed to lapse. Possibly the most important result has been a deterrent effect on applications by improper persons. No measure of this is available, but numerous operators already licensed apparently attempted to evade the requirement by simply ignoring it. Where this has been clearly established, the license has been suspended. Special attention was given persons whose birth or antecedents connected them with Axis countries. Occasionally these led to field investigation that disclosed the location of a short-wave transmitter on premises of an alien, contrary to application statements, in which event licenses were suspended or revoked. Several thousand of the fingerprint cards served to disclose previous records and the Commission has supplemented its requirements to be in a position to consider individual cases.

The information used primarily in passing upon applications for operator license has been useful in connection with other aspects of the Commission's work and the check on the citizenship of thousands of individuals has entailed extensive cooperation with numerous other agencies.

2. Commercial Operators

A total of 76,210 applicants for commercial operator licenses were examined during the year, with 61,714 qualifying. Of the 68,992 applicants for radiotelephone licenses, 56,761 passed the tests, while of the 7,218 applicants for radiotelegraph licenses, 4,953 qualified.

It is estimated that at the close of the fiscal year, 150,000 individuals held valid commercial licenses, including 125,000 restricted radiotelephone permits, 18,000 Class I and Class II radiotelephone licenses and 12,000 radiotelegraph licenses.

Because of the shortage of radiotelephone first-class operators normally required for broadcast station operation certain regulations of the Commission were modified to permit the operation of such stations by operators holding lower class licenses. Commission Orders 91, 91-A and 91-B adopted during the previous fiscal year had relaxed the operator rules pertaining to broadcast stations and had permitted many stations in dire need of operating personnel to continue operation.

Further manpower shortages during the past year, however, required additional relaxation of the operator rules on a temporary basis. Consequently, Order 91-C, superseding the aforementioned orders by extending the relaxations which they provided, was adopted by the Commission on January 19, 1943. The latter order permits the operation of broadcast stations of 1000 watts or less by holders of restricted radiotelephone operator permits endorsed by the Commission to confirm the individual operator's ability to operate satisfactorily the particular broadcast station at which he is employed. An appropriate certification by the first-class radiotelephone operator in charge of the station, attesting to this ability of the permittee, is the principle requirement upon which such endorsement depends. Under the terms of this special operating authority the permittee operator is allowed to make only minor routine adjustments and if an equipment failure occurs when the higher grade operator is not available, he must immediately shut down the station until the first-class operator arrives. The operation of broadcast stations in accordance with these temporary regulations permits their continued activity during the war under technical supervision sufficient reasonably to safeguard valuable equipment and to assure operation in accordance with the terms of the station licenses.

At the close of the year a study was in progress to determine whether temporary relaxation of the operator rules was necessary or

desirable in regard to coastal, emergency and other radio communication services under jurisdiction of the Commission.

The adoption of Order 77-B on December 8, 1942, continued in effect the Commission's policy of renewing radio operator licenses without a showing of operating service under the license, as is normally required. Thus, many holders of operator licenses who are engaged in radio work essential to the war effort which, however, does not require them actually to be licensed, are permitted to maintain their availability as licensed operators. Likewise, renewal licenses may be obtained upon proper application by radio operators who have entered the military or naval service in large numbers and who cannot comply with the rules of the Commission with respect to the normally required showing of operating service under conditions requiring them to hold a license.

The Congress has authorized the Commission to waive the provisions of Section 353(b) of the Communications Act in regard to the employment of experienced radio operators on board ocean-going vessels which, under the law, are compelled to have adequate radio installations. Having found a shortage of radiotelegraph operators who possess the stipulated six months previous experience as a qualified operation in a station on board a ship or ships of the United States, the Commission waived, by its Order 83-D adopted June 29, 1943, the six months experience requirement for the period July 1, 1943, to December 31, 1943. Order No. 83-D continues the substance of Order 83, adopted December 16, 1941, when the shortage of experienced operators first developed with the rapid expansion of the American Merchant Marine. Subsequent Orders 83-A, 83-B and 83-C were progressively issued for periods of six months each, inasmuch as the supply of experienced operators for ships had substantially decreased due to other war requirements.

An unusually large number of operators were initially licensed during the fiscal year. Many persons obtained restricted radiotelephone operator permits to operate Civil Air Patrol, Civilian Defense and State Guard stations, and various classes of stations in the Emergency Service. Under present conditions, the Commission permits persons selected for operating stations in these services to be examined for the restricted radiotelephone operator permit by mail under the supervision of local authorities instead of requiring the applicant to appear personally at one of the Commission's examining points. The Commission's standard operator examination questions were reviewed during the year and revised as necessary to keep pace with the advance of the radio art and changes in the Commission's rules and regulations.

3. Amateur Operators

On September 15, 1942, the Commission promulgated Order 87-B, which provided that no renewed or modified amateur station licenses would be issued until further order of the Commission, and permitted outstanding amateur station licenses to remain valid, unless revoked by specific order, until expiration. Inasmuch as the Commission has not permitted the operation of amateur stations since January 9, 1942, this action was taken to eliminate the work involved in the handling of thousands of applications which continued to be filed by amateurs requesting modification or renewal of their station licenses for the apparent purposes of maintaining their status and assigned call letters as amateur station licensees.

Nevertheless, amateurs have continued their interest in radio and allied subjects and have taken an active part in the war effort. Thousands of amateur operators have entered the military services of the nation, where the experience they gained as operators of amateur stations has proven invaluable. Amateurs holding operator licenses issued by the Commission have received special recognition by military authorities who endeavor to assign them to communication branches of the services, where their special qualifications are most useful.

It became evident during the past year that many amateurs were unable to apply for renewal of operator licenses because of circumstances beyond their control as a result of the war. Service overseas, employment in war industries away from home, and other reasons made it difficult or impossible for amateurs to comply with the Commission's license renewal requirements.

On May 25, 1943, the Commission therefore adopted Order 115, reinstating amateur radio operator licenses which by their terms expired during the period December 7, 1941 to May 25, 1943, inclusive, and which had not been renewed but were in good standing. This Order also extends the terms of these licenses for a period of three years from the date of their individually designated expiration dates. The order further provides that the license term of every amateur radio operator in good standing which expires within the period May 26, 1943 to December 7, 1944, is extended for a period of three years from the date of expiration designated in the license. Under these provisions of Order 115, continuity of the operator license status of amateurs, who otherwise could not maintain current amateur operator license privileges, is assured.

Amateurs in large numbers have affiliated with the various local civilian defense organizations and have aided in the

establishment of radio stations for this purpose in the relatively new War Emergency Radio Service. In the majority of cases such organizations have appointed licensed amateur operators to serve as the "radio aides" required by regulations of the Commission. The appointment of many amateurs to assume the responsibilities of "radio aide" in this work indicates widespread recognition of technical qualifications and experience obtained through amateur station operation. At the close of the fiscal year the Commission's records indicated that 208 organizations operating stations in the War Emergency Radio Service, where the total number of such organizations was 259, had given the position of "radio aide" to amateur operators.

The urgent need for radio equipment for use in the War Emergency Radio Service challenged amateurs, among others, to cope with the problems of supplying equipment without the assistance of government priority authorizations. Through skill, ingenuity, and determination, amateurs have constructed innumerable stations from scrap and rejected materials and miscellaneous parts from discarded radio receivers, and in many instances have donated or loaned equipment formerly operated in their amateur stations.

Operating conditions in the short-distance radio frequency band 112 to 116 megacycles, which is utilized on a temporary basis by stations in the War Emergency Radio Service, are familiar to amateur operators, inasmuch as all frequencies within this band are allocated to the amateur service by the Commission's rules, and prior to the war were utilized in connection with widespread amateur station activity.

During the year the Commission continued to examine applicants for new amateur operator licenses. Many persons obtained amateur operator licenses in order to become familiar with the Commission's examining procedure preparatory to taking the technical examination given for a commercial radio operator license. Other persons about to enter military service obtained amateur operator licenses as evidence of certain technical qualifications which receive consideration by the military services, in the placement of personnel.

More than 16,000 applications were received during the year for new amateur licenses, renewals and modifications.

CHAPTER VIII

TECHNICAL STUDIES

1. General

The Technical Information Division advises on scientific and advanced engineering phases of all forms of radio and wire communications, assists in the preparation of plans for the gathering of scientific data, maintains contact with commercial and government research organizations, makes special studies and renders reports as required on wave propagation and new developments in the art to the Commission, the Board of War Communications and other agencies of the Government engaged in war work. In conformance with the policy announced in the Eighth Annual Report, all work considered as routine and not essential to the winning of the war was curtailed, wherever possible, in order that full time might be given to problems bearing directly on the war effort.

2. Technical Committees

Personnel of the Division also serves on various committees within the Commission, such as the Diathermy Registration Committee, Technical Apparatus Committee, Committee on Allocation, etc. A considerable portion of the committee work of the Commission's staff, principally that performed in preparation for international conferences, agreements or treaties, has been suspended, the facilities for such work being no longer in existence. The staff has, however, served on many important technical committees throughout the year, principally in connection with the work of the Institute of Radio Engineers. During the present year the Chief of the Division was elected President of the Institute without opposition. In his capacity as President of the Institute,

the Chief of the Division has been instrumental in bringing about the organization of the Radio Technical Planning Board, or RTPB. This is a post war planning board organized jointly by professional radio engineers, manufacturers, and others. The RTPB is entirely independent of the Commission and the Chief of the Division will take no part in the actual organization and decisions of the RTPB.

3. Ground Waves

Ground waves are responsible for the primary service areas of both standard broadcast stations operating on the lower frequencies and of high-frequency broadcast and television broadcast stations operating on the ultra-high frequencies. The study of ground wave propagation has been curtailed completely during the latter part of the year. Early in the year, monographs were prepared which make possible rapid calculation of radio wave propagation over distance ranges of 200 miles for frequencies between 20-500 megacycles and antenna heights ranging from 30 to 1000 feet. These are widely used by the armed services.

4. Ionospheric Waves

In 1938 a project was instituted for the recording of ionospheric waves, or sky waves, which contemplated the continuous 24 hour recording for an eleven-year period of field strengths of standard broadcast stations and of noise in that part of the frequency spectrum. Any interruption of the program would greatly decrease the value of the four years of records already taken. In addition, statistical analysis of the data so far obtained has been found of great value in connection with wartime communication problems. Accordingly, it has been continued, but wherever it has been determined that the value of records would not be affected appreciably in the final statistical analysis, recording schedules were modified so as to require a minimum of supervision by field personnel.

5. Tropospheric Waves

The study of tropospheric waves is important in connection with the assignment of frequencies for the rapidly growing commercial and government radio services operating in the very-high-frequency regions of the spectrum. Tropospheric wave propagation is dependent on the weather, and experimental investigation of its behavior requires field intensity recordings of relatively few stations and over a shorter period of time - only one year or two - as compared to the eleven-year period required for ionospheric

waves. Some recordings of tropospheric waves were begun from a location in Washington during the early part of 1942. The arrangements proved unsatisfactory because of interference to reception caused by diathermy machines at this location. Equipment is now installed at the Commission's monitoring station at Laurel, Md., and has been recording continuously on four ultra-high-frequency broadcast stations since February, 1943.

The recordings have shown certain unexpected results with regard to radio propagation over distances of several hundred miles. These results indicated the necessity for a rapid expansion of the program in order to record simultaneously at several points throughout the eastern and central parts of the United States. Additional equipment is now being installed at the Commission's monitoring stations at Allegan, Mich.; Atlanta, Ga.; Grand Island, Neb., and Portland, Ore. When completed, there will be a total of fifteen recorders at the five monitoring stations. The expansion of this program has been accomplished without the purchase of any new equipment. Some of the equipment was obtained on a loan basis from radio station owners, consulting engineers, and others; and some was obtained by transferring it from other recording projects of less urgency. The reason for the expanding program at this time, in spite of the accent on war efforts, is the fact that this recording program will be impossible when several radio stations are assigned and are operating simultaneously on each frequency, as will be the case during the post war expansion.

CHAPTER IX

STATISTICS

1. Common Carrier Statistics

Reports of Carriers

Common carriers and controlling companies filed 218 reports for the calendar year 1942, including 133 telephone carriers, 38 wire-telegraph, ocean-cable and radiotelegraph carriers, and 47 holding companies. Reports pertaining to traffic damage claims paid were filed by 37 wire-telegraph, ocean-cable and radiotelegraph carriers in addition to the foregoing. Data pertaining to the communications industry are shown in the yearbook published annually entitled "Statistics of the Communications Industry in the United States". Certain selected statistical data relating to large common carriers for the years ended December 31, 1942, and 1941, are presented in the following tables:

Telephone Carriers

Item	1942	1941	Percent Increase or Decrease
Investment in plant and equipment	$5,652,506,023	$5,393,579,802	4.80 /
Depreciation and amortization reserves	1,649,187,666	1,526,682,183	8.02 /
Net investment in plant and equipment	4,003,318,357	3,866,897,619	3.53 /
Local service revenues	956,407,209	902,430,445	5.98 /
Toll service revenues	557,255,266	435,466,402	27.97 /
Total operating revenues 1/	1,590,312,393	1,407,761,066	12.97 /
Operating expenses 1/	1,021,818,170	918,194,439	11.29 /
Taxes, including income and excess profits	337,285,766	243,581,162	38.47 /
Net operating income after all taxes	231,208,757	245,985,765	6.01 -
Net income	178,012,225	209,211,000	14.91 -
Dividends paid	182,193,395	183,758,960	0.85 -
Company telephones:			
Business	7,669,677	7,613,967	0.73 /
Residential	14,071,664	12,857,584	9.44 /
Average number of calls originating per month:			
Local	3,227,608,668	3,095,457,129	4.27 /
Toll	103,560,468	92,203,482	12.32 /
Number of employees at end of year	359,941	345,439	4.20 /
Male	112,534	130,240	13.60 -
Female	247,407	215,199	14.97 /
Total payroll for the year	670,787,483	603,410,323	11.17 /

1/ Intercompany general service and license fees and rents amounting to approximately $35,000,000 for 1942 and $32,000,000 in 1941, have not been eliminated.

Wiretelegraph and Ocean-Cable Carriers

Item	1942	1941	Percentage Increase or Decrease
Investment in plant and equipment	$489,767,605	$486,844,562	0.60 +
Depreciation and amortization reserves	188,606,221	180,056,404	4.75 +
Net investment in plant and equipment	$301,161,384	306,788,158	1.84 -
Domestic service revenues	135,105,313	119,669,958	12.90 +
Foreign service revenues	21,312,581	18,259,540	16.72 +
Total operating revenues	167,764,531	149,315,654	12.36 +
Operating expenses	139,539,005	125,927,627	10.81 +
Taxes, including income and excess profits	14,179,339	11,061,137	28.19 +
Net operating income after all taxes	13,502,246	11,838,086	14.06 +
Net income	6,858,934	6,111,860	12.22 +
Dividends declared	2,157,217	2,810,643	23.25 -
Revenue messages transmitted:			
Domestic	224,002,294	211,858,194	5.73 +
Foreign	7,768,017	7,285,072	6.63 +
Number of employees at end of year	69,010	74,298	7.12 -
Total payroll for the year	100,055,705	90,942,052	10.02 +

Radiotelegraph Carriers

Item	1942	1941	Percent Increase or Decrease
Investment in plant and equipment	$28,342,793	$30,314,488	6.51 -
Depreciation and amortization reserves	15,900,204	16,682,606	4.69 -
Net investment in plant and equipment	$12,442,589	$13,631,882	8.73 -
Continental and insular fixed revenues	1,671,964	2,271,042	26.38 -
Foreign fixed service revenues	7,649,898	10,723,945	28.67 -
Marine service revenues	36,978	613,456	93.97 -
Total operating revenues	12,605,322	15,725,900	19.84 -
Operating expenses, depreciation, and other operating revenue deductions	10,192,434	12,171,409	16.26 -
Net operating revenues	2,412,888	3,554,491	32.12 -
Income and excess profits taxes	2,906,025	1,884,302	54.22 +
Net income	707,832	1,645,940	57.00 -
Dividends declared	2,069,480	2,452,050	15.60 -
Revenue messages transmitted:			
Continential and insular fixed	1,466,775	2,447,923	40.08 -
Foreign fixed	3,529,317	6,094,816	42.09 -
Marine	11,743	534,540	97.80 -
Number of employees at end of year	2,887	3,852	25.05 -
Total payroll for the year	6,992,851	7,133,569	1.97 -

2. Broadcast Financial Data

The sale of station time by networks and standard broadcast stations in the United States amounted to $190,147,052 during the calendar year 1942, as compared to $178,091,043 for the year 1941 according to reports filed with the Commission by four major networks, six regional networks and 851 standard broadcast stations. Commissions paid on these sales were $26,504,107 for 1942 and $24,501,946 in 1941. In addition to the revenues from the sale of time, these same networks and stations reported revenues from incidental broadcast activities amounting to $15,196,554, an increase of $6,219 over that reported for the previous year. This over-all increase was accompanied by a large increase in operating expenses leaving a broadcast service income (revenues less expenses but before taxes on income) amounting to $44,632,238 or $206,788 less than the amount reported for the year 1941.

The four major networks (CBS, Mutual, Blue and NBC) reported combined standard broadcast time sales amounting to $84,383,571 for the year or approximately six percent over 1941. They paid to standard broadcast stations under contract and to other networks $28,458,865 as compared with $25,651,249 for the previous year. The combined net income of the four major networks and their stations (including other than standard stations) amounted to $16,195,903 before Federal income and excess profits taxes. After provisions for Federal income and excess profits taxes, the combined net income amounted to $7,296,253 as compared with $8,642,279 for the preceding calendar year.

The revenues received from non-network business, including time sold to national, regional and local users by the 851 standard broadcast stations amounted to $104,958,075, an increase of $7,578,465, or approximately eight percent over the amount of such sales reported by 817 stations for the previous year. Of these non-network time sales for 1942, $12,270,741 was reported by 32 standard stations owned by or operated for the networks, and $92,687,334 by 819 stations not so owned or operated. The broadcast service income (revenues less expenses) of these 819 standard broadcast stations amounted to $27,675,476, an increase of $619,314, or approximately two percent over the amount reported by 784 such stations for 1941.

There were 194 standard broadcast stations reporting broadcast service deficits, or approximately 22.8% of all the stations which submitted reports for 1942. This compares to 177 in 1941, or approximately 21.7% of all stations reporting for that year. The 194 stations showing defecits reported total broadcast revenues of $8,425,428, total expenses of $9,764,871, and lost in the aggregate $1,339,443.

There were 29,588 persons employed by the four major and six regional networks and 851 standard broadcast stations as of December 31, 1942, with a total pay roll for the year of $72,011,233. For 1941, the three major and seven regional networks and 817 standard broadcast stations reported total pay roll of $66,706,897 and 29,625 employees at the end of the year.

3. Broadcast Statistics

NUMBER OF STATIONS IN BROADCAST SERVICE
FOR FISCAL YEAR ENDING JUNE 30, 1942 and 1943

Class of Station	As of June 30 1942	New	Licenses or CP's surrendered or abandoned	As of June 30 1943
Standard Broadcast.....	925	1	14	912
High Frequency Broadcast (Exp.).	13	0	9	4
High Frequency Broadcast (Temporary Class II Experimental).	0	5	0	5
High Frequency Broadcast (FM)....	61	3	16	48
Low Frequency Relay.....	248	4	3	249
High Frequency Relay.....	275	33	8	300
Television (Experimental).....	36	0	8	28
Television (Commercial).....	10	0	2	8
International.....	14	2	0	16
Developmental.....	8	0	4	4
ST.....	10	1	1	10
Facsimile.....	4	0	1	3
Non-Commercial Educational.....	8	0	1	7
Class II (Experimental).....	2	0	1	1
	1614	49	68	1595

BROADCAST APPLICATIONS

Service	Applications Received	Authorizations Issued	Special Authorizations
Standard Broadcast.....	2255	3019	252
Relay Broadcast.....	336	373	43
International Broadcast.....	98	41	83
Television Broadcast (Commercial)	36	21	8
Television Broadcast (Experimental)	83	59	28
Facsimile Broadcast.....	1	13	0
High Frequency Broadcast (Exp.)...	71	24	73
High Frequency Broadcast (FM).....	322	145	143
High Frequency Broadcast (Temporary Class II Experimental).....	5	5	0
Non-Commercial Educational Broadcast	22	15	3
Developmental Broadcast.....	11	14	1
ST (Studio-Transmitter) Broadcast..	40	31	19
Class II Broadcast (Experimental)..	1	1	0
Totals.....	3281	3761	653

NOTE - Figures include formal and informal applications for broadcast stations. The applications consist of construction permits, modification of construction permits, licenses, modification of licenses, renewal of licenses, determination of operating power by direct method, installation of equipment, assignment of license and/or construction permit, special experimental or service authorizations, transfer of control of license corporation, etc.

NEW STATIONS AUTHORIZED

Call Letters	Licensee and Location	Power	Frequency (kc)	Time Designation
KTKN	Edwin A. Kraft Ketchikan, Alaska	1 kilowatt	930	Unlimited

4. Other Radio Service Statistics
For Fiscal Year Ending June 30, 1943

Service	Applications Received	Authorizations Issued	New Stations Authorized	Total Stations June 30/43
AVIATION				
Aeronautical	620	614	20	361
Aeronautical Fixed	267	287	3	136
Aero. & Aero.Fixed	56	51	6	0
Aircraft	6580	4411	1798	2795
Airport Control	78	91	5	22
Flying School	13	38	2	12
Flight Test	37	33	7	12
Sub-Total	7651	5525	1841	3338

Service	Applications Received	Authorizations Issued	New stations Authorized	Total stations June 30, 1943
SHIP	7100	6303	1398	6091
EMERGENCY				
Municipal Police	2177	1271	152	1708
State Police	532	344	93	431
Zone Police	36	23	4	94
Interzone Police	7	4	0	30
Forestry	251	134	16	837
Special Emergency	765	649	48	448
Marine Fire	13	6	1	10
Sub-Total	3781	2431	314	3558
WAR EMERGENCY RADIO SERVICE				
Civilian Defense	600	325	202	202
State Guard	56	11	8	8
Civil Air Patrol	5	2	4	4
Sub-Total	661	338	214	214
EXPERIMENTAL				
Class 1	537	529	90	288
Class 2	256	247	30	161
Sub-Total	793	776	120	449
MISCELLANEOUS				
Geological	427	395	35	325
Motion Picture	16	10	0	10
Provisional	84	69	32	36
Mobile Press	2	3	0	3
Relay Press	5	5	0	5
Sub-Total	534	482	67	379
PT. TO PT. TELEGRAPH				
Public	360	336	16**	37
Press	95	74	2**	6
Agriculture	7	7	0	7
Sub-Total	462	417	18**	50
PT. TO PT. TELEPHONE				
Public	91	89	8**	16
U.S. COASTAL				
Coastal Telegraph	74	57	0	26
Coastal Harbor	81	80	0	35
Marine Relay	55	35	0	15
Coastal Telephone	6	4	0	4
Coastal Harbor (Ltd.)	0	0	0	2
Coastal Telegraph (Ltd.)	0	0	0	3
Sub-Total	216	176	0	85

Service	Applications Received	Authorizations Issued	New stations Authorized	Total stations June 30, 1943
ALASKAN SERVICES				
Aviation	428	401	3*	215
Fixed Public	342	326	20	275
Coastal	184	181	4	158
Experimental	8	6	0	4
Sub-Total	962	914	27	652
Grand Total -	22,251	17,451	4,007	14,832
WIRE CERTIFICATES				
Telephone	66	49		
Telegraph	209	211		
	275	260		

* The count for new stations authorized for Alaskan Aircraft is included figure for U.S.

** Figures represent call letters assigned for frequencies at additional locations. A total of five new point to point stations were authorized.

5. Engineering Field Statistics

Ship Inspections - The nation's huge ship-building program sharply increased the number of initial ship inspections made by the Field Staff during the past fiscal year. The total for the year was 2077 as compared with 1290 the previous year.

The total for all types of ship inspections was 8110. Of these, 6069 were U.S. vessels and 2041 vessels of foreign registry. As a result of these inspections, 5942 violation notices were served and 2773 violations were cleared.

Other Inspections - A total of 5267 inspections of other stations were completed, including 3604 radiotelegraph stations, 199 radiotelephone stations and 1464 broadcast stations. A total of 839 violation notices were served as a result of these inspections.

Examinations - Applicants examined for operator licenses (exclusive of Class "C" Amateur) totalled 81,003. Of these, 76,210 were applicants for commercial licenses, including 68,992 radiotelephone and 7218 radiotelegraph licenses. Applicants for Class "A" Amateur radio operator licenses totalled 4793. As a result of the examinations, 61,714 Commercial operator licenses were issued - 56,761 telephone and 4953 telegraph.

Frequency Measurements - Measurements were made in the three classes of frequencies as follows: 12,878 radiotelegraph, 1211 radiotelephone and 4823 broadcast, totalling 18,912. These measurements developed

540 violation notices, 139 reports of deviation beyond tolerance and 13 notices of harmonics. In addition 452 special monitoring assignments were completed.

Investigations - Routine investigations numbered 724. Of these 123 were broadcast, 223 electric and power and 378 miscellaneous. At the close of the fiscal year, nine cases remained unclosed.

6. Publications

Following is a list of Federal Communications Commission publications of general interest available at the Government Printing Office, Superintendent of Documents, Washington, D.C.

Title	Price
Communications Act of 1934 with Amendments and Index thereto.....	$0.15
Federal Communications Commission Reports (Bound volumes of decisions and orders, exclusive of annual reports).....	
Volume 1 - July, 1934, July 1935	1.00
Volume 2 - July 1935, June 1936.....	2.00
Volume 3 - July 1936, February 1937.....	2.00
Volume 4 - March 1937, November 15, 1937.	1.50
Volume 5 - November 16, 1937, June 30, 1938	1.50
Volume 6 - July 1, 1938, February 28, 1939.	1.50
Volume 7 - March 1, 1939, February 29, 1940	1.50
Volume 8 - March 1, 1940, August 1, 1941...	1.50
Annual Reports of the Commission:	
First Annual Report - Fiscal Year 1935...	.15
Third Annual Report - Fiscal Year 1937...	.30
Fifth Annual Report - Fiscal Year 1939...	.30
Sixth Annual Report - Fiscal Year 1940...	.20
Seventh Annual Report - Fiscal Year 1941.	.10
Study Guide and Reference Material for Commercial Radio Operator Examinations.....	.15
Standards of Good Engineering Practice Concerning Standard Broadcast Stations (550-1600 kc)...	.30

Title	Price
Statistics of the Communications Industry in the United States (1939)	$0.25
Statistics of the Communications Industry in the United States (1940)	.20
Statistics of the Communications Industry in the United States (1941)	.30
Report on Chain Broadcasting	.30
Rules and Regulations of the Federal Communications Commission:	
Part 1, Practice and Procedure	.10
Part 2, General Rules and Regulations	.10
Part 3, Rules Governing Standard Broadcast Stations	.10
Part 4, Rules Governing Broadcast Services (Other than Standard Broadcast)	.10
Part 5, Experimental Rules	.05
Part 6, Rules Governing Fixed Public Radio Services	.05
Part 7, Rules Governing Coastal and Marine Relay Services	--
Part 8, Ship Rules	.15
Part 9, Aviation Radio Services	.05
Part 10, Rules Governing Emergency Radio Services	.10
Part 11, Rules Governing Miscellaneous Radio Services	.05
Part 12, Rules Governing Amateur Radio: Stations and Operators	.10
Part 13, Rules Governing Commercial Radio Operators	.05
Part 14, Rules Governing Radio Stations in Alaska (Other than Amateur and Broadcast)	.05
Part 15, Rules and Regulations Governing All Radio Stations in the War Emergency Radio Service	.10
Parts 31 and 32, Uniform System of Accounts Class A and Class B Telephone Companies, Units of Property Class A and Class B Telephone Companies (1 pamphlet)	.15
Part 33, Accounting by Class C Telephone Companies	.15
Part 34, Uniform System of Accounts, Radio Telegraph Carriers	.25

Title	Price
Part 35, Uniform System of Accounts for Telegraph and Cable Companies	$0.35
Part 41, Rules Governing Telegraph and Telephone Franks	.05
Part 42, Rules Governing the Preservation of Records	.10
Part 43, Rules Governing the Filing of Information, Contracts, etc., of Telecommunications Carriers	.05
Part 61, Tariffs - Rules Governing the Construction, Filing and Posting of Schedules of Charges for Interstate and Foreign Communications Service	.10
Part 62, Rules Governing Application Under Sec. 212 of the Act to Hold Interlocking Directorates	.05
Federal Communications Commission Report on Social and Economic Data, Pursuant to Informal Hearing etc., July 1, 1937	.60
Federal Communications Commission - Proposed Report Telephone Investigation (Pursuant to Public Resolution No. 8, 74th Congress)	1.00

In addition, the following are available without charge from the Federal Communications Commission:

An ABC of the FCC - (1940)
Radio - A Public Primer (1941)
Information Regarding Ship and Coastal Harbor Radiotelephone Service (1941)

Summary of Monthly Reports of Large Telephone Carriers in the United States.

Summary of Monthly Reports of Wiretelegraph, Ocean-Cable, and Radiotelegraph carriers.

Salary Report of Telephone and Telegraph Carriers and Holding Companies (1941).

Telephone Hand-set Charges and Changes since January 1, 1942.

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