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NO. 6

PROGRESS OF AVIATION IN ALASKA

The Development of Alaskan Air Transportation and the Authority's Construction Program¹

The airplane enjoys peculiar advantages as a means of transportation in Alaska, and in a dozen years has almost completely replaced the primitive dog teams which were largely used for transportation in the interior.

The Territory has an area of approximately 586,000 square miles, roughly one-fifth the area of the United States. Its 60,000 inhabitants, of whom half

are Eskimos and Indians, are sparsely scattered, with only about seven towns of 1,000 or more population. Natural resources are abundant, but prior to the advent of aircraft were most difficult of access.

Flying in Alaska began about 1922 when several individuals operated charter services with a view to meeting the special needs of prospecting, mining, fur, and fishing interests. This remains one of the most profitable sources of revenue for aircraft operators.

In the same year the first experiments in transporting mail by air in the Territory were conducted. The results were most satisfactory, and the airplane began to replace the dog teams largely used in carrying the mail under the star route contracts let by the Post Office Department. Many of the routes now held by operators cannot be covered, in part at least, in any other manner.

The revolutionary change brought about in Alaskan communications by the airplane can best be visualized by means of a concrete example of its importance as a saver of time and money. To travel from Fairbanks to Nome, a trail distance of 700 miles, requires from 30 to 40 days by dog team, while the airline is 550 miles and takes less than 5 hours. And although air transportation costs for obvious reasons are very high they are considerably less than dog team costs per passenger mile, to say nothing of the advantages of time saved and greater comfort.

Swift transportation in emergencies is also provided. Hundreds of sick and injured who might otherwise have died have been flown to places where appropriate treatment restored them to

¹ A report by Marshall C. Hoppin, superintendent of airways for the Civil Aeronautics Authority in the Territory of Alaska.

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NOTICE TO SUBSCRIBERS

Original subscribers to the old Air Commerce Bulletin whose names were carried over to the JOURNAL list when the Bulletin ceased publication last December are reminded that this is the last issue of the JOURNAL they will receive under their present subscriptions.

Subscribers to the bulletin are retained on the JOURNAL list until they receive 12 issues of the combination of the two publications. Thus subscriptions starting with the July 1939 issue of the bulletin end with this issue of the JOURNAL; subscriptions starting with the August 1939 bulletin will end with the April 1 JOURNAL; September 1939 with the April 15 issue, etc.

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Alaska

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health. The city of Nome was once saved from a threatening epidemic when an urgently needed serum was brought in by air.

Special Operating Problems

Experience has shown that conventional cabin planes of medium size are generally most suited to the unusual conditions encountered in Alaska. Virtually all of them are "beefed up" (reinforced structurally) to withstand much greater shocks and loads than is likely to be encountered by a plane used in normal operations. Landing gear must be exceedingly sturdy since loads are likely to be excessive and landing facilities much less than adequate. Skis are used in winter and pontoons in summer. Wheels are used on relatively few planes.

The low temperatures necessitate special engine cowl features, such as protective plates between the cylinders and in front of the carburetor, and heavy covers for the oil tank and lines. The carburetor air scoop is reversed so as to open to the rear and the carburetor and cabin are heated from the motor. It is sometimes necessary to reduce the propeller pitch because of the greater atmospheric pressure.

A number of the planes now carry two-way radio equipment. For cross-country flights in winter, however, the Alaskan pilot must be supplied with a motor tent, heating stove for warming up the motor under the tent, cans for draining oil, a complete set of emergency tools, and a kit of repair materials. Equipment should also contain a rifle, ax, matches in a sealed container, concentrated foods, snowshoes, and sleeping bags for each passenger, and some sig-

Air Safety Board Accident Analyses

Disregard of Regulations Against Passenger Carrying by Novice Pilots in 4 of 17 Fatal Accidents Reported

Inexperienced student or solo pilots, flying contrary to the Civil Air Regulations which forbid them to carry passengers, brought death to themselves and fatal or serious injury to their companions in 4 of the 65 aircraft accidents which were analyzed and reported on by the Air Safety Board to the Civil Aeronautics Authority during the month of January. These accidents, which occurred over a period of several preceding months, included 63 non-air-line accidents, of which 17 were fatal, and 2 air-line accidents, both of which were of a minor nature involving no injuries.

Approximately 47 percent of the accidents reported on, involved pilots with less than 200 hours flying experience, and in about 25 percent of the

cases the actions of the pilots indicated inadequate basic training. These conditions should improve, according to Chairman Tom Hardin of the Air Safety Board, as soon as the industry has had time to feel the full effect of the instructor recertification program started last year and the standardized instruction procedure introduced by the Authority in its Civilian Pilot Training Program. At the same time, however, Mr. Hardin pointed out that the public should be discreet in selecting a pilot with whom to fly, insisting on seeing his pilot's certificate when in doubt as to his ability. Similar to the findings contained in some of the current reports, investigation of accidents occurring during

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AIRCRAFT OPERATIONS IN ALASKA FOR THE FISCAL YEARS 1930-39¹

Year ending June 30	Planes in service	Miles flown	Passenger-miles	Freight		Mail
				Pounds	Pounds	
1930	24	338,422	684,261	103,034	17,690	
1931	26	381,234	947,695	161,718		
1932	31	742,854	942,176	2496,680		
1933	42	1,059,155	1,222,510	634,016	151,570	
1934	56	1,126,610	1,533,311	869,398	124,972	
1935	73	1,685,654	2,148,692	1,496,917	225,840	
1936	79	2,130,929	3,035,018	2,138,886	279,730	
1937	102	2,209,206	4,021,798	2,947,726	264,201	
1938	155	2,829,258	5,634,461	3,415,759	342,736	
1939	175	3,232,931	5,260,524	4,174,551	544,847	

¹From statistical compilation prepared by the Alaskan Aeronautics and Communications Commission.
²Mail and freight combined.

naling device. The foregoing items necessitate a substantial reduction in pay load.

In subzero operations, skis must be promptly placed on something to prevent their freezing to the snow, oil quickly drained and stored, and the engine properly covered. Starting may require from 1 to 2 hours, for the motor and oil have to be heated and the plane cleared of any snow or ice.

Pilots and mechanics must be familiar with ski construction, repair, and installation; maintenance, repair, and rigging of floats and anticorrosion preparation of planes for float work; preparation and maintenance of engines for cold-weather operation, and much other diversified knowledge obtainable for the most part only by experience.

Operations Statistics

The growth of aviation in Alaska has been rapid and steady since 1929. In that year there were only 7 licensed pilots in Alaska, and only 12 planes were recorded. By last year, the number of planes had increased to 175. During the year ended June 30, 1939, these planes flew 3,232,931 miles, carried 29,699 passengers (5,260,524 passenger-miles), 4,174,551 pounds of freight, and 544,874 pounds of mail. There were 31

(Continued on page 88)

AIR TRANSPORTATION

STATISTICAL SUMMARY

See charts on facing page →

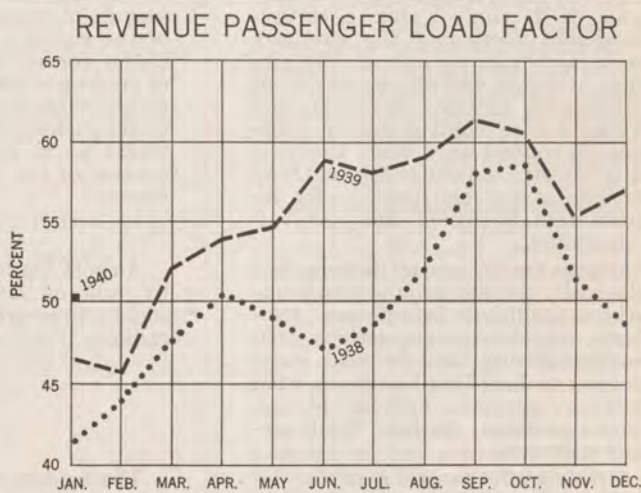
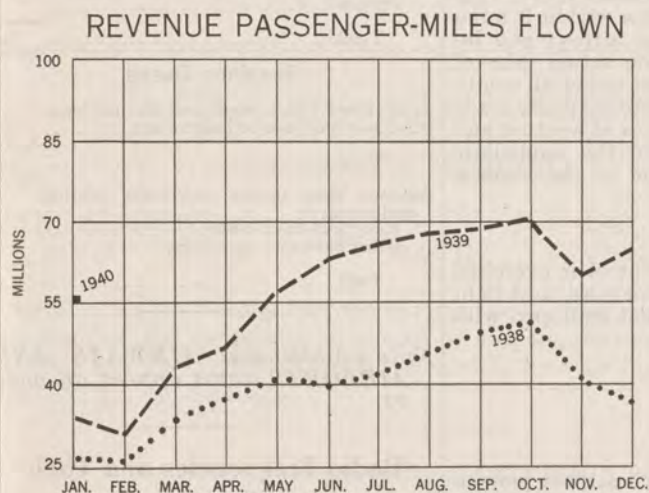
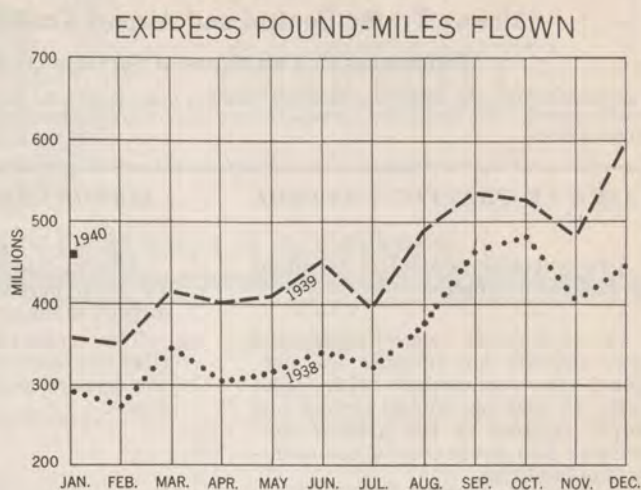
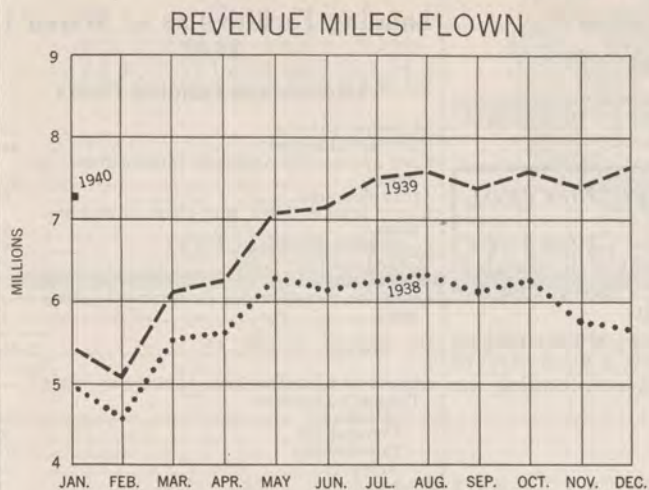
● Foretelling another record year for scheduled air transportation, the January 1940 traffic statistics compiled by the Authority from the reports of the 17 domestic air lines showed the heaviest volume of business ever recorded for the month of January.

● Although the normal seasonal downward trend from the December figures was apparent, substantial increases were evident in every category over January of last year. Compared with January 1939 revenue miles flown increased 33.34 percent; revenue passengers carried rose 69.62 percent; revenue passenger-miles flown, 60.22 percent; and express pound-miles flown 30.86 percent.

● The revenue passenger load factor of 50.14 percent showed a gratifying improvement over the same figure for January 1939, when 46.76 percent was recorded.

AIR TRANSPORTATION

Domestic Air Carrier Traffic Statistics for 1938, 1939, and January 1940



Domestic Air Carrier Traffic Statistics for January 1940

Operator	Revenue miles flown		Revenue passengers carried		Revenue passenger-miles flown		Express pound-miles flown		Revenue passenger load factor (percent)	
	January 1940	Percent change over 1939	January 1940	Percent change over 1939	January 1940	Percent change over 1939	January 1940	Percent change over 1939	January 1940	January 1939
American Airlines, Inc.	1,781,571	45.90	45,939	83.52	17,771,167	65.79	133,278,986	19.51	61.91	52.99
Boston-Maine Airways, Inc.	65,305	16.03	1,430	50.53	230,548	63.22	247,068	51.36	35.30	25.10
Braniff Airways, Inc.	290,232	19.13	5,652	48.97	1,858,153	50.02	9,745,436	9.65	49.21	52.67
Chicago & Southern Airlines, Inc.	137,258	37.64	1,598	47.01	663,684	50.47	4,030,746	24.36	61.18	43.91
Continental Air Lines, Inc.	85,248	59.86	657	217.39	201,401	163.19	396,085	63.85	34.59	23.92
Delta Air Corporation	125,527	10.02	2,430	41.53	605,634	16.10	1,625,008	-0.57	48.25	45.72
Eastern Air Lines, Inc.	1,102,526	41.72	22,025	50.33	11,439,878	49.55	72,134,785	33.85	56.04	56.98
Inland Air Lines, Inc.	71,028	-10.30	548	26.56	133,962	30.81	172,017	-4.04	18.86	12.93
Marquette Air Lines, Inc.	7,666	-47.31	31	-52.31	7,748	-60.01	0	-	16.84	13.34
Mid-Continent Airlines, Inc.	100,853	22.49	1,193	49.31	300,217	69.71	809,522	-2.36	29.77	24.96
National Airlines, Inc.	71,517	23.48	1,499	99.01	332,911	107.56	394,314	134.16	46.55	28.11
Northwest Airlines, Inc.	450,069	19.73	6,256	92.08	2,464,304	87.35	16,139,725	56.00	32.53	34.99
Pennsylvania Central Airlines Corporation	283,336	28.50	10,494	83.56	1,829,384	80.55	9,114,279	113.85	42.83	47.18
Transcontinental & Western Air, Inc.	1,024,280	50.52	14,806	85.63	6,922,935	64.57	64,171,232	59.88	40.78	37.22
United Air Lines Transport Corporation	1,503,237	26.75	19,133	60.11	9,724,867	58.73	138,853,100	26.50	47.88	47.16
Western Air Express Corporation	167,961	-9.66	2,076	43.27	729,709	32.30	12,532,945	31.64	35.56	24.38
Wilmington-Catalina Airlines, Ltd.	3,540	-4.84	515	1.58	15,450	1.58	223,740	-3.52	43.06	43.26
Total	7,271,154	33.34	136,282	69.62	55,231,952	60.22	463,898,988	30.86	50.14	46.76

AIRWAYS AND AIRPORTS

Airway Traffic Control and Airport Traffic Control Differences in Two Types of Services Outlined

[Considerable confusion seems to exist in the minds of many as to what constitutes airway and airport traffic control. The distinctions between the two types of services are clearly shown in the parallel columns below.]

AIRWAY TRAFFIC CONTROL

Airway traffic control is exercised by Federal personnel.

The centers are located on or near large airports not because the personnel are concerned with local traffic at that particular airport but simply because of the greater convenience and lower cost of communications facilities.

The airway traffic control center may exercise jurisdiction over any flying in its control area, a certain designated portion of the civil airways including, of course, the airspace over any and all airports lying within such airway. However, the airway traffic control center exercises its control only when the visibility is restricted and only over those portions of the air space under its jurisdiction in which the visibility is restricted.

Airway traffic control is exercised principally through ground communications facilities; interphone, telephone, or teletype connections with nearby agencies; and in some cases teletype or long-line telephone with outlying airports, Federal airway communications stations, and aircraft operators.

Airway traffic control is or may be continuous, while the aircraft is in flight on the portion of the civil airway under the jurisdiction of a center.

Airway traffic control personnel approve flight plans (issue traffic clearance).

AIRPORT TRAFFIC CONTROL

Airport traffic control is exercised by local personnel representing the airport management.

The control towers are located so that the operator has a good view of the airport and the surrounding air space.

Airport traffic control is confined for the most part to control over contact flight operations within 3 miles of the center of the airport and includes control of the actual take-off or landing of aircraft under all conditions, except for those take-offs made under such conditions of weather and traffic as to require the immediate control of the flight by the Federal agency.

Airport traffic control is exercised by radio on 278 kilocycles, and light signals to aircraft not equipped with radio.

The control which airport personnel exercises is much more immediate—short-lived—and in practically every case the result of visual observation of aircraft movements in the vicinity of the airport or on the airport.

Airport control towers are concerned with flight plans only insofar as they may act as a medium of communication between airway traffic control and the pilot. The tower operators use flight plan information in coordinating local traffic. The air-traffic control-tower operator never approves a flight plan (unless the flight is to be entirely within the immediate vicinity of the airport). The clearance which the control-tower operator gives is merely one with respect to take-off conditions and has no significance with respect to the conditions under which the flight will progress after the pilot leaves the vicinity of the airport.

Landing Facilities as of March 1, 1940

Airports and Landing Fields

Municipal airports.....	640
Commercial airports.....	465
Civil Aeronautics Authority intermediate fields.....	271
Army airdromes.....	60
Navy, Marine Corps, and Coast Guard stations.....	21
State-operated fields.....	45
Marked auxiliary fields.....	668
Private fields.....	104
Fields for miscellaneous Government activities.....	26
Total.....	2,300

Airport and landing fields having any night lighting equipment:

Municipal.....	296
Commercial.....	92
Intermediate.....	270
Army.....	34
Navy.....	12
State.....	8
Auxiliary.....	24
Private.....	7
Total.....	743

Seaplane Bases

Army, Navy, Coast Guard, and Marine Corps.....	27
Other seaplane bases and anchorages.....	158
Total.....	185

Seaplane bases having any night lighting equipment:

Navy and Coast Guard.....	2
Other bases and anchorages.....	7
Total.....	9

Note—Additional AIRWAYS AND AIRPORTS items appear on page 91

Radio Frequencies and Their Allocation

[Because of the importance of radio in aviation, the following explanation of radio frequencies, recently issued by the Federal Communications Commission, will be of general interest to aviation personnel]

The radio spectrum, or radio waves, is but one portion of the total electromagnetic spectrum. The electromagnetic spectrum covers eight different classes of radiation—electric waves, radio waves, infrared, visible light, ultraviolet, X-rays, gamma rays, and secondary cosmic rays.

The emission of this energy may be likened to the expanding ripples of water suddenly disturbed by a thrown stone. However, electromagnetic energy travels in all directions.

Since electromagnetic radiations have a common speed (that of light), their only difference is in frequency and wave length. "Frequency" may be characterized as the number of these waves per second, and "wave length" as the distance between successive waves.

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CIVIL AERONAUTICS AUTHORITY

OFFICIAL



ACTIONS

OPINIONS, ORDERS AND REGULATIONS

FOR THE PERIOD FEBRUARY 16-29, 1940, INCLUSIVE

C.A.A. OPINIONS

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DOCKET No. 37-406 (A)-1

PAN AMERICAN AIRWAYS CO. (OF DELAWARE)—MAIL RATES

Petition for order fixing and determining the fair and reasonable rates of compensation for the transportation of mail by aircraft, the facilities used and useful therefor, and the services connected therewith, between the United States (New York, N. Y.) and Bermuda.

Decided February 28, 1940

Fair and reasonable rates of compensation for the transportation of mail by aircraft, the facilities used and useful therefor, and the services connected therewith, fixed and determined.

APPEARANCES:

Henry J. Friendly, for Petitioner.

Samuel E. Gates, Edward M. Weld, and Robert W. Oliver, for the Civil Aeronautics Authority.

OPINION

BY THE AUTHORITY:

This proceeding was instituted upon the petition, filed November 19, 1938, of Pan American Airways Co. (of Delaware), herein referred to as "petitioner," for an order fixing and determining the fair and reasonable rate of compensation payable to petitioner for the transportation of mail by aircraft between New York, N. Y. (or certain other designated points in the United States), and Bermuda, the facilities used and useful therefor, and the services connected therewith.

NOTE ON THE ARRANGEMENT OF THESE PAGES

This part of the JOURNAL in each issue presents a current record of the official actions taken by the Civil Aeronautics Authority. Digests of all orders and regulations are carried in outer columns under the title "Abstracts." Persons having specific interest in any of these orders may obtain complete verbatim copies by writing to the Director of Statistics and Information, Civil Aeronautics Authority, Washington, D. C.

The large inner columns, set in different type, carry verbatim all opinions accompanying Authority actions. The type and format used will be utilized in the preparation of bound volumes of opinions of the Authority which will be issued at appropriate intervals. After the first volume is completed, the temporary page numbers now used will be replaced by the actual volume and page number which the text will carry in the bound volumes.

ABSTRACTS

ORDERS

Order No. 380: Offers accepted in compromise of civil penalties for violations.

The Authority on February 16 accepted certain offers in compromise of civil penalties incurred for violations of the Civil Aeronautics Act of 1938 and the Civil Air Regulations, as follows:

Eugene Whisler, Los Angeles, Calif.—For piloting an aircraft on a civil airway at an altitude less than 1,000 feet over a congested area and on such flight for

ABSTRACTS

(Continued)

navigating said aircraft acrobatically at a height less than 1,500 feet—\$50; and

Anthony F. Spann, Colorado Springs, Colo.—For piloting an aircraft on a civil airway with a passenger aboard although said aircraft was of a weight and engine classification other than as specified in his pilot certificate and other violations—\$50.

Order No. 381: Solo pilot certificate of Donald E. Frahm suspended for 60 days.

The Authority on February 16 suspended solo pilot certificate No. 60806, held by Donald E. Frahm, Monolith, Calif., for a period of 60 days and thereafter until such time as the holder thereof shall have received 2 hours of dual instruction from a certificated instructor. (Previous suspension orders Nos. 341 and 363.)

Order No. 382: Solo pilot certificate of Hurst Smith Gentry revoked.

The Authority on February 16 revoked solo pilot certificate No. 16419, held by Hurst Smith Gentry, Vallejo, Calif., for piloting an aircraft over a congested area at an altitude not sufficient to permit at all times an emergency landing outside of such area in the event of complete power failure, and other violations of the Civil Air Regulations.

Order No. 383: Aircraft and engine mechanic certificate held by Leon Wizelman revoked.

The Authority on February 16 revoked aircraft and engine mechanic certificate No. 15780, held by Leon Wizelman, Philadelphia, Pa., for carelessness and incompetence in performing his duties as an aircraft and engine mechanic in violation of the Civil Air Regulations.

Order No. 384: Interlocking relationships approved.

The Authority on February 16 approved interlocking relationships of Thomas A. Morgan and Pan American Airways, Inc., Pacific Alaska Airways, Inc., Pan American Airways Co. (Del.), and Pan American Airways Co. (Nev.).

Order No. 385: Application for approval of interlocking relationships dismissed.

The Authority on February 16 dismissed application for approval of interlocking relationships of James Herbert Johnston and Pan American Airways, Inc., and subsidiaries.

Certificates held by petitioner.—Petitioner is the holder of a certificate of public convenience and necessity, dated September 29, 1939, authorizing it to engage in foreign air transportation with respect to persons, property, and mail between the terminal point New York, N. Y. (or Baltimore, Md., Norfolk, Va., or Charleston, S. C., when weather conditions render it necessary to use any of such points as a terminal point instead of New York, N. Y.), and the terminal point Hamilton, Bermuda. This certificate was issued pursuant to section 401 (e) (1) of the Civil Aeronautics Act of 1938, which provides that—

“If any applicant who makes application for a certificate within one hundred and twenty days after the date of enactment of this act shall show that, from May 14, 1938, until the effective date of this section, it, or its predecessor in interest, was an air carrier, continuously operating as such * * * the Authority, upon proof of such fact only, shall, unless the service rendered by

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such applicant for such period was inadequate and inefficient, issue a certificate or certificates, authorizing such applicant to engage in air transportation * * * between the terminal and intermediate points between which the applicant or its predecessor was authorized by the Postmaster General prior to the effective date of this section, to engage in the transportation of mail * * *.”

This section makes it mandatory for the Authority to issue certificates to air carriers coming within the provisions thereof upon the showing specified, and without passing upon the question of whether the transportation for which authorization is sought is required by the public convenience and necessity.

Petitioner's Bermuda service was in operation under an authorization from the Postmaster General prior to the effective date of section 401 of the act, and the certificate issued in respect thereof,¹ although labeled a certificate of public convenience and necessity in conformity with the provisions of the act, does not represent a finding by the Authority that public convenience and necessity for the service, as that term is generally understood and as it is defined in section 2 of the act, actually exists.

Petitioner is also the holder of a certificate of public convenience and necessity authorizing it to engage in foreign air transportation in trans-Atlantic service between the United States and points in Europe. Petitioner's trans-Atlantic service was not in existence prior to the effective date of section 401 (e) of the act, and consequently was not covered by the special provisions of that section.

Relationship between the several services conducted by petitioner. Petitioner's contentions as to the basis for the determination of the rate herein.—Although the two services conducted by petitioner are hardly comparable in commercial importance, their physical relationship, and the fact that both services make joint use of certain terminal and other facilities and employ certain personnel in common, require that they be considered with proper reference to this relationship. This is indicated by the course taken by the present proceeding in which, on March 28, 1939, the Authority issued an order consolidating the same, but only for purposes of hearing, with the proceedings upon (1) petitioner's application for the certificate of public convenience and necessity which has been issued for its trans-Atlantic service,² and (2) its petition for an order fixing and determining the fair and

reasonable rates of compensation for the transportation of mail on such trans-Atlantic service.³

A further example of this relationship is seen in the manner in which petitioner has herein stated the rate which it believes to be fair and

¹ Pan American Airways Co. (of Delaware), certificate of public convenience and necessity, docket No. 37-401(E)-1, decided September 29, 1939.

² Pan American Airways Co. (of Delaware), certificate of public convenience and necessity, docket 163.

³ Pan American Airways Co. (of Delaware), petition for an order fixing and determining fair and reasonable rates of air mail compensation, docket No. 202 (*Trans-Atlantic Rate* case).

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reasonable. As required by section 406 (c) of the act, the original petition included a statement of such rate, which was given as "\$4 per airplane mile flown, on outbound flights only * * *, for maximum mail load of 800 pounds, per trip, * * * revenue from foreign mail transported to be for the account of the applicant." This figure is stated to have represented petitioner's belief as to what might fairly and reasonably be paid by the United States for such transportation if petitioner's Bermuda service were to be set up in the future as a separate service without regard to petitioner's trans-Atlantic operations.

Upon further consideration of the relationship between the two services, petitioner determined to include the entire cost of all jointly used facilities and commonly employed personnel in its estimates for the trans-Atlantic service, and accordingly revised its statement of the rate which it believed to be fair and reasonable for the Bermuda service so as to reflect only the additional expenses occasioned by the operation of that service in addition to the trans-Atlantic service. Accordingly, by amendment No. 1 to the petition, filed on March 27, 1939, petitioner revised its statement of what it believed to be a fair and reasonable rate to show a base figure of \$2.24 per airplane mile flown on outbound flights only, with additional payments for excess mail and the carriage of foreign mail as stated in the original petition. By amendment No. 2, filed April 8, 1939, petitioner further revised its statement of such fair and reasonable rate to show a base figure of \$2.36 per airplane mile flown on outbound flights.

Consistently with the reasons given for these amendments, petitioner contended, at the hearing in the consolidated proceedings, that the Bermuda operation was to be treated merely as a "byproduct" of the trans-Atlantic operation, and that consequently only such items of expense should be charged to the Bermuda service as represent actual added expenditures for that service over and above the expenditures necessary to conduct the trans-Atlantic operation along. We have already rejected that contention in the following language:

"We do not accept this method of treating the expenses in question. We believe that the present case requires that an apportionment be made of these expenses which will remove from the trans-Atlantic service the burden of providing the Bermuda service with facilities and personnel free of charge. The two services should be treated as coordinate and, as far as possible, the rate to be fixed for each service should take into consideration the proper apportionment of joint costs. Thus, the saving resulting from the operation of the two services at an aggregate cost less than the sum of the costs which would be incurred in two completely separate operations will be equitably apportioned."⁴

⁴ Petition of Pan American Airways Co. (of Delaware), docket No. 202, *supra* (*Trans-Atlantic Rate* case).

ABSTRACTS

(Continued)

Order No. 386: Application for approval of interlocking relationships dismissed.

The Authority on February 16 dismissed application for approval of interlocking relationships of Richard King Mellon and Pan American Airways, Inc., and subsidiaries.

Order No. 387: Application for approval of interlocking relationships dismissed.

The Authority on February 16 dismissed application for approval of interlocking relationships of Herbert Fleishacker and Pan American Airways, Inc., and subsidiaries.

Order No. 388: Pennsylvania-Central Airlines Corporation granted permission to intervene.

The Authority on February 16 granted Pennsylvania-Central Airlines Corporation permission to intervene in the application of All American Aviation, Inc., for a certificate of public convenience and necessity.

Order No. 389: Transcontinental and Western Air, Inc., granted permission to intervene.

The Authority on February 16 granted Transcontinental & Western Air, Inc., permission to intervene in the application of All American Aviation, Inc., for a certificate of public convenience and necessity.

Order No. 390: Tri-State Aviation Corporation, Inc., granted permission to intervene.

The Authority on February 16 granted Tri-State Aviation Corporation, Inc., permission to intervene in the application of All American Aviation, Inc., for a certificate of public convenience and necessity.

Order No. 391: Eastern Air Lines, Inc., granted permission to intervene.

The Authority on February 16 granted Eastern Air Lines, Inc., permission to intervene in the application of All American Aviation, Inc., for a certificate of public convenience and necessity.

ABSTRACTS

(Continued)

Order No. 392: City of Los Angeles granted permission to intervene.

The Authority on February 16 granted the city of Los Angeles permission to intervene in the application of Pan American Airways Co. (Nev.) for a certificate of public convenience and necessity, authorizing air transportation between San Francisco, Calif., and Auckland, New Zealand, via Los Angeles, Calif., and other intermediate points and in the matter of the certification by the Postmaster General with respect to transportation of mail over such route.

Order No. 393: Los Angeles Chamber of Commerce denied motion to intervene.

The Authority on February 16 denied the motion of the Los Angeles chamber of Commerce to intervene in the application of Pan American Airways Co. (Nev.) for a certificate of public convenience and necessity, authorizing air transportation between San Francisco, Calif., and Auckland, New Zealand, via Los Angeles, Calif., and other intermediate points and in the matter of the certification by the Postmaster General with respect to transportation of mail over such route.

Order No. 394: Student pilot certificate of Norris Norsigian revoked.

The Authority on February 16 revoked student-pilot certificate No. 65559, held by Norris Norsigian, Tulare, Calif., for piloting an aircraft on a civil airway, carrying a person other than a certificated instructor actually giving instruction, and other violations of the Civil Air Regulations.

Order No. 395: Chris M. Lample ordered to show cause.

The Authority on February 17 directed Chris M. Lample, holder of commercial-pilot certificate No. 169, to appear before an examiner of the Authority and show cause why this certificate should not be revoked or suspended for piloting an aircraft over a congested area at an altitude not sufficient to permit at all times an emergency landing outside of such area in the event of complete power failure and on such flight for piloting said aircraft at an altitude less than 1,000 feet above the ground.

Order No. 396: Interlocking relationships approved.

The Authority on February 29 approved interlocking relationships of

The Authority accordingly found, on the basis of the record made at the hearing, that an apportionment should be made, in respect of jointly used facilities and commonly employed personnel, which would reduce by \$103,000 per annum the estimated expenses of petitioner's trans-Atlantic operation. Since the apportionment in question was made in respect of charges which, in the aggregate, we believed to be properly incurred, we find it proper to add to petitioner's estimates of the annual cost of the local Bermuda service the same sum of \$103,000. Assuming a performance of 90 percent of schedules on a frequency of two round trips per week, the sum of \$103,000 per annum amounts to \$1,100 per trip.

History of the route.—Scheduled service on the New York-Bermuda route was commenced by petitioner and, independently, by Imperial Airways (Bermuda) Limited in June, 1937. Pursuant to an exchange-of-notes agreement between the Governments of the United States, Great Britain, Canada and the Irish Free State, providing for reciprocal trans-Atlantic services, a permit to conduct the local Bermuda service was issued to petitioner by the Governor of Bermuda, and a similar permit was issued to Imperial Airways Limited by the Secretary of Commerce. Each permit contained an express provision that the permit should lapse if the service authorized thereby should connect with or become part of any through trans-Atlantic service.

At the outset, both services were conducted on a frequency of 1 round trip per week, but after about 2 months each carrier increased the frequency of its service to 2 round trips per week. Petitioner operated with a Sikorsky S-42B seaplane capable of carrying 24 passengers on this service, and Imperial Airways (Bermuda) Limited operated with a Short "Empire" flying boat known as the *Cavalier*.

Service by both enterprises continued on a twice-weekly frequency until January 21, 1939, when the *Cavalier* was lost as the result of a forced landing at sea. Service by Imperial Airways (Bermuda), Ltd., has not yet been resumed. After the loss of the *Cavalier*, and through most of the month of March 1939, service was continued by petitioner on a twice-weekly frequency with the Sikorsky S-42B.

During the months of March, April, and May, 1939, when petitioner was preparing to inaugurate its trans-Atlantic service, 15 round trips between New York and Bermuda were flown with the Boeing type 314 seaplane which petitioner was then proposing to use, and has since used, on its trans-Atlantic operation. On the local Bermuda run, the Boeings had a passenger carrying capacity of not less than 60, as against 24 for the Sikorsky, and the passenger traffic during the time that the Boeings were in operation on the local Bermuda service was considerably heavier than ever before. After the inauguration of the trans-Atlantic service in May 1939, the use of Boeing 314's on the local New York-Bermuda service was discontinued and the service once more flown entirely with the Sikorsky.

The original certificate of public convenience and necessity issued to petitioner for its trans-Atlantic service did not permit the use of

Bermuda as an intermediate point except when required by weather conditions. However, upon the urgent application of petitioner, the Authority, on August 25, 1939, entered a special order exempting petitioner, until October 1, 1939, from this limitation of its certificate. The Authority based its action upon the fact that steamship services between Europe and the United States and between Bermuda and the United States were being curtailed, whereas the number of potential passengers desiring transportation had been increased substantially. After the effective date of this order, hostilities broke out in Europe and steamship services between Europe and the United States, as well as between Bermuda and the United States, were further curtailed, and in fact steamship service between the United States and Bermuda almost ceased to exist. Petitioner had been operating with passenger reservations from Europe via Bermuda practically filled to capacity, and there still were a large number of prospective passengers in Europe in need of accommodation to the United States. With stops at Bermuda, petitioner was enabled, not only to offer facilities for the transportation of Bermuda passengers between Bermuda and the United States on its trans-Atlantic service, but also to increase the pay-load capacity of its aircraft on trans-Atlantic flights by reducing the distance of the longest nonstop flight involved in that operation.⁵ For these reasons, and on further application of the petitioner, the above-mentioned special order was, on September 29, 1939, amended to provide that it should remain in effect until further notice of the Authority.

Since September 6, 1939, practically all of petitioner's trans-Atlantic schedules on the southern route via the Azores have stopped at Bermuda. Since the end of September, when service on the northern route was suspended, there have been two schedules a week on the trans-Atlantic service stopping at Bermuda in addition to the two weekly schedules of the local service.

Since the inauguration of petitioner's Bermuda service, the number (1) of passengers carried on this local service, (2) of Bermuda passengers carried on the trans-Atlantic service, and (3) of passengers carried by Imperial Airways (Bermuda), Ltd., on its local Bermuda service, have been as indicated by the following table. In this table the number of passengers is arrived at by counting each local passage to and from Bermuda as representing one passenger.

⁵ The distance between New York and Horta, the Azores, nonstop is 2,384 statute miles. The distance between Bermuda and Horta is 2,069 statute miles, and between Bermuda and New York is 771.5 statute miles.

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The Boeing type 314 aircraft with which the trans-Atlantic service is now being conducted can accommodate, on flights via Bermuda, 24 trans-Atlantic and 24 local Bermuda passengers.

The different conditions, as to frequency of service, type of aircraft employed, and the present emergency wartime situation, under which the service has at various times been conducted, render it difficult to predict what the annual number of passengers traveling by air between the United States and Bermuda will be in any "normal" future year.

ABSTRACTS

(Continued)

Stokeley Williams Morgan, Henry Preston Morris, George Lawrence Rihl, Juan Terry Trippe, Evan E. Young, and Pan American Airways, Inc., and subsidiaries.

Order No. 397: Certification and filing in United States Circuit Court of Appeals of transcript of record directed.

The Authority on February 20 directed the certification and filing, in the United States Circuit Court of Appeals for the Third Circuit, of the transcript of the record in the matter of the applications of American Airlines, Inc., Eastern Air Lines, Inc., Transcontinental & Western Air, Inc., and United Air Lines Transport Corp., for amendments to certain certificates of public convenience and necessity relative to New York, N. Y., and Newark, N. J.

Order No. 398: Hearing reopened on the application of Marquette Airlines, Inc.

The Authority on February 20 reopened hearing on the application of Marquette Airlines, Inc., for a certificate of public convenience and necessity for the purpose of taking further proof of the facts respecting the ownership or control of the stock of said company during the period May 14, 1938-August 22, 1938, and reconsidering the issue of whether said company was a citizen of the United States during that period.

Order No. 399: Consolidated proceeding on application of Transcontinental & Western Air, Inc.

The Authority on February 20 consolidated proceeding on application of Transcontinental & Western Air, Inc., for approval of a contract, with the reopened hearing on Marquette Airlines, Inc.

Order No. 400: Offers accepted in compromise of civil penalties for violations.

The Authority on February 23 accepted certain offers in compromise of civil penalties incurred for violations of the Civil Aeronautics Act of 1938 and the Civil Air Regulations as follows:

Vance Burchett, Corvallis, Oreg.—For piloting an aircraft on a civil airway although said aircraft did not possess an airworthiness certificate—\$50; and

Davis A. Murphy, Miami, Fla.—For piloting an aircraft on a civil airway carrying a person other than a certificated instructor actually giving instruction, in violation of his student pilot certificate—\$50.

ABSTRACTS

(Continued)

Order No. 401: Offers accepted in compromise of civil penalties for violations.

The Authority on February 23 accepted certain offers in compromise of civil penalties incurred for violations of the Civil Aeronautics Act of 1938 and the Civil Air Regulations as follows:

Abner W. Biberman, Los Angeles, Calif.—For piloting an aircraft on a civil airway carrying a person other than a certificated instructor actually giving instruction, in violation of the terms of his temporary solo pilot certificate, and other violations—\$75;

Otto E. Grow, Salt Lake City, Utah.—For authorizing a person to whom he had given flight instruction to make a solo flight on a civil airway when said person was not possessed of a valid pilot certificate, and other violations—\$50;

Patrick B. McCarthy, Toccoa, Ga.—For taking off from a control airport on a civil airway at a time when the weather was below the minimum prescribed for instrument flight within a control zone—\$100;

George Roper, Salt Lake City, Utah.—For piloting an aircraft on a civil airway at an altitude less than 500 feet above the ground and water over a migratory bird refuge—\$25;

Milos J. Soukop, Burbank, Calif.—For piloting an aircraft on a civil airway without being possessed of a valid pilot certificate—\$25; and

Lt. Charles F. Harrison, Edgewood, Md.—For piloting an aircraft on a civil airway carrying a person other than a certificated instructor actually giving instruction, in violation of the terms of his solo pilot certificate, and other violations—\$50.

Order No. 402: Offer accepted in compromise of civil penalties for violations.

The Authority on February 23 accepted the following offer in compromise of civil penalties incurred for violations of the Civil Aeronautics Act of 1938 and the Civil Air Regulations:

William R. Nason, Minneapolis, Minn.—For piloting an aircraft on a civil airway while not possessed of a valid pilot certificate and on such flight for navigating said aircraft acrobatically without being equipped with a parachute—\$50.

Order No. 403: Interlocking relationships approved.

The Authority on February 21 approved interlocking relationships of LaMotte T. Cohu, Transcontinental & Western Air, Inc., and Northrop Aircraft, Inc., and disapproved interlocking

	By petitioner on local Bermuda service	By Imperial Airways	Total		By petitioner on local Bermuda service	By Imperial Airways	Total
<i>1937</i>				<i>1939</i>			
June 18-30.....	74	42	116	January.....	130	64	194
Third quarter.....	280	261	541	February.....	68	(1)	68
Fourth quarter.....	404	153	557	March.....	254	(1)	254
Total 1937.....	758	456	1,214	April.....	684	(1)	684
<i>1938</i>				May.....	441	(1)	441
First quarter.....	287	161	448	June.....	277	(1)	277
April.....	181	176	357	July.....	288	(1)	288
May.....	150	91	241	August.....	300	(1)	300
June.....	184	147	331	September.....	382	171	553
July.....	205	153	358	October.....	162	164	326
August.....	232	195	427	November.....	100	104	204
September.....	152	147	299	December.....	165	159	324
October.....	160	105	265	Total 1939.....	3,251	598	3,913
November.....	167	145	312				
December.....	111	94	205				
Total 1938.....	1,829	1,414	3,243				

¹ By petitioner on trans-Atlantic service.

Contract for the carriage of United States mail—Mail traffic statistics.—On November 11, 1937, the United States Post Office Department advertised for bids for carrying the mails from New York to Hamilton, Bermuda and return (foreign air mail route 17). The advertisement, instead of providing, as was usual in advertisements for foreign air-mail contracts, a rate per airplane mile, provided that no bid in excess of \$1.85 per pound, each way, for carrying the mails would be considered for award. It is obvious, therefore, that the rate stated in the advertisement was designed to fix mail payments on the basis of direct compensation for services actually performed in transporting the mail, so that the carriage of light loads of mail would not entail an expense to the Post Office out of proportion to the value of the service. Moreover, the contract specifically provided that the service might be reduced or suspended when mails should be carried between the United States and Bermuda by planes on a through route between the United States and Europe via Bermuda. Petitioner entered a bid of \$0.00001 per pound, a figure having no relation to the cost or to the value of the service, and a 3-year mail contract was awarded

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to it on February 10, 1938, under which the carriage of mail was commenced on March 16, 1938.

Simultaneously with the establishment of mail service under petitioner's contract with the Post Office Department, petitioner and Imperial Airways (Bermuda) Limited began carrying foreign mail (Bermuda and United States mail, respectively) pursuant to a reciprocal arrangement between the United States and the British postal authorities for utilization of and payment for each other's return services. By the terms of petitioner's mail contract, the collections made, pursuant to this arrangement, for the carriage of Bermuda mail on petitioner's planes were for the account of the United States Post Office Department. Under section 405 (i) of the Civil Aeronautics Act of 1938, such collections are now required to be for the account of petitioner.

The actual number of pounds of United States and Bermuda mail transported over the route by both petitioner and Imperial Airways

(Bermuda) Limited from March 1938 through December 1939 has been as follows:

	New York to Bermuda			Bermuda to New York		
	By petitioner on local Bermuda service	By Imperial Airways	Total	By petitioner on local Bermuda service	By Imperial Airways	Total
1938						
March.....	994	44	1,038	102	77	179
April.....	293	129	422	141	173	314
May.....	193	99	292	147	129	276
June.....	203	162	365	152	128	280
July.....	218	146	364	168	149	317
August.....	312	124	436	144	196	340
September.....	154	133	287	138	129	267
October.....	171	94	265	111	123	234
November.....	234	109	343	117	190	307
December.....	209	164	373	171	68	239
Total 1938.....	2,981	1,204	4,185	1,391	1,362	2,753
1939						
January.....	88	76	164	144	79	223
February.....	222	(1)	222	135	(1)	135
March.....	425	(1)	425	229	(1)	229
April.....	350	(1)	350	227	(1)	227
May.....	294	(1)	294	220	(1)	220
June.....	238	(1)	238	269	(1)	269
July.....	358	(1)	358	250	(1)	250
August.....	441	(1)	441	263	(1)	263
September.....	317	66	383	282	20	302
October.....	113	233	346	286	354	640
November.....	148	161	309	135	96	231
December.....	314	150	464	123	106	229
Total 1939.....	3,308	610	3,994	2,563	576	3,218

¹ By petitioner on trans-Atlantic service.

PETITIONER'S ESTIMATES OF REVENUES AND EXPENSES

Petitioner's estimates of revenues.—For a normal future year, petitioner estimates passenger revenue of \$142,675. This figure is

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derived by assuming that the number of passengers carried in such a year will represent an increase of 20 percent over the number of passengers carried in 1938. Since in that year 1,829 were carried, the result is an estimate of 2,195 passengers for future years. Petitioner applies an average fare of \$65 to this number of passengers to arrive at its estimate of passenger revenues.

Actually, however, the records for 1939 indicate an increase in passenger traffic over 1938 greatly in excess of the increase estimated by petitioner. Several factors have apparently contributed to this excess, such as the failure of Imperial Airways (Bermuda) Limited to resume its service, the carriage of local Bermuda traffic on petitioner's trans-Atlantic service, and the curtailment of surface transportation caused by the war. These factors could hardly have been anticipated by petitioner at the time that it prepared its estimates.

During 1939, 3,849 passengers were carried by petitioner between the United States and Bermuda, as against 1,829 in 1938. During April and May 1939, when the Boeing 314 aircraft with which petitioner is at present conducting its trans-Atlantic service were in operation on the local Bermuda service, the total number of passengers carried was 1,125 as against 331 in the corresponding months of 1938. However, recognizing that these months cannot be considered as representing a typical increase over the corresponding months of 1938,

ABSTRACTS

(Continued)

relationships of LaMotte T. Cohu, Transcontinental & Western Air, Inc., and Air Investors, Inc. (For full text of order and opinion, see Dockets Nos. 156 and 289, p. 96.)

Order No. 404: Temporary holding of interlocking relationships authorized.

The Authority on February 23 authorized temporary holding of interlocking relationships of Henry W. Clark, Van Dyck Fort, Charles W. Galloway, David L. Gray, William R. Kenan, Jr., Emmett E. McInnis, Willard F. Place, Raymond D. Starbuck, Benjamin W. Scandrett, Marion J. Wise, and Railway Express Agency, Inc.

Order No. 405: Proceeding reopened on application of Pan American Airways, Inc.

The Authority on February 23 reopened proceeding on the application of Pan American Airways, Inc. (Del.), for an order fixing and determining fair and reasonable rates of compensation with regard to its transportation of mail between the United States and Europe.

Order No. 406: Fixing and determining rate of compensation for transportation of mail over route No. 27 by Boston-Maine Airways. (For full text of opinion and order, see docket No. 219, p. 101.)

Order No. 407: Fixing and determining rate of compensation for transportation of mail by Pan American Airways over route between United States and Bermuda. (For full text of opinion and order, see docket No. 37-406 (A)-1, p. 81.)

Progress of Aviation in Alaska

(Continued from page 78)

operators, 85 commercial pilots, and one scheduled airline operating in the Territory. A summary of aircraft operations and number of planes in service for the 10-year period 1930-39 is shown in the table on page 78.

Landing Facilities

These statistics are particularly impressive in relation to the meager landing facilities and aids to air navigation of the Territory. There were only 127 aviation fields and 18 seaplane ramps, platforms, and floats, as of January 31, 1940. Only 10 have landing strips of 2,500 feet or more and only 1 has 2 landing strips of this length. The only surfacing provided is that found at the site, except in a few instances where pit run gravel has been used.

Most of the fields are clearings 100 to 200 feet wide and 1,000 to 2,000 feet long, often without proper maintenance, and usually rough and hazardous. None of the fields have boundary lights, obstruction lights, or flood-lights, and the only two airport beacons are at Anchorage and Fairbanks. There are no public conveniences, such as administration buildings or municipal hangars at any of the fields. All hangars are privately owned and fully occupied, thus forcing the itinerant owner to stake his plane outside. There are sections where landing facilities for wheel equipment are 300 miles or more apart. Forced landings, due to weather and other conditions, are made under most adverse circumstances. In many cases it is impossible to salvage the plane, even though the passengers are able to walk out safely. It is estimated that fifty percent of the accidents in Alaska are directly attributable to airport terrain, and 25 percent indirectly.

The C. A. A. Program

The 1940 Alaskan program marked the first installation by the Civil Aeronautics Authority of air navigation aids in the Territory. Full-power simultaneous radio range and broadcast stations are being installed along an airway extending from Ketchikan to Nome, by way of Juneau, Anchorage, and Fairbanks. Six intermediate fields are being constructed, and the entire airway equipped with a point-to-point and ground-to-plane communications system. Seven of the simultaneous radio range and broadcast stations are already providing daily weather reporting service and the ranges will be commissioned as soon as completed, beginning this month. These are located at Anchorage, Cordova, Fairbanks, Juneau, Ketchikan, Nome, and Ruby. The entire 1940 program is two-thirds completed. This program when completed will provide the backbone of a sound airways system for the future development.

(Continued on next page)

we have not taken them into account in computing the average monthly passenger revenue of the operation during the year 1939. Taking the remaining 10 months of 1939, we find that 2,724 passengers were carried by petitioner between the United States and Bermuda, compared with 1,498 passengers during the corresponding period in 1938, indicating an increase of more than 80 percent over 1938. During the latter part of this period, as previously mentioned, there were serious interruptions of steamer service to Bermuda, but this consideration has been taken into account in estimating future air traffic.

On the basis of the foregoing, it appears that the petitioner may be expected to carry not less than 3,200 passengers per year in future years. The average revenue per passenger since the introduction of the rates currently in effect appears to have been approximately \$60. We have therefore estimated that on the basis of 3,200 passengers per year at a fare of \$60 per passenger, a gross income from passenger traffic of \$192,000 per year will be realized.

It is, of course, recognized that this estimated total of 3,200 passengers per annum includes passengers traveling between New York and Bermuda on petitioner's trans-Atlantic service. It is further recognized that although the local Bermuda service would be physically able to accommodate all these passengers on its present aircraft and at the present scheduled frequency, some passengers would probably be

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lost to the air line, either through their using surface transportation (if available) or not making the trip at all, if they were required to wait for the next schedule of a semiweekly service instead of having the benefit of 4 trips a week as at present. The fact remains, however, that because no regular stops at Bermuda were originally authorized on the trans-Atlantic service, the revenue estimates used in the determination of the *Trans-Atlantic Rate* case⁶ did not reflect income derived from the carriage of passengers between New York and Bermuda. In view of the close relationship between this part of the traffic on the trans-Atlantic service and the revenues on the local service between New York and Bermuda, it seems proper to attribute all revenues derived from the carriage of passengers between the United States and Bermuda to the local Bermuda service for the purposes of this proceeding. It is recognized that the modifications made in the trans-Atlantic service at the time when the Bermuda stop was authorized affected both the operating cost and (by changing the length of nonstop flight, and therefore the pay-load capacity of the airplane) the revenues derived from trans-Atlantic passengers and express; but any question with respect to the relationship between the effect on costs and the effect on revenues should arise in a proceeding having more specific reference to the trans-Atlantic operation or to the "need" of petitioner in relation to its operation as a whole. It would not in any event enter into the present case.

Excess baggage.—During the calendar year 1938, \$3,861.49 was realized from this source. It is to be assumed that this revenue will increase in proportion to the estimated increase in the number of passengers carried, and consequently that revenues in future years

will exceed the 1938 revenue by slightly more than 80 percent. On this basis, we estimate that revenue from excess baggage will amount to \$7,000 per year under present conditions.

Express.—Express has been carried on this service only since March 1939. Petitioner estimates that in a normal future year it will carry 3,250 pounds of express at 37 cents per pound to yield a gross revenue of about \$1,200. The volume of express traffic for the first 8 months indicates no reason to depart from this estimate.

Foreign mail.—The rate currently being charged to the Bermuda post office for the carriage of Bermuda mail is 31.05 postal gold francs per kilogram, which is the equivalent of \$4.60 per pound. During 1939, the total amount of Bermuda mail carried to the United States was 3,218 pounds. After taking into account the abnormally heavy mail load for October, which was apparently due, in some measure at least, to accumulations of mail caused by serious interruptions of steamer service at the outbreak of the war, we arrive at the conclusion that the indicated annual revenue from foreign mail under present

* Petition of Pan American Airways Co. (of Delaware), docket No. 202, *supra* (Trans-Atlantic Rate case).

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conditions is not less than \$13,000. Under section 405 (i) of the act, such revenue will be collected for the account of the carrier. In this case, again, revenues from foreign mail dispatched from Bermuda to the United States via the trans-Atlantic service are considered as revenues of the special Bermuda service, for the same reasons believed applicable in the treatment of passenger revenue.

Total operating revenues.—On the basis of the foregoing, the Authority finds that a reasonable estimate of petitioner's total annual operating revenues from the local Bermuda service is \$213,200. As hereinbefore stated this estimate of revenues is arrived at by considering all traffic between the United States and Bermuda as being for the account of petitioner's local Bermuda service. If and when conditions change, it may be necessary to reexamine this estimate in the light of actual experience.

Petitioner's estimates of expenses—Direct operating expenses.—Petitioner estimates its total direct operating expenses for this service, conducted as an adjunct of its trans-Atlantic service, to be \$162,264 per annum. Although we do not accept the "byproduct" theory of estimating the costs of this operation, we perceive no reason to make any adjustment in the amount of petitioner's estimates of the direct flying costs to be incurred, except to add thereto an allowance for the increased expenditures for agency commissions, liability insurance, and passenger supplies which will be commensurate with the amounts by which we believe that passenger traffic will exceed petitioner's estimates. This has the effect of increasing petitioner's estimated direct operating expenses to \$171,264 per annum, an increase of \$9,000.

Petitioner's estimates of indirect operating expenses.—Petitioner computes depreciation on its aircraft over an estimated life of 7½ years, and this appears to be conservative. Engines are depreciated on the basis of 3,000 hours, and although it is believed that the engines may have a longer service life than this, no change has been made in the depreciation charge computed on this basis, especially since an obsolescence factor is introduced by reason of the low intensity of use of

Alaska

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The 1941 construction program will provide for at least four additional simultaneous range and broadcast and point-to-point radio stations, to be located in the vicinity of Bethel, McGrath, Dillingham or Nacknek, and Kodiak.

Additional point-to-point stations are tentatively proposed to be installed in the vicinity of Petersburg, Tanana, Seward, Flat, Lake Minchumina, and Iliamna.

Additional intermediate landing fields are also tentatively proposed to be constructed in the vicinity of Nenana, Lake Minchumina, Foreland, Tonsina, Culkana, Donnelly, Farwell, McGrath, and Stillman Lake.

The present staff of the Authority charged with the construction, maintenance, and operation of these aids to air navigation in Alaska numbers 41. In addition, 2 maintenance men and 3 more operators are on their way to the Territory, which will bring the total to 46.

The work of these employees is fraught with many difficulties. As an instance, at Yakutat, where a range installation is being made, there is mail service but once a month. To carry supplies to some of the points in the interior frequently requires many months and the use of several forms of transportation. At some coastal ports where ships call only a few times a year, supplies are unloaded and later transferred to river barges to be carried inland as far as the river channel or the season of the year will permit. There they must wait until after the "freeze-up" to be transported overland by tractor-drawn sled trains to their final destination. At many points in the interior and western portions of the Territory construction work is completely suspended during the worst months of winter.

In spite of such serious handicaps work is going ahead rapidly and the current program is expected to be completed on schedule.

Accident Analyses

(Continued from page 78)

the last year has disclosed many cases in which a student or solo pilot was carrying a passenger or even instructing another student in flagrant violation of the Civil Air Regulations.

After completing a study of the 63 January reports, the Regulation and Enforcement Division of the Authority issued the following statement:

"According to the evidence presented in the Air Safety Board reports for January, the practice of student and solo pilots carrying passengers and committing other acts in violation of the Civil Air Regulations appear to be factors in

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Accident Analyses

(Continued from preceding page)

12 of the accidents. Evidence of violations appeared in 7 reports of accidents involving fatalities, one involving serious injury, 2 involving minor injury, and 2 in which persons escaped injury."

In one of the accidents reported on last month, a student pilot who had a total of 6 hours instruction crashed while accompanied by two friends. Failure of the pilot to ascertain that he had ample fuel for the flight caused the engine to fail. The plane was stalled during an attempted forced landing and spun to the ground. The pilot and one passenger were killed and the other passenger received minor injuries. The investigation disclosed no evidence that the pilot had flown during the 3 years preceding the accident or that he had ever flown an airplane alone.

Four fatal accidents were attributed to structural failure. One of these was the result of excessive loads imposed upon the aircraft during acrobatic maneuvers and another was ascribed to poor maintenance of the plane involved. A third was due to the breaking of a control wire. During the subsequent forced landing the aircraft rolled into a brook, and fatally injured one of three boys who were in swimming.

Lack of fuel sufficient for the flight attempted resulted in four accidents, two of which were fatal (includes one of the accidents mentioned above). Show-off acrobatics close to the ground resulted in two accidents, one in which the pilot failed to clear an automobile he dived at and another in which the pilot permitted his plane to stall and slip to the ground. A total of eight of the fatal accidents involved spins or stalls.

The other fatal accidents included an instance in which the pilot failed to clear an obstruction during a landing approach, a case in which an assistant walked into a revolving propeller, a crash that was caused by continuation of flight in spite of adverse weather, a spin caused by a student "freezing" the controls so that his instructor was powerless to move them, and an accident in which the airplane caught fire in flight.

Although the origin of the fire in this accident was not determined, findings of the Board resulted in a recommendation for further investigation of the wiring system installed on the make of aircraft involved. Inspection of a similar airplane disclosed that the battery, which is located under the pilot's seat, is connected to the instrument panel by rubber covered wire and that there were no fuses or switches between the battery and the instrument panel. As a consequence, the Board recommended that the Civil Aeronautics Authority investigate the possible fire hazards involved in this type of electric wiring installation.

A total of 66 aircraft were involved in the 65 accidents reported on, 1 of the accidents being a collision in which a

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these engines. The item of "other depreciation" includes depreciation on 10 propellers on the Bermuda operation at the rate of 50 percent per year. It is believed that a total of 8 propellers is entirely adequate for this service, and further that a depreciation rate based on less than 3 years' service is not justified.

Insurance.—Petitioner has evidently estimated insurance on aircraft at the rate of 21½ percent of the original undepreciated cost of the Sikorsky S-42B aircraft used in the service. The original value of this aircraft as a complete flight unit was \$270,753. Its depreciated value as of November 18, 1938, the date of the filing of the petition herein, is estimated to be \$217,800. Since the hearing in this proceeding, we

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have twice had occasion to hold⁷ that a rate of insurance based on 21½ percent of the original cost of the flight unit is unjustified. For the purpose of establishing a rate in this proceeding, we have adopted a rate of 13½ percent of the depreciated value of the aircraft as a proper annual charge for insurance.

Allocation of expenses carried on the books of the New York office of Pan American Airways System.—It is the practice of the Pan American Airways System to charge the expenses of its central New York organization to the various companies of the system which operate over foreign air-mail routes on the basis of the number of airports on the respective routes. Owing to the fact that petitioner in this proceeding considered the Bermuda service as merely a byproduct of the trans-Atlantic service, it failed to make a charge to the Bermuda service for system overhead. It is believed that our view of the relationship between the 2 services requires that the expenses of the Bermuda service be deemed to include a share of the general overhead of the Pan American Airways System. Under petitioner's method of distributing this expense, the charge to the Bermuda operation on the basis of the 1 airport employed therein, in addition to the 9 airports (of the total of 95 airports in the system) employed in petitioner's trans-Atlantic service, would be one ninety-fifth of the total system overhead or \$11,450 per annum. As New York is considered as 1 of the 9 airports in petitioner's trans-Atlantic service, it is not counted a second time in estimating the expenses of the local Bermuda service.

Apportionment of expenses of jointly used facilities and personnel—Treatment of developmental charges.—As already stated, the expenses shown by petitioner's exhibits are merely the estimated additions to the expenses of petitioner's trans-Atlantic service occasioned by the conduct of the Bermuda service as a "byproduct," or extra service, over and above the trans-Atlantic service. Petitioner has contended that the cost of facilities and personnel which are used by both services, but which would be necessary in any event for the trans-Atlantic service, should be borne by the trans-Atlantic service alone. Reference has already been made in this opinion to the disposition of that contention in the *Trans-Atlantic Rate* case.⁸ The result of our decision in that case was that the estimated cost of the trans-Atlantic service was reduced by \$103,000 per annum, which we held to be properly apportionable to the cost of the local Bermuda service. The same

process of apportionment which led to a reduction in the estimates of the cost of the trans-Atlantic service results in a corresponding increase

⁷ Petition of Pan American Airways Co. (of Delaware), docket No. 202, *supra*; Pan American Airways Co. (of Nevada), petition for an order fixing and determining fair and reasonable rates of air-mail compensation, docket No. 6-406 (A)-1 (*Trans-Pacific Rate case*).

⁸ Petition of Pan American Airways Co. (of Delaware), docket No. 202, *supra* (*Trans-Atlantic Rate case*).

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in petitioner's estimates of the cost of the local Bermuda service. Since the apportionment made in the *Trans-Atlantic Rate* case represents an apportionment of expenses which were believed to be necessary to the conduct of petitioner's operations as a whole, our previous decision leads us to allow, in the rate to be fixed herein, for expenses in the amount of \$103,000 per annum over and above the expenses which would be indicated, were petitioner's method of estimating such costs to be followed.

A further consequence of petitioner's treatment of the Bermuda service as a byproduct of the trans-Atlantic service is that no developmental charges for the Bermuda service have been set up on petitioner's books and that no amortization of any charges of this nature is sought to be allowed for in the rate requested in this proceeding. Indeed, petitioner has maintained throughout that the entire cost of establishing and operating the Bermuda service was to be considered as part of the cost of establishing the trans-Atlantic service, and that therefore all operating losses on the Bermuda service prior to the inauguration of the trans-Atlantic service were to be capitalized and amortized. In the *Trans-Atlantic Rate* case we held that the Bermuda service was established as a separate commercial service, and that petitioner's contentions in respect of the nature of these charges could not be sustained. Of the costs, including operating losses during the period from June 1937 to April 1939, incurred in connection with petitioner's local Bermuda service, we held that only \$300,000 could be regarded as extra costs of that service occasioned by preparations for the trans-Atlantic service. The balance of \$632,526.65 was held not to be a proper developmental charge of the trans-Atlantic service, for the reason that the Bermuda service was an independent commercial venture. As to the Bermuda service, these losses must be regarded merely as past losses and hence, except to the extent that they may be reduced by the fixing herein of a rate effective prior to April 1939, they cannot be recaptured by capitalization or otherwise in this proceeding.

In the *Trans-Atlantic Rate* case, we held that certain other charges,⁹ allowed in part as developmental charges of the trans-Atlantic service, were partly attributable to petitioner's Bermuda service. However, our holding in that case, that these charges, insofar as they related to petitioner's trans-Atlantic service were developmental charges, does not mean that, considered in connection with the Bermuda service, they are to be deemed charges of that character. On the contrary, there is every indication that most of these charges represented ordinary expenses of the Bermuda service and therefore merely went to swell the operating losses which were being incurred. The present

⁹ Principally charges relating to the removal of petitioner's base from Port Washington to Baltimore in 1937, to the preliminary training of personnel, and to executive personnel and professional services.

Accident Analyses

(Continued from preceding page)

military pilot taxied into a civilian plane. There were 139 persons involved, 24 of whom received fatal injuries, 11 serious injuries, and 12 minor injuries, while 92 escaped unhurt. Damage to aircraft resulted in 19 planes being destroyed, 40 severely damaged, and 7 slightly damaged.

AIRWAYS AND AIRPORTS

(Continued from page 80)

Material on Airports and Airport Problems Available

Numerous drawings, manuals, memoranda, and other material on airports and airport problems compiled by the Authority are available for distribution to airport engineers and others interested. Covering the specific subjects of building construction, airport construction and drainage, airport lighting and marking, seaplane facilities, and approach protection, the desired material may be obtained from the Airport Section, Civil Aeronautics Authority, Washington, D. C. The complete list is as follows:

I. BUILDING CONSTRUCTION

1. Suggested major airport administration and terminal building, drawing No. 50 (4 pp., October 10, 1938).
2. Suggested medium size airport administration building, drawing No. 54 (1 p., November 1, 1938).
3. Suggested small size administration building. One story with future second story, drawing No. 52 (1 p., revised October 24, 1938).
4. Suggested lay-out for weather bureau, communications, airway traffic, pilots' room, and airport control tower, drawing No. 57 (1 p., October 10, 1938).
5. Frame hangar 60 by 60 feet, drawing No. 100 (2 pp., April 8, 1939).
6. Frame hangar 100 by 100 feet, drawing No. 120 (2 pp., revised June 15, 1939).
7. Typical hangar plan, 80-foot clear span, drawing No. 86 (1 p., March 6, 1939).
8. Typical hangar plan, 100-foot clear span, drawing No. 66 (1 p., February 13, 1939).
9. Typical hangar, 150-foot clear span by 200 feet, drawing No. 95 (1 p., February 13, 1939).
10. Typical single unit hangar, 165-foot span, drawing No. 84 (1 p., February 7, 1939).
11. Typical hangar, 180-foot clear span, drawing No. 65-A (1 p., January 13, 1939).

II. AIRPORT CONSTRUCTION AND DRAINAGE

12. Summary of airport design information based on recommendations contained in forthcoming publication, *Manual of Airport Design and Construction*. (Revised June 7, 1939).
13. The effect of loose runway surfaces on metal propellers (January 10, 1939).
14. Standard types of airport runway drainage (June 12, 1939).
15. Sketches of runway turnarounds, runways 100, 150, 200 feet wide (July 2, 1937).

III. AIRPORT LIGHTING AND MARKING

16. Standard specifications for the installation of airport lighting equipment and materials (December 1, 1939).
17. Performance specifications for airport lighting equipment and materials (May 9, 1936).
18. Air Marking, Civil Aeronautics Bulletin No. 12 (October 1, 1938).

(Continued on next page)

Airport Problems

(Continued from preceding page)

19. Airport Lighting, Civil Aeronautics Bulletin No. 10 (September 1, 1938).
20. Procedure for the purchase of electric lighting equipment for airports (April 16, 1937).
21. The construction and establishment of landing area markers and wind direction indicators, memorandum F-190 (September 14, 1939).
22. Landing area day marking devices, drawing No. 110, 111, 112 (4 pp., April 4, 1939).
23. Standard design for numbering and marking airport runways and landing strips, includes drawing Nos. 129-A and 151 (October 27, 1939).

IV. SEAPLANE FACILITIES

24. Seaplane facility plans, drawing Nos. 94-A, 94, 47, 101, 48, 97-A, 71, 103 (10 pp., March 3, 1939).
25. The construction and establishment of seaplane landing floats and facilities by the National Youth Administration, State aviation officials, and the Civil Aeronautics Authority (March 23, 1939).

V. LEGAL MATERIAL—APPROACH PROTECTION

26. Survey of State airport zoning legislation, Technical Development Division report No. 6 (June 1939).
27. Proposed Kentucky airport zoning act and Louisville airport zoning ordinance, National Institute of Municipal Law Officers, preliminary draft (December 1939).
28. Transcript of findings of fact and conclusions of law and of decree in *United Airports Company of Cal., Ltd., v. Hinman et al.*, with note (January 2, 1940).
29. Recommended lay-out and dimensions of airport approach and turning zones, drawing No. 152 (November 14, 1939).
30. Brief on airports as nuisances (October 18, 1939).
31. Airport approaches and zoning, excerpts from report of Civil Aeronautics Authority to Congress of March 1939.

Airway Maps

A revised edition and a new map of the United States showing the present civil airways and the traffic control areas thereon, respectively, are now available for distribution. The maps are approximately 10½ by 16 inches in size.

The map of the civil airways, which is a revision bringing up to date a former issue, shows by color and by number the civil airways designated by the Administrator of the Civil Aeronautics Authority. The other map, which is a new issue, shows the Authority's airway traffic control centers, the control areas for each of the present 12 centers, and the control zones of intersection on the civil airways. These maps are for informational purposes and are not to be used as flight maps.

Copies may be obtained from the Correspondence Unit, Civil Aeronautics Authority, Washington, D. C.

Radio Frequencies

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The divisions between the various classes of electromagnetic radiations are not definite. The lines of separation are based largely upon the effects and the particular method of producing the various emissions. Under certain conditions, some of these electromagnetic

(Continued on next page)

record does not enable us to determine to what extent, if any, they partook of the nature of developmental charges of the local service. Consequently, we cannot properly take into account in the rate fixed in this proceeding any matters relating to the cost of developing the separate Bermuda service.

Total operating expenses and deficit.—We find that a reasonable estimate of the total direct and indirect operating expenses of petitioner's local Bermuda service is \$370,000 per annum. Since the total operating revenues of the service are estimated at \$213,200 annually, we find that the indicated operating deficit is \$156,800.

Of this sum, as has already been indicated, \$103,000, or 65.7 per cent, represents the apportionment to the Bermuda service of its pro rata share of the expenses of facilities jointly used and personnel commonly employed in both the Bermuda and the trans-Atlantic services. Were the Bermuda service not in operation, it might well be that all or a portion of this sum might have to be borne by petitioner's trans-Atlantic service, but in such event the revenues from local traffic between the United States and Bermuda would also accrue to the benefit of the trans-Atlantic service so long as it continued to serve Bermuda as an intermediate point.

APPLICATION OF THE RATE-MAKING ELEMENTS PRESCRIBED BY THE CIVIL AERONAUTICS ACT OF 1938 TO PETITIONER'S BERMUDA SERVICE

Section 406 (a) of the Civil Aeronautics Act of 1938 empowers and directs the Authority to fix and determine the fair and reasonable rates of compensation for the transportation of mail by aircraft, the facilities used and useful therefor and the services connected therewith. Section 406 (b) provides as follows:

"RATE-MAKING ELEMENTS

"(b) In fixing and determining fair and reasonable rates of compensation under this section, the Authority, considering the conditions peculiar to transportation by aircraft and to the particular air carrier or class of air carriers, may fix different rates for different air carriers or classes of air carriers, and different classes of service. In determining the rate in each case, the Authority shall take into consideration, among other factors, the condition that such air carriers may hold and operate under certificates authorizing the carriage of mail only by providing necessary and adequate facilities and service for the transportation of mail; such standards respecting the character and quality of service to be rendered by air carriers as may be prescribed by or pursuant to law; and the need of each such air carrier for compensation for the transportation of mail sufficient to insure the performance of such service, and, together with all other revenue of the air carrier, to enable such air carrier under honest, economical, and efficient management, to maintain and continue the development of air transportation to the extent and of the character and quality required for the commerce of the United States, the Postal Service and the national defense."

The definition of the "need" of each air carrier for compensation for the transportation of mail as set forth in the last clause of section 406 (b) implements the first item in the general declaration of policy set forth in section 2 of the act that—

"In the exercise and performance of its powers and duties under this act, the Authority shall consider the following, among other things, as being in the public interest, and in accordance with the public convenience and necessity—

"(a) The encouragement and development of an air-transportation system properly adapted to the present and future needs of the foreign and domestic commerce of the United States, of the Postal Service, and of the national defense; * * *."

It is believed that the interests to be considered in relation to the commerce of the United States, the Postal Service, and the national defense under both of the above-quoted sections are essentially national interests, and not necessarily the individual interests of any particular air carrier. In referring, in section 406 (b), to the needs of each air carrier for compensation for the transportation of mail sufficient for the purposes stated, Congress cannot be understood to have meant that rates should always be fixed in such amounts as would be necessary to maintain existing services in their present volume and character under all conditions; such an interpretation would not harmonize with the controlling objectives which underlie these particular provisions of the act. While the special provisions of section 401 (e) of the act have disposed of the issue of public convenience and necessity for the local Bermuda service, that section has not determined the question of the character and extent of the services for which the Authority is to fix rates under the rate-making elements set forth in section 406 (b). The statute contains no mandate to the Authority to fix rates of compensation which will insure the continuance or promote the development of services, to an extent, and of a character and quality, *not* required by the commerce of the United States, the Postal Service, and the national defense.

There is some doubt whether the local Bermuda service would be necessary to provide adequate service and to meet the objectives of the act, were the conditions under which it is now being conducted to become permanent. The total annual number of passengers carried between the United States and Bermuda, on the basis of the traffic during the last 4 months of 1939, is only about 40 per week in each direction, and it would appear that during this period that number could have been accommodated on the New York-Bermuda flights of petitioner's trans-Atlantic service. This also is true as regards the mail service between the United States and Bermuda, where the volume in each direction has been less than 50 pounds per trip, which could likewise have been carried on the trans-Atlantic service.

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There is now on file with the Authority an application (docket No. 256) by petitioner for a reconsideration of the Authority's decision in the matter of petitioner's application for a certificate of public convenience and necessity for its trans-Atlantic service,¹⁰ in which application it is requested that the Authority authorize petitioner to operate four schedules per week across the Atlantic. There is also pending before the Authority a petition (docket No. 370) for an order fixing mail rates on additional frequencies in the trans-Atlantic service up to a maximum of six schedules a week. With any substantial increase in the number of Bermuda stops that might be authorized on the trans-Atlantic service, the need for the continued maintenance of the sepa-

Radio Frequencies

(Continued from preceding page)

impulses may be seen, felt, or heard. Of the eight classes of electromagnetic radiations, that portion classed as "radio waves" covers a relatively small part of the total electromagnetic spectrum.

Radio facilities are extremely limited. In order to provide the maximum possible service for the benefit of the public, it is necessary to control and restrict the use of the available channels. As transmission by radio waves spans great distances, it has been found necessary to have international agreement on the proportion of available channels to be allocated for particular services. To prevent interference and confusion within our own country, it is necessary to further apportion the frequencies in the best interests of users.

Besides the standard broadcast channels, our radio spectrum is shared by other primary services, such as: fixed, marine, aviation, emergency, amateur, miscellaneous, experimental, Government, and broadcast services other than standard broadcast. These general service allocations cover various classes of station, including: relay, international broadcast, high-frequency broadcast, noncommercial education, facsimile, television, point-to-point telephone and telegraph, agriculture, press, coastal, telegraph and telephone, ship, aircraft, aeronautical, instrument landing systems, airport, municipal and State police, marine fire, forestry, geological, mobile press, motion picture, amateur phone, telegraph and television, as well as experimental classes of stations.

The present useful radio spectrum, in which channels are now allocated, ranges from 10 to 300000 kilocycles, or in terms of wavelengths, from 30000 meters to 1 meter. That portion below 100 kilocycles is popularly referred to as "long waves;" from 100 kilocycles to 550 kilocycles as "medium long waves;" from 550 to 1600 kilocycles as "broadcast;" 1600 to 6000 kilocycles as "medium short waves;" 6000 to 30000 kilocycles as "short waves;" and above 30000 kilocycles as "very short" or "ultra-short waves."

The band below 100 kilocycles is occupied by Government and commercial long wave fixed service stations.

From 100 kilocycles to the beginning of the broadcast band at 550 kilocycles, we have the medium long-wave stations, as follows:

From 100 to 200 kilocycles—Government and private ship, coastal, and fixed service stations.

From 200 to 400 kilocycles—primarily Government aids to navigation, such as radio navigation for aircraft, and radiobeacon service to ships, interspersed with airport on 278 kilocycles, direction finding on 375 kilocycles, and miscellaneous fixed stations.

From 400 to 550 kilocycles—Government and commercial ship and coast stations in the maritime service centered near the international calling and

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Radio Frequencies

(Continued from preceding page)

distress frequency of 500 kilocycles (600 meters).

The rest of the spectrum from the end of the "broadcast" band at 1600 kilocycles, involving the so-called "medium short," "short," and "ultra-short" wave bands, could be pictured as a many-layered sandwich, with police, amateur, aviation, Government, ship, coastal, broadcast, mobile press, special services, experimental, television, fixed, forestry, and all other classes of stations providing varying depths of filling.

Of course, this does not mean that all these bands are completely filled. Radio communication is still undergoing change, and the Federal Communications Commission, in licensing individuals and firms to use the public's radioways, is charged with preparing for the future, as well as for the present. Hence, some channels are held open for future developments, while others already allocated, are subject to shift with changing events.

rate local Bermuda service would be so diminished, that the continuance of the local service might not be justified.

On the other hand, there is no certainty that any stops at Bermuda on the trans-Atlantic service will be continued. Since the Bermuda service now appears to have some commercial value, and since there now appears to be some need for mail service between the United States and Bermuda, it seems advisable to fix a rate which will insure the continuance of the local service, which is the only service which will certainly stop at Bermuda. The continuance of this service is justifiable at least until it is known to what extent, if at all, Bermuda will be served by the trans-Atlantic operation. If the local Bermuda service were now to be abandoned, this might result in there being no air-transportation service at all between the United States and Bermuda.

If the local Bermuda service alone be considered, on the basis of the forecasts herein given, and if that portion of the expense thereof which would in any event be required for the operation of the trans-Atlantic service be excluded from consideration, the aggregate of (1) revenue from sources other than United States mail and (2) of receipts by the Post Office Department on account of postage on United States mail at existing postage rates¹¹ will cover 86.5 percent of the total expense of operating the service. After allowing for the effect of increased traffic on certain items of expense, it appears that a flat increase of approximately 19 percent in passenger, mail, and express revenue volume at present rates would enable the operation to cover expenses. In the event of any substantial increase in these revenues, the rate herein fixed should be reduced to an extent which would reflect the reduced dependence of the air carrier upon air-mail revenue, but at the same time would permit a part of the benefit

¹⁰ Pan American Airways Co. (of Delaware), certificate of public convenience and necessity, docket 163.

¹¹ Computed at the rate of \$4.60 per pound, this being the rate per pound fixed by the Postmaster General for compensation to Imperial Airways (Bermuda) Limited for the performance of similar service. The present postage rate is 10 cents per half ounce, and approximately 40 postage units are contained in the average pound of foreign air mail.

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from the increased revenue to redound to the carrier.¹² The comparatively small cost to the Government necessary to maintain this service, and a consideration of the national interests involved, lead us to the conclusion that it is proper to fix in this proceeding a rate calculated to permit the continuance of the local Bermuda service in its present extent and character.

As already explained, the rate fixed herein for the transportation of mail represents to the extent of \$1,100 per trip (64.7 percent of the total per trip rate, as hereinafter stated) the equivalent of the amount of \$103,000 per year which we find to be properly apportionable to petitioner's Bermuda service in respect of facilities jointly used and personnel commonly employed in petitioner's trans-Atlantic and Bermuda services. Strictly speaking, our holding in the *Trans-Atlantic Rate* case¹³ would establish this rate only as of May 20, 1939, the date of commencement of operations on the trans-Atlantic service. However, it is evident that, prior to May 20, 1939, a good many facilities were used exclusively in the Bermuda service, and a good many personnel were exclusively employed therein which since that

date have been attributable in part to the operation of the trans-Atlantic service. The record herein does not enable us to determine precisely the expense properly attributable to the Bermuda service in respect of these personnel and facilities prior to May 20, 1939. However, it is certain that such expenses were being incurred at a rate not less than \$103,000 per annum. Accordingly, the rate computed on the present basis will be made retroactive to November 19, 1938, the date of filing the petition herein.

The petition herein is for an order fixing and determining the fair and reasonable rates of compensation for the transportation of mail over the route as it was described in the petitioner's then pending application for a certificate of public convenience and necessity, namely, a route between New York, N. Y., and Bermuda, with a right to substitute Baltimore, Md., or Charleston, S. C., as the terminal point in the United States instead of New York, N. Y. The certificate of public convenience and necessity which was subsequently issued to petitioner for this route authorizes the use of Baltimore, Md., Norfolk, Va., or Charleston, S. C., as terminal points instead of New York, N. Y., when weather conditions render it necessary, and the rates herein established have been fixed with due regard for the fact that petitioner may, during certain periods, have to use such alternate terminal points in lieu of New York, N. Y.

The rate fixed herein has been determined with direct reference to the operation of the local Bermuda service on a frequency of two

¹² Petition of Mid-Continent Airlines, Inc., docket No. 3-406 (A)-1, decided April 14, 1939.

¹³ Pan American Airways Co. (of Delaware), petition for an order fixing and determining fair and reasonable rates of air-mail compensation, docket No. 202 (*Trans-Atlantic Rate case*).

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round trips per week. In the event of a change in the number of schedules authorized by the Postmaster General for the carriage of mail on the local service, there would be occasion for a reconsideration of the rates herein established.

Upon consideration of the record in this proceeding, and after taking into consideration the elements set forth in the Civil Aeronautics Act of 1938, particularly section 406 thereof, we find that for the transportation of mail by aircraft, the facilities used and useful therefor and the services connected therewith, between New York, N. Y. (or Baltimore, Md., Norfolk, Va., or Charleston, S. C., when weather conditions render it necessary to use any of such points as a terminal point instead of New York, N. Y.), and Hamilton, Bermuda, the fair and reasonable rates of compensation to be paid to petitioner from and after November 19, 1938, the date of filing the petition herein, are:

One thousand and seven hundred dollars per outbound trip on trips conducted on petitioner's local Bermuda service; until further order of the Authority, the rate herein fixed shall constitute petitioner's total compensation for the transportation of local United States-Bermuda mail between the United States and Bermuda, whether transported on petitioner's trans-Atlantic or local service.

The foregoing rate is for the transportation of the first 400 pounds of mail, or fraction thereof, per outbound trip and there shall be paid to petitioner for any excess over 400 pounds on trips conducted on petitioner's local Bermuda service, \$0.75 per pound per outbound trip.

An appropriate order will be entered.

Hinekley, Chairman, and Branch, Ryan, Mason, and Warner, Members, concur in this opinion.

ORDER

Pan American Airways Co. (of Delaware) having filed petition, pursuant to section 406 of the Civil Aeronautics Act of 1938, for an order fixing and determining the fair and reasonable rates of compensation for the transportation of mail by aircraft, the facilities used and useful therefor, and the services connected therewith, over the route between New York, N. Y. (or certain other designated points in the United States), and Bermuda, and a full hearing on said petition having been held before the Authority, and the Authority, upon consideration of the record of such proceedings, having issued its opinion containing its findings, conclusions, and decision, which is attached hereto and made a part hereof, and having found that its action in this matter is necessary pursuant to said opinion:

IT IS ORDERED, That for the transportation of mail by aircraft, the facilities used and useful therefor, and the services connected therewith, between the points between which petitioner is authorized to transport mail in the certificate of public convenience and necessity which it holds for the route between New York, N. Y. (or Baltimore, Md., Norfolk, Va., or Charleston, S. C., when weather conditions render it necessary to use any of such points as a terminal point instead of New York, N. Y.) and Hamilton, Bermuda, the fair and reasonable rates of compensation to be paid to petitioner for such service are hereby fixed, determined, and published as follows:

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One thousand seven hundred dollars per outbound trip on trips conducted on petitioner's local Bermuda service. Until further order of the Authority, the rate herein fixed shall constitute petitioner's total compensation for the transportation of local United States-Bermuda mail between the United States and Bermuda, whether transported on petitioner's trans-Atlantic or local service.

The foregoing rate is for the transportation of the first 400 pounds of mail, or fraction thereof, per outbound trip and there shall be paid to petitioner for any excess over 400 pounds on trips conducted on petitioner's local Bermuda service, \$0.75 per pound per outbound trip.

IT IS FURTHER ORDERED, That the effective date of this order is February 28, 1940, and that the rates fixed and determined herein shall take effect on and after November 19, 1938, and shall remain in effect until further order of the Authority.

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DOCKET NOS. 156 AND 289

LAMOTTE T. COHU—INTERLOCKING RELATIONSHIP

In the matter of the applications of LaMotte T. Cohu and Transcontinental & Western Air, Inc., filed pursuant to section 409 (a) of the Civil Aeronautics Act, for permission for LaMotte T. Cohu to hold certain interlocking relationships.

Decided February 21, 1940

Applications of LaMotte T. Cohu and Transcontinental & Western Air, Inc., for approval of the holding by LaMotte T. Cohu of the position of director of Transcontinental & Western Air, Inc., an air carrier, while holding the position of director and chairman of the board of directors of Northrop Aircraft, Inc., a manufacturer of military aircraft, approved.

Applications of LaMotte T. Cohu and Transcontinental & Western Air, Inc., for approval of the holding by LaMotte T. Cohu of the position of director of

Transcontinental & Western Air, Inc., an air carrier, while holding the position of president and director of Air Investors, Inc., a company holding investments in air carriers, denied.

APPEARANCES:

Gerald B. Brophy, for LaMotte T. Cohu and Transcontinental & Western Air, Inc.

Hubert A. Schneider and *John G. Sarber*, for Civil Aeronautics Authority.

OPINION

BY THE AUTHORITY:

By applications filed on January 30, 1939 (docket No. 156), and on August 1, 1939 (docket No. 289), pursuant to section 409 (a) of the Civil Aeronautics Act of 1938, LaMotte T. Cohu and Transcontinental & Western Air, Inc., seek the approval of the Authority for applicant Cohu to serve as president and director of Air Investors, Inc., and as director and chairman of the board of directors of Northrop Aircraft, Inc., while continuing to hold the position of director of Transcontinental & Western Air, Inc.

After due notice to the public and interested parties, a public hearing upon these applications was held on October 26, 1939, before Examiner C. E. Leasure of the Authority. The report of the examiner which was duly filed and served on January 12, 1940, recommended that the applications for approval of Mr. Cohu's holding the position of director of Transcontinental & Western Air, Inc., while serving as a director and chairman of the board of Northrop Aircraft, Inc., be

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approved, but recommended that the applications for approval of Mr. Cohu's serving as a director of Transcontinental & Western Air, Inc., while serving as president and director of Air Investors, Inc., be denied. No exceptions were taken to the examiner's report.

Applicant Cohu, a citizen of the United States and a resident of California, has had broad financial experience and has been closely connected with aeronautics for a number of years. Upon the organization in 1934 of the applicant air carrier, Transcontinental & Western Air, Inc., he was elected a director of that corporation and has continued as one of its directors since that date. In December 1938, Mr. Cohu was elected president and director of Air Investors, Inc., and in the early part of 1939 he was elected director and chairman of the board of directors of Northrop Aircraft, Inc.

Transcontinental & Western Air, Inc., hereinafter referred to as T. W. A., was incorporated in the State of Delaware in 1934, and has its principal offices at Kansas City, Mo. It is the holder of five certificates of public convenience and necessity authorizing the air transportation of persons, property, and mail wholly within the United States over routes Nos. 2, 36, 37, 38, and 44.¹ Applicant Cohu holds no stock in, nor is he otherwise financially interested in, T. W. A.

Northrop Aircraft, Inc., hereinafter referred to as Northrop, was organized March 7, 1939, under the laws of California as a corporation to engage in the design, manufacture, and sale of aircraft. It appears from the record that while the company has not yet begun operations its activities will be limited solely to the manufacture and sale of

military aircraft and that at the present time it does not contemplate the production of aircraft, engines, or accessories designed for commercial use. Applicant Cohu owns 4,999 shares or 2.499 percent of the outstanding class A voting stock and 7,499 shares or 17.043 percent of the outstanding class B nonvoting stock of the company. Northrop holds no interest in any air carrier, common carrier, or any company engaged in any phase of aeronautics.

Air Investors, Inc., hereinafter referred to as Air Investors, was organized as a Delaware corporation in 1928. The principal business of this company is the holding, for longer or shorter periods depending upon market conditions, of the stocks of companies engaged in various phases of the aviation industry. As of October 23, 1939, Air Investors owned securities of eleven aeronautical manufacturing or supply companies and of 5 air carriers. Included in these holdings were 2,000 shares or 0.241 percent of the outstanding stock of T. W. A. and 8,500 or 5.667 percent of the outstanding class A stock and 6,533

¹ Certificates of public convenience and necessity, Transcontinental & Western Air, Inc., docket Nos. 17-401 (E)-1 and 295.

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or 7.84 percent of the outstanding purchase warrants of Northrop.² In no case did the holdings of Air Investors in aeronautical enterprises represent as much as 5 percent of the outstanding stock of any 1 company. Applicant Cohu is the owner of 11,100 shares or 5.453 percent of the issued and outstanding common stock of Air Investors, and he owns 23,250 or 8.693 percent of its outstanding warrants, which give the right to purchase common stock at a price of \$10 per share.

By virtue of the provisions of section 409 (a) of the Civil Aeronautics Act of 1938, interlocking relationships between an air carrier and a manufacturer of aircraft or between an air carrier and a person whose principal business, in purpose or in fact, is the holding of stock in any other person engaged in any phase of aeronautics are declared to be unlawful unless such relationships are approved by the Authority upon due showing that the public interest will not be adversely affected thereby.³ The Authority has previously held that the proper statutory interpretation of this provision is one which places upon the applicant the burden of establishing by an affirmative showing that the public interest will not be adversely affected by the existence of the particular interlocking relationship for which approval is sought.⁴

In the case of Northrop, the Authority believes that the applicants have sufficiently met this statutory burden of establishing that the public interest will not be affected adversely by the holding by applicant Cohu of the position of director of Northrop while at the same time retaining the position of director of T. W. A. We have previously

² The shares of stock and warrants of Northrop are held for the benefit of Air Investors by Jaquith & Co.; by virtue of the sale of 2,500 shares of class A stock for future delivery, Air Investors will be the beneficial owner of only 6,000 shares upon the closing of the underwriting account.

³ Section 409 (a) provides in part as follows:

"After one hundred and eighty days after the effective date of this section, it shall be unlawful, unless such relationship shall have been approved by order of the Authority upon due showing, in the form and manner prescribed by the Authority, that the public interest will not be adversely affected thereby—

"(1) For any air carrier to have and retain an officer or director who is an officer, director, or member, or who as a stockholder holds a controlling interest, in any person who is a common carrier or is engaged in any phase of aeronautics.

"(3) For any person who is an officer or director of an air carrier to hold the position of officer, director, or member, or to be a stockholder holding a controlling interest, or to have a representative or nominee who represents such person as an officer, director, or member, or as a stockholder holding a controlling interest, in any other person who is a common carrier or is engaged in any phase of aeronautics.

"(4) For any air carrier to have and retain an officer or director who is an officer, director, or member, or who as a stockholder holds a controlling interest, in any person whose principal business, in purpose or in fact, is the holding of stock in, or control of, any other person engaged in any phase of aeronautics.

"(6) For any person who is an officer or director of an air carrier to hold the position of officer, director, or member, or to be a stockholder holding a controlling interest, or to have a representative or nominee who represents such person as an officer, director, or member, or as a stockholder holding a controlling interest, in any person whose principal business, in purpose or in fact, is the holding of stock in, or control of, any other person engaged in any phase of aeronautics."

⁴ Interlocking relationship, Lawrence C. Ames, 1 C. A. A. Opinions, temporary p. III, 1 CIVIL AERONAUTICS JOURNAL, p. 12.

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denied an application for the approval of an interlocking relationship between an air carrier and a manufacturer of aircraft used or useful in air transportation where we have found circumstances which would make the existence of that interlocking relationship contrary to the public interest.⁵ In this case, however, we believe that the fact that Northrop intends to engage exclusively in the manufacture and sale of military aircraft removes the possibility of any conflict of interest resulting from an interlocking relationship between T. W. A. and Northrop. While it is true that Northrop may, at a later date, manufacture commercial aircraft or engines and accessories of the type used or useful in air transportation and while the Authority in the determination of the existence of conflicting interests is not confined to a consideration of the facts as they presently exist, but may also take into account the possibility of conflicting interests which might reasonably be expected to arise subsequently as a result of the relationship, any such change in the policy of Northrop would be one which could be easily ascertained. If the facts at a later date are such as to indicate that the continuance of an interlocking relationship, even though previously approved by the Authority, would adversely affect the public interest, the Authority may then properly take such steps toward the disapproval of the interlocking relationship as appear to be necessary for the protection of the public interest.

As to the interlocking relationship between T. W. A. and Air Investors, whose principal business, in purpose or in fact, is the holding of aviation stocks including that of air carriers, the Authority does not believe that applicants have met the statutory burden of showing that the public interest would not be adversely affected thereby. One danger in the type of relationship in question arises by virtue of the existence of a mechanism which might permit disclosure by the director of an air carrier of confidential information concerning that company to the managers of the investment firm of which he is also a director and which holds stock of the air carrier, which disclosure may result in benefit to the investment firm and in detriment to the air carrier. In addition, opportunity is afforded to the director holding such interlocking positions to urge, in dereliction of his fiduciary duty to the air carrier, the adoption of a policy, or the taking of action, by such carrier which might be contrary to its best interests but which, on the other hand, would be beneficial to the investment firm of which he is also a director.

In reaching its conclusion the Authority does not question the good faith of Mr. Cohu who testified that as a director of T. W. A. he would not feel free to disclose to the board of Air Investors information concerning the former company which was not a matter of public knowledge and that he would not make recommendations with respect to

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the purchase or sale of the securities of T. W. A. It is sufficient to note that the approval of the relationship in question would, as a matter of principle, sanction the existence of an intercorporate mechanism which might be subject to abuse to the detriment of the air carrier. The fact that the Civil Aeronautics Act of 1938 provides no specific standards to guide the Authority in passing upon applications under section 409 (a), other than the broad test of public interest compels the Authority to proceed with caution in the exercise of its discretion in granting exceptions from the statutory prohibitions.

Upon consideration of the record in this proceeding, the Authority finds:

1. That Transcontinental & Western Air, Inc., is an air carrier, and that LaMotte T. Cohu is a director thereof;
2. The Northrop Aircraft, Inc., is a person engaged in a phase of aeronautics, namely, the manufacture and sale of aircraft;
3. That Air Investors, Inc., is a person whose principal business, in purpose or in fact, is the holding of stock in persons engaged in some phase of aeronautics;
4. That the holding of the positions of director of Transcontinental & Western Air, Inc., and of director of Northrop Aircraft, Inc., while such latter corporation is engaged solely in the manufacture and sale of military aircraft and not engaged in the manufacture and sale of aircraft or engines and accessories of the type used by air transportation companies, does not result in the creation of conflicting interests and would not be adverse to the public interest;
5. That the holding of the positions of director of Transcontinental & Western Air, Inc., and of president and director of Air Investors, Inc., would, by virtue of the type of securities purchased, sold, and retained by the latter company, result in the creation of conflicting interests, and that the applicants Transcontinental & Western Air, Inc., and LaMotte T. Cohu have not made a due showing that the public interest will not be adversely affected by the holding by the said LaMotte T. Cohu of such interlocking positions.

An appropriate order will be entered.

Hinkley, Branch, Ryan, Mason, and Warner, Members of the Authority, concurred in the above opinion.

ORDER

LaMotte T. Cohu and Transcontinental & Western Air, Inc., having filed applications with the Authority on January 30, 1939, and August 1, 1939, pursuant to section 409 (a) of the act for approval of the holding of the following positions by the said LaMotte T. Cohu:

Director—Transcontinental & Western Air, Inc.
Director—Northrop Aircraft, Inc.
President and director—Air Investors, Inc.

and;

A full hearing thereon having been held, and the Authority upon full consideration of the record of such proceedings having issued its opinion containing its findings of fact, conclusions, and decision which is attached hereto and made a part hereof, and finding that its action in this matter is necessary pursuant to said opinion:

NOW, THEREFORE, IT IS ORDERED:

1. Subject to the further provisions of this order, the interlocking relationships existing or proposed to exist by reason of LaMotte T. Cohu holding the following positions are hereby approved:

Director—Transcontinental & Western Air, Inc.
Director—Northrop Aircraft, Inc.

and the said LaMotte T. Cohu is authorized to hold said positions.

2. The authorization herein granted shall continue with respect to each position so long as the said LaMotte T. Cohu continues in uninterrupted tenure thereof. Whenever the said LaMotte T. Cohu shall cease to hold any such position or such position shall cease to fall within the purview of section 409 (a) of the act, the authorization herein granted to hold such position shall terminate without further action of the Authority.

3. In the event of the resignation, withdrawal, or failure of reelection or appointment of the said LaMotte T. Cohu, with respect to any of the positions herein authorized to be held, or in the event of any other material or substantial change therein, the said LaMotte T. Cohu shall, within 30 days after such change occurs, give notice thereof to the Authority, setting forth the details of such change.

4. This order shall be subject to revocation by the Authority at any time if it deems that the public interest will be adversely affected by the holding by the said LaMotte T. Cohu of any or all positions herein authorized to be held.

IT IS FURTHER ORDERED:

1. The interlocking relationships existing or proposed to exist by reason of LaMotte T. Cohu holding the following positions are hereby disapproved:

Director—Transcontinental & Western Air, Inc.
President and director—Air Investors, Inc.

and the applications requesting authorization to hold such positions are denied.

2. The order of the Authority, No. 409-A-1, entered on February 17, 1939, authorizing the temporary continuance of interlocking relationships existing on, and covered by applications filed on or before February 18, 1939, is hereby vacated insofar as applicable to the holding by the said LaMotte T. Cohu of the above-named positions.

DOCKET No. 219

BOSTON-MAINE AIRWAYS, INC.—MAIL RATES

Petition for order fixing and determining fair and reasonable rate of compensation for the transportation of mail by aircraft over route No. 27.

Decided February 28, 1940

Fair and reasonable rate of compensation for the transportation of mail by aircraft fixed and determined.

APPEARANCES:

W. A. Cole, for petitioner.

John R. Curry, for Civil Aeronautics Authority.

MARCH 15, 1940

BY THE AUTHORITY:

This proceeding was instituted on petition filed April 7, 1939, by Boston-Maine Airways, Inc., herein referred to as petitioner, for an order fixing and determining the fair and reasonable rate of compensation for the transportation of mail by aircraft, the facilities used and useful therefor, and the services connected therewith, over route No. 27. A hearing on such petition was held before the Authority on May 8, 1939.

Route No. 27 for which petitioner holds a certificate of public convenience and necessity issued by the Authority on May 31, 1939¹ is a V-shaped route extending from Boston, Mass., via the intermediate points of Portland, Lewiston-Auburn, Augusta, Waterville, Bangor, Millinocket, Houlton, and Presque Isle, Maine, to the terminal point Caribou, Maine, and extending from Boston, Mass., via the intermediate points of Manchester, N. H., Concord, N. H., White River Junction, Montpelier-Barre, and Burlington, Vt., to the terminal point Montreal, Canada.

The transportation of air mail on this route between Boston, Mass., and Burlington, Vt., and between Boston, Mass., and Bangor, Maine, was inaugurated by National Airways, Inc., on June 25, 1934, and June 26, 1934, respectively. On March 1, 1937, the petitioner purchased all of the property and assets of National Airways, Inc., including the air-mail contract for route No. 27. Mail service from Bangor to Caribou, Maine, and from Burlington, Vt., to Montreal, Canada, was authorized by the Post Office Department on August 4, 1937, and August 10, 1937, respectively.

¹ Boston-Maine Airways, Inc., certificate of public convenience and necessity, docket No. 13-401 (E)-1.

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Petitioner's present rate of compensation for the transportation of mail over route No. 27 is at the rate of 33½ cents per airplane mile for a load of 300 pounds or less with a base mileage of 38,500 miles per month, as fixed by order of the Interstate Commerce Commission in *Boston-Maine Airways, Inc., Base Rate Mileage*,² entered on September 6, 1938. The contract with the Post Office Department under which petitioner transported mail over route No. 27 was canceled on May 31, 1939, pursuant to section 405 (a) of the Civil Aeronautics Act, by the issuance to petitioner of a certificate of public convenience and necessity authorizing it to transport mail over that route. As provided in section 405 (a), however, the compensation continues at the rate set by the Interstate Commerce Commission until a new rate is established by the Civil Aeronautics Authority. In its application, petitioner seeks 42 cents per airplane mile with a base mileage of 60,000 miles per month as a fair and reasonable rate.

Petitioner was incorporated on July 20, 1931, with an authorized issue of 250 shares of \$100 par value common stock. On December 11, 1936, the authorized capital stock was increased to 2,500 shares of 5 percent preferred stock of \$100 par value and 2,500 shares of common stock of \$100 par value. Upon its purchase of the assets of National Airways, Inc., petitioner issued in payment therefor 810 shares of preferred stock and 1,254 shares of common stock, having a total par value of \$206,400. The assets so acquired had a net value

of \$52,832.52. As a balancing item, petitioner set up on its books an intangible asset in the amount of \$153,567.48 which was originally carried as "goodwill" but is now entitled "Property and equipment acquisition adjustment." Petitioner's balance sheet as of June 30, 1939, reflects the following:

ASSETS

Current assets.....	\$96, 177. 59
Deferred debits.....	5, 249. 12
Fixed assets:	
Real property and equipment.....	105, 689. 68
Property and equipment acquisition adjustment.....	153, 567. 48
	360, 683. 87

1229 I. C. C. 343 (1938).

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LIABILITIES

Current liabilities.....	116, 713. 92
Deferred credits.....	1, 006. 21
Capital:	
Preferred stock outstanding.....	191, 400. 00
Common stock outstanding.....	150, 000. 00
Surplus:	
Unearned surplus.....	361. 50
Unappropriated earned surplus.....	-98, 797. 76
	360, 683. 87

After exclusion of the item entitled "Property and equipment acquisition adjustment" amounting to \$153,567.48, which was originally set up on petitioner's books as "goodwill," it appears that the remaining net worth of petitioner as of June 30, 1939, amounted to only \$89,396.26. As of June 30, 1939, however, its fixed assets alone amounted to \$105,689.68. From the beginning of its air-mail operations, petitioner's current liabilities and deferred credits have exceeded its current assets and deferred debits, such excess amounting to \$16,293.42 as of June 30, 1939. It appears that petitioner has obtained its working capital by means of short-term loans from banks and from the Boston & Maine Railroad and Maine Central Railroad, each of which companies owns 25 percent of petitioner's outstanding capital stock. As of June 30, 1939, there were outstanding short-term loans to the extent of \$44,200.

Petitioner owns three Lockheed Electra aircraft, two Stinson trimotor planes and two single-engine Stinson aircraft. During the winter months, petitioner's schedules are so arranged as to require two Lockheed Electra aircraft to operate the two daily round-trip schedules between Boston and Montreal. Although only one Electra is needed for this service in the summer months, the second Electra is required for the operation of second sections on the Boston-Bangor portion of its route during the season of peak traffic loads. The third Electra is used in the regular Boston-Bangor operation, while the service between Bangor and Caribou is conducted with trimotor Stinson aircraft which, according to the testimony of the petitioner, are the only aircraft suitable for use in that territory. Petitioner's

intention to purchase an additional Lockheed Electra aircraft appears to be justified in view of its lack of reserve Electra equipment which is necessary for the conduct of safe and efficient operations. The two single-engine Stinson aircraft owned by petitioner are used for pilot training. Since one of these planes, purchased in January 1939, appears adequate for this purpose, the need for the second plane which was acquired in May 1939 is not apparent from the record and, accordingly, no consideration has been given to such equipment in fixing the rate herein.

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As of the date of the hearing, the mail service on route No. 27 authorized by the Post Office Department consisted of one round trip daily and one round trip daily, except Sundays and holidays, between Boston and Montreal; two round trips daily between Boston and Bangor; and one round trip daily, except Sundays and holidays, between Bangor and Caribou. On July 1, 1939, the round-trip schedule between Bangor and Caribou was authorized on a daily basis. Petitioner also transports mail between Boston and Montreal on holidays on a weight-credit basis.

The schedules presently designated by the Post Office Department for the carriage of mail, on the basis of Post Office "route A" mileage and 100-percent performance, authorize 797,758 pay-mail miles annually and 4,240 weight-credit miles annually, or a total of 801,998 scheduled miles. The mileage which has heretofore been used for computing air-mail compensation payable is based on distances corresponding to the miles actually flown over authorized airways, and the variance between such mileage and the direct airport-to-airport mileage, which is herein adopted as the basis for computation, has been taken into consideration in fixing the rate herein to be applicable from March 1, 1940. Petitioner's average performance of scheduled mileage for the past 3 years is 86.15 percent which appears to be a reasonable basis for forecasting the extent of future operations. Accordingly, on the basis of 801,998 scheduled miles and 86.15-percent performance thereof, it is estimated that 690,921 miles will be operated by petitioner for the year beginning March 1, 1940.

Petitioner's route, for which it was entitled to a certificate of public convenience and necessity by virtue of the grandfather clause, presents many difficulties from a traffic standpoint. In addition to large seasonal variations the passenger density on the Maine division of petitioner's route varies greatly between points. The passenger load between Bangor and Caribou is normally very light averaging less than two passengers per trip, or a passenger revenue of approximately 9 cents per mile. Because of this light traffic, mail revenue has constituted approximately 80 percent of the total revenues on this portion of the route. Between Boston and Bangor, on the other hand, petitioner experiences heavy traffic loads during its peak season in the summer months. In August 1938, petitioner carried 9.41 passengers per trip between Boston and Portland with a gradual diminution of traffic between Portland and Bangor. In past years petitioner has operated additional schedules during these months to accommodate such traffic between Boston and Bangor, but petitioner's witness

testified that during the year 1939, petitioner intended to operate second sections as the need for such service actually arose rather than to establish additional schedules. During the 12-month period ended November 30, 1939, petitioner operated 17,752 exclusive passenger

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miles in addition to its scheduled pay-mail mileage.³ In fixing the rate herein allowance for the revenues and expenses incident to the operation of 11,000 second-section miles has been made, resulting in an estimated 701,921 revenue miles to be operated for the year beginning March 1, 1940.

Petitioner realized passenger revenues for the 12-month period ended November 30, 1939, of approximately \$151,407.27. However, the increase in petitioner's passenger revenue which will result from the increase in petitioner's pay-mail mileage is only partially reflected by the above revenue figure since such increase in mileage did not occur until July 1939, and in determining passenger revenues for the future a full year's operation of such additional mileage must be taken into account. Petitioner's average passenger load has also shown a steady upward trend, increasing by approximately one-half a passenger a year from 3.22 passengers for the 12 months ended September 30, 1938, to 3.79 passengers for the 12 months ended November 30, 1939. In view of this favorable trend it appears reasonable to conclude that a passenger load of at least 4.16 will be realized by petitioner for the year beginning March 1, 1940. Such an average passenger load, combined with the estimated 701,921 revenue miles to be operated, would produce 2,919,991 passenger miles which, at an average passenger fare of 5.5 cents per mile, would produce passenger revenue in the amount of approximately \$160,600 or 22.88 cents a revenue mile.

For the 12 months ended November 30, 1939, petitioner realized express revenue of \$2,322.16 or 0.32 of a cent per revenue mile, excess baggage revenue of \$565.51 or 0.078 of a cent per revenue mile and incidental revenue of \$13,963.09 or 1.92 cents per revenue mile. It is concluded that for the year beginning March 1, 1940, express revenue of \$2,600 or 0.37 of a cent per revenue mile, excess baggage revenue of \$560 or 0.08 of a cent per revenue mile, and incidental revenue of \$14,480 or 2.06 cents per revenue mile will be realized. Total non-mail revenue for the year beginning March 1, 1940, is thus calculated to be \$178,240 or 25.39 cents per revenue mile.

Direct and indirect flying expenses for the calendar year 1938 and for the 12 months ended November 30, 1939, exclusive of depreciation expense, totaled \$262,687.32 or 38.51 cents per revenue mile and \$305,015 or 42.15 cents per revenue mile, respectively. In light of petitioner's experience and after making allowance for the increased direct and indirect flying expenses incident to the operation of its increased pay mail mileage, it is estimated that these expenses for the year beginning March 1, 1940, will be \$300,000 or 42.73 cents per revenue mile.

³ While petitioner operated extra schedules during the 12-month period ended November 30, 1939, no break-down of its 17,752 exclusive passenger miles as between second-section mileage and extra-schedule mileage can be made on the basis of the record.

Petitioner depreciates its Lockheed Electra planes on the basis of a 4-year service life from the date of acquisition with a 10-percent residual value, regardless of whether such planes were acquired new or secondhand. Petitioner's records indicate that of the two new Electras acquired in October 1936, one of them will become fully depreciated on November 1, 1940, and the other on February 1, 1941, and that the secondhand Electra acquired on July 28, 1937, will become fully depreciated on August 1, 1941. Since the record indicates that petitioner intends to place a service life estimate of 3 years on the additional Electra to be purchased secondhand, it seems obvious that the service life of 4 years placed upon the new Electras has proven to be too short. Accordingly for the purpose of computing depreciation expense in this proceeding, the service life of petitioner's Lockheed Electra aircraft purchased new in 1936 has been extended to April 1, 1942, while its service life estimates on its secondhand Electra, on the Electra which it intends to acquire, and on its two Stinson trimotor aircraft have been accepted. Depreciation on the Stinson single-engine plane acquired in January 1939 has been allowed on the basis of a 2-year service life and a 10 percent residual value. Total annual depreciation expense allowance of \$30,340 has accordingly been made in fixing the rate herein, \$27,000 of such sum being for Electra equipment, \$2,750 for the trimotor Stinsons and \$590 for the single engine Stinson aircraft. No depreciation expense allowance has been made for the second single-engine Stinson which was acquired in May 1939 for the reasons heretofore given.

Petitioner depreciates its 9 Pratt & Whitney Wasp Jr. engines used in its Lockheed Electra aircraft on the basis of an estimated 4-year service life rather than on the usual basis of hours of operation. Upon the theory that obsolescence of aircraft will determine the useful life of the engines rather than wear and tear due to the fact that the nature of petitioner's operations does not permit a large annual accumulation of engine-hours, and in order to correspond with the adjustment made in the service life estimate with respect to petitioner's aircraft, the life expectancy of the 6 engines used in its new Lockheed Electra aircraft purchased in 1936 has been similarly extended to April 1, 1942, while the date of retirement of the 3 engines used in its secondhand Electra has been placed at August 1, 1941. Depreciation expense has been allowed for the 2 Wasp Jr. engines which petitioner intends to purchase for its additional Lockheed Electra aircraft, resulting in a total Wasp Jr. depreciation expense allowance of \$6,940. Although no depreciation expense for the 10 Lycoming engines used in its trimotor Stinson aircraft has been charged by petitioner, it appears that an allowance for such depreciation expense is proper. Since it is estimated that this equipment will become fully depreciated on June 30, 1941, which is the retirement date estab-

lished by petitioner for its trimotor Stinson aircraft, a depreciation expense allowance for all its Lycoming engines of \$1,700 per year has been made in fixing the rate herein. Depreciation expense on the engine used in petitioner's single engine Stinson acquired in January,

1939, has been allowed in the sum of \$270 per year, resulting in total engine depreciation expense allowance of \$8,910 per year.

Aircraft and airway communication equipment owned by petitioner has been previously depreciated on a 4-year service life basis with a 10-percent residual value. During 1939 petitioner purchased additional equipment of this nature amounting to approximately \$4,000, for which petitioner estimated that a 3-year service life period with a 10-percent residual value would be a proper basis of depreciation. However, there is nothing in the record to indicate any justification for a change in the depreciation basis from that used by petitioner in the past, and the allowance made herein of \$900 expense per year for this new equipment has been calculated on the basis of a 4-year life with a 10-percent residual value. The total aircraft and airway communication equipment depreciation expense for which allowance has been made herein is \$5,640 per year.

Petitioner's traffic and advertising expense for the 12-month period ended November 30, 1939, amounted to \$16,560.11 or 2.29 cents per revenue mile. Petitioner, however, expressed the belief that for the purpose of obtaining greater passenger revenues an expenditure of \$25,726.84 or 3.66 cents per revenue mile for traffic and advertising would be warranted and allowance for such amount has been made in fixing the rate herein.

An allowance of \$41,530 or 5.92 cents per revenue mile for general and administration expense was made in fixing the rate herein, which amount appears to be reasonable in light of petitioner's experience and estimates.

We find that, upon consideration of the record in this proceeding and after taking into consideration the elements as provided in the act, particularly section 406 thereof, the fair and reasonable rates of compensation to be paid to the petitioner for the transportation of mail by aircraft; the facilities used and useful therefor, and the services connected therewith over route No. 27 shall be:

(1) On and after March 1, 1940, a base rate of 36 cents per airplane mile for the first 300 pounds of mail, or fraction thereof, plus 2.5 percent of such rate per airplane mile for each additional 25 pounds of mail, or fraction thereof, computed at the end of each calendar month on the basis of the average mail load carried per mile over the route during such month, such rate to be applied to the direct airport-to-airport mileage between points served on each trip flown, and to be applied without reference to any base mileage for the route;

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(2) For the period beginning on April 7, 1939, the date of filing of the petition herein, and terminating on February 29, 1940, by substituting for the rate for the monthly mileage prescribed for route No. 27 by the order of the Interstate Commerce Commission in *Boston-Maine Airways, Inc., Base Rate Mileage*, dated September 6, 1938, a base rate of 35 cents, to be applied pursuant to the method for computing compensation provided by said order; and, except as modified by changing the amount of base rate of compensation, said order shall in all other respects be applied with full force and effect in computing the compensation to which petitioner is entitled for said period on said route.

An appropriate order will be entered.

Hinckley, Branch, Ryan, Mason, and Warner, Members of the Authority, concurred in the above opinion.

ORDER

Boston-Maine Airways, Inc., having filed petition for an order fixing and determining the fair and reasonable rate of compensation for the transportation of mail by aircraft, the facilities used and useful therefor, and the services connected therewith, over route No. 27, pursuant to section 406 of the Civil Aeronautics Act of 1938, and a full hearing thereon having been held before the Authority, and the Authority, upon consideration of the record of such proceedings having issued its opinion containing its findings, conclusions, and decision, which is attached hereto and made a part hereof, and having found that its action in this matter is necessary pursuant to said opinion:

IT IS ORDERED, That the fair and reasonable rate of compensation to be paid to petitioner for the transportation of mail by aircraft, the facilities used and useful therefor, and the services connected therewith, between the points between which petitioner is authorized to transport mail in the certificate of public convenience and necessity which it holds for route No. 27 is hereby fixed, determined, and published, as follows:

1. On and after March 1, 1940, a base rate of 36 cents per airplane mile for the first 300 pounds of mail, or fraction thereof, plus 2.5 percent of such rate per airplane mile for each additional 25 pounds of mail, or fraction thereof, computed at the end of each calendar month on the basis of the average mail load carried per mile over the route during such month, such rate to be applied to the direct airport-to-airport mileage between points served on each trip flown, and to be applied without reference to any base mileage for the route; and

2. For the period beginning on April 7, 1939, the date of filing of the petition herein, and terminating on February 29, 1940, by substituting for the rate for the monthly mileage prescribed for route No. 27 by the order of the Interstate Commerce Commission in *Boston-Maine Airways, Inc., Base Rate Mileage*, dated September 6, 1938, a base rate of 35 cents, to be applied pursuant to the method for computing compensation provided by said order; and, except as modified by changing the amount of the base rate of compensation, said order shall in all other respects be applied with full force and effect in computing the compensation to which petitioner is entitled for said period on said route.

Traffic Control

(Continued from page 80)

(Airway Traffic Control)

The control which airway traffic control exercises over take-offs and landings is merely that which is incidental to the beginning or completion of an instrument flight and cannot be substituted for the control exercised by airport personnel.

(Airport Traffic Control)

The airport manager, even when acting through air-traffic controls tower operators, is always at liberty to say when or under what conditions operators or pilots may use the landing area. However, the control which the airport management exercises over flight of aircraft is that which is obviously necessary to insure the safety of other aircraft landing, taking off, and taxiing on the airport. Where the pilot came from or where he may be going after he leaves the immediate vicinity of the airport is ordinarily not the proper concern of the airport management.