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Clay was a registered nurse, a graduate of Emmanuel Hospital, Portland, Oregon, and had been in the employ of United Airlines as a stewardess since January 8, 1936.

WEATHER:

Weather forecasts made available to all concerned by United Air Lines meteorologist prior to the clearance of the flight from Seattle, were as quoted.

"Winds at Normal Cruising Levels:

Seattle-Portland: 200° 25 miles per hour.
Portland-Medford: 200° 45 miles per hour.
Medford-Redding: 200° 75 miles per hour.
Redding-Sacramento: 190° 65 miles per hour.
Sacramento-Oakland: 280° 30 miles per hour.

"Cloud Types and Layers:

High overcast.
Seattle-Oakland; Broken clouds to overcast 6000-4000' except low across Siskiyou Mountains. Tops above flying altitudes.

"Precipitation:

Snow at flying altitudes. Rain at terminals.

"Thunderstorms:

Orographic—frontal, Medford to Williams.

"Ice:

Portland-Oakland at flying altitudes, rime, heavy at times.

"Remarks:

Air slightly rough to very rough. Heavy static in clouds across Siskiyou Mountains.

"Expected Terminal Conditions on Arrival:

Seattle—Ceiling 7000'; trend—lowering; visibility 2½ miles; trend—steady; sky—broken clouds; weather and obstruction to visibility, smoky. Miscellaneous—intermittent light rain.

Portland—Ceiling 7000'; trend—lowering; visibility 6 miles; trend—steady; sky—overcast; weather and obstruction to visibility, light smoke. Miscellaneous—intermittent light rain.

Medford—Ceiling 5000'; trend—lowering; visibility 10 miles; trend—lowering; sky—overcast; weather and obstruction to vision, lower scud. Miscellaneous—rain, squally.

Sacramento—Ceiling 6000'; trend—lowering; visibility 2 miles; trend—steady; sky—overcast; weather and obstruction to visibility, low scud. Miscellaneous—squally.

Oakland—Ceiling 5000'; trend—lowering; visibility 8 miles; trend—lowering; sky—overcast; weather and obstruction to visibility, low scud. Miscellaneous—squally.

"Regional Forecast—U. S. Weather Bureau at Seattle, 7:30 P.M., November 28 to 3:30 A.M., November 29, 1938:

"Oakland to Medford, Oakland to Salt Lake City, Oakland to Burbank, and Bakersfield to Daggett. Occluded front will reach California Coast vicinity ¹came¹ Mendocino about midnight and advance to Brookings-Williams-Bay Region line by end of period stop Front will be preceded by overcast with rain, with ceilings lowering one to two thousand along Coast Bay Region northward, and two to four thousand over interior of California Modesto northward, except one to two thousand extreme northern Sacramento Valley.

1. Board note: This word in original.

Scattered clouds along western slope of Sierra Nevada Mountains will increase to overcast at one to two thousand with occasional rain latter half of period and overcast with rain will continue over Siskiyou Mountains with ceilings very low to zero stop. Clear skies or high scattered clouds will prevail elsewhere in district except for lower scattered to broken clouds latter half of period south of bay region to Tehachapi Mountains and over northwestern Nevada.

Terminal Forecasts:

Oakland and San Francisco: Broken to overcast at 4 to 6 thousand but with ceilings lowering with rain after midnight to 1 thousand to 25 hundred near close of period with approach of occluded front. Visibility 10 or more except 3 to 6 in rain.

Sacramento: Overcast with occasional light rain. Ceiling 5 to 7 thousand lowering to 2 to 4 thousand latter half of period.

Redding: Overcast with occasional light rain. Ceiling three to five thousand lowering after midnight to 1 to 2 thousand. Visibility 10 or more."

The following quoted flight plan for Trip 6-28 from Seattle to Oakland, based on the above-quoted forecast and other available weather information, was prepared in Seattle, in accordance with company procedure, prior to departure of the trip, by Captain Charles B. Stead, the First Officer and the Seattle dispatcher on duty:

"Weather Analysis: High broken clouds with lower broken Seattle Siskiyou. Overcast south good but light to moderate rain Medford south.

Fronts:

Location—Off coast.
Type—Warm.
Movement—Slow.
Intensity—Strong.

"Static:

Location—High clouds.
Intensity—Light to moderate.

"Thunderstorms:

None.

"Fog:

None.

"Ice:

Location—Medford south.
Type—Rime.
Intensity—Light.

"Flight Procedure: Expect trip to be flown as follows:

"From Seattle to Portland:

Procedure: Contact.
Altitude: 6000'.
Estimated Wind Direction and Velocity: S-SE moderate.
Flight Time: 1 hour.
Air Condition: Smooth.

"From Portland to Medford:

Procedure: Instruments.
Altitude: 8000'.
Estimated Wind Direction and Velocity: S-SW moderate.
Flight Time: 1 hour 35 minutes.
Air Condition: Smooth.

"From Medford to Red Bluff:

Procedure: Instruments.
Altitude: 5000'.
Estimated Wind Direction and Velocity: S-SW moderate.
Flight Time: 1 hour 10 minutes.
Air Condition: Smooth.

"From Red Bluff to Sacramento:

Procedure: Instruments.
Altitude: Descending.
Estimated Wind Direction and Velocity: S-SW moderate.
Flight Time: 1 hour.
Air Condition: Smooth.

"From Sacramento to Oakland:

Procedure: Contact.
Altitude: 4000'.
Estimated Wind Direction and Velocity: S-SW moderate.
Flight Time: 35 minutes.
Air Condition: Smooth.

"Total Fuel on Board:

620 gallons.

"Estimated Time to Destination:

6 Hours.

"A. T. C. Information:

Williams, 6500'.

"Alternate Fields:

Oakland for Sacramento.
Portland for Medford.
Sacramento for Oakland.

"Alternate Procedure:

From Medford to Oakland may delay pending weather."

The trip reached Portland, Oregon, at 9:30 P.M., after a sixty minute flight from Seattle. After refueling with 93 gallons of gasoline, making a total of 620 gallons of gasoline and 168 quarts of oil aboard, the trip departed at 9:46 P.M., dispatched to Medford, Oregon, with the same crew personnel, and the following passengers aboard:

Mr. Ivan B. Heflebower, residence given as 1298 Sacramento St., San Francisco, Calif.;

Mr. Phillip Hart, residence given as 354 Southwest Edgecliff Road, Portland, Oregon:

Mr. S. L. Shonts, residence given as 685 Palmhaven, San Jose, Calif.;

and

Mr. Isadore R. Edelstein, no permanent address given. The trip from Seattle to Medford was without incident, except that headwinds of greater velocity than had been anticipated were encountered between Portland and Medford. The trip arrived at Medford at 11:34 P.M.

Prior to the arrival of the trip in Medford, the Oakland company dispatcher, charged, in accordance with company procedure, with the responsibility of dispatching the trip south of Medford, contacted the forecaster on duty at the Oakland Municipal Airport Office of the U. S. Weather Bureau, and, after a conversation concerning the weather, concurred with the forecaster in the opinion that the trip should not be cleared from Medford.

At 11:34 P.M. the following radiogram was dispatched to the company's Medford, Oregon, office by the Oakland dispatcher:

With frontal system off coast and strong south wind and heavy rain reported at Farralone Islands and Oakland conditions decreasing suggest holding Trip 6-28 for weather improvement at Oakland probable daylight."

After receipt, however, of the following quoted sequence weather reports at 11:41 P.M., and a forecast from the Oakland Municipal Airport Office of the U. S. Weather Bureau that ceilings at Sacramento would remain above 3500 feet, the Oakland dispatcher, Medford station manager and Captain Stead agreed in a three-way telephone conversation that the trip be cleared and dispatched to Sacramento:

- "*Medford* — Ceiling 7000'; high overcast with lower broken clouds; visibility 30 miles; temperature 53°, dew point 35; wind SE-15, barometer 29.73, few lower clouds.
- "*Siskiyou* — Ceiling 2500'; broken overcast with lower scattered clouds at 900'; visibility 25 miles; temperature 35°, dew point 31; wind S-SW-26 plus, conditions changeable.
- "*Montague* — Ceiling estimated 3500'; high broken with lower broken clouds; visibility 20 miles; temperature 44°, dew point 34; wind S-19; barometer 29.82, occasional very light sprinkle.
- "*Mt. Shasta*—Ceiling estimated 600'; overcast; visibility 5 miles; rain and fog; temperature 35°, dew point; wind SE-18 estimated.
- "*Redding*. — Ceiling 3000'; overcast; visibility 15 miles; rain; temperature 46°, dew point 41; wind NW-10; barometer 29.89.
- "*Williams* — Ceiling 6000'; overcast; visibility 8 miles; rain; temperature 46°, dew point 45; wind W-5; barometer 29.87.
- "*Sacramento*—Ceiling 6500'; overcast, 8 miles visibility; temperature 47°, dew point 43, wind NW-4; barometer 29.87, occasional breaks.
- "*Oakland* — Ceiling 1800'; overcast, lowering broken clouds, visibility 8 miles; rain; temperature 55°, dew point 44; wind SE-25; barometer 29.86, overcast 4000'."

The trip departed Medford at 12:03 A.M., November 29th, after having delayed 24 minutes in excess of the scheduled five-minute stop, with no change in either crew or passenger personnel, and with no additional gasoline or oil. Although no check of the gasoline and oil aboard was made at Medford, it is estimated that, at the time of take-off, the fuel aboard the aircraft consisted of approximately 450 gallons of gasoline and 150 quarts of oil. No variation was made in the original flight plan on which clearance was based.

According to sworn testimony of Captain Stead, and radio contacts during the period of the flight as recorded on the radio logs of Medford, Oakland, Sacramento, Red Bluff and Portland radio stations, the flight south of Medford progressed in the following manner:

The take-off was made to the south and the aircraft assumed level flight at cruising altitude of 12,000 feet while passing over the City of Medford at 12:24 A.M. after one 180° turn to the north and a second to the south had been made during the climb, in accordance with company procedure.

The flight proceeded without incident along the south leg of the Medford radio range and the north leg of the Fort Jones radio range to a point south of the Fort Jones radio range station, where, as the result of an icing

condition causing severe static, flight level was changed to 14,000 feet in a slow climbing 360° turn.

In answer to requests for information as to passage of the trip over the regular Mt. Shasta radio range fix, First Officer Jones radioed at 1:34 A. M.:

"West of Shasta City estimated 1:15 A.M. 14,000 feet. We are now going on top at 15,000 feet. Fly on south leg of Fort Jones range on course, compass course 190°, light rime ice, estimate Red Bluff 1:50 A.M."

The aircraft's radio was tuned to the Fort Jones radio range station and flight proceeded along the south leg of this range until 1:55 A.M., when an attempt was made to tune in the Williams station. Failing to reach the station, Captain Stead requested information as to its operating condition and was informed by Oakland at 2:08 A.M. that the monitoring of such station by both Oakland and Blue Canyon indicated it was operating in a satisfactory manner with no interference. The aircraft, however, failed to receive the Williams signals throughout the trip and, though signals were received from the Sacramento and Fresno radio range stations, such reception was inadequate for navigational purposes, due to interference from other radio range stations.

No radio contacts were made between the aircraft and ground stations after 2:09 A.M., until 3:03 A. M., when Captain Stead reported an estimated position between Williams and Potrero flying a compass heading of 150°, and that the Oakland radio range signals were coming in "strong" and that he was "getting an 'A' on Fresno." The trip was subsequently cleared to Oakland at 3:20 A.M. after Captain Stead reported the aircraft as definitely on the northeast leg of the Oakland radio range, flying at 6000 feet in a westerly direction at 3:17 A.M.

Oxygen, an item of standard equipment aboard this aircraft, was used intermittently at high altitudes, during the flight to this point, by both Captain Stead and First Officer Jones.

A light, believed by Captain Stead to have been an airway beacon light, was sighted shortly after intersecting a leg of the Oakland radio range, and between 3:49 A.M. and 3:54 A.M., although ostensibly flying a 199° radio range course, it was found necessary to fly a compass heading of approximately 225° to stay on the beam. Flight was continued in this manner until 4:08 A.M., when, with gasoline estimated at 60 gallons, Captain Stead expressed doubt as to his exact position, and, after a 180° turn, began descent to an altitude of 300 feet, where the landing lights showed the aircraft to be over water. Subsequent to a request from Oakland at 4:15 A.M. that a bearing be taken, the position of the aircraft was reported at 4:16 A.M. as being west of Oakland on the west leg of the Oakland radio range. At 4:39 A.M. Captain Stead reported a bearing on Oakland of 75° and on Fresno of 85°.

After ascending to 1800 feet, the aircraft continued along this leg in an easterly direction, with motors throttled for the purpose of fuel conservation, until the Point Reyes, California lighthouse was sighted at 5:03 A.M. In approaching the shore, the aircraft passed over a lumber schooner, "The Lumberton," and circled the lighthouse in two wide circles, dropping a flare upon each occasion, close to the shore off Point Reyes. The gasoline supply was completely exhausted shortly after the aircraft passed the Point Reyes lighthouse flying in a southeasterly direction on the second circle, and

the aircraft was landed in the water, wheels up, about three-quarters of a mile off shore, at approximately 5:25 A.M. At this time the aircraft had flown a total of two hours and eight minutes since intersecting a leg of the Oakland radio range, believed by Captain Stead to have been the northeast leg. Passengers and crew immediately climbed to the top of the aircraft, through the emergency hatch in the pilot's cockpit. The aircraft rode the swells easily until the surf carried it shoreward, where it was severely battered and subsequently destroyed by the waves and rocks. The deaths of S. L. Shonts and First Officer Lloyd Jones, and the disappearances of Phillip Hart, Ivan B. Heflebower, and Stewardess Frona B. Clay occurred. Passenger Isadore R. Edelstein and Captain Charles B. Stead survived. Mail, radio equipment and certain flight records were recovered, while other records, including the flight log and barograph, were lost with the aircraft.

Evidence was adduced establishing the flight of an aircraft, thought to have been multi-motored, over and in the vicinity of Crescent City, California, which is located on the coast of the Pacific Ocean in a southwesterly direction and approximately 80 miles distant from Medford, Oregon, between 12:45 A.M. and 1:15 A.M. on November 29, 1938. The testimony indicated that the aircraft approached Crescent City at a low altitude from a northeasterly direction, and, after passing over the city, departed in a southwesterly direction over the Pacific Ocean. The testimony indicates that definite statements, concerning the presence of the aircraft, were made by witnesses to other persons prior to the time NC-16066 was reported to be in distress. Although inquiry failed to reveal the flight of any aircraft, other than United Air Lines' Trip 6, in the northwestern part of the State of California during the times mentioned, no positive identification of the aircraft was made. In any event this evidence involves an incident that occurred prior to the hour of 3:17 A.M., when Captain Stead reported his position on the Northeast leg of the Oakland radio range.

Emergency activities of the United Air Lines Oakland dispatching office during the flight of Trip 6-28 consisted of: repeated unsuccessful attempts, utilizing both company and Sacramento Civil Aeronautics Authority radio facilities, to contact the aircraft between the hours of 2:09 A.M. and 3:03 A.M., suspension of all radio traffic north, south, and east of Oakland at 2:58 A.M.; notification by telephone to the Superintendent of Flight Operations of the Western Division of United Air Lines of the status of the flight, at approximately 3:00 A.M. (during which conversation Captain Stead reported the position of the aircraft); a further telephone notification to this company official at approximately 4:05 A.M., that the aircraft was overdue in Oakland; solicitation of the assistance of the United States Navy Radio Station NPG and of the United States Coast Guard at San Francisco, between 4:16 and 4:30 A.M., in notifying sea traffic of the presence of the aircraft over the ocean, west of Oakland; and, according to the statement of the Oakland dispatcher on duty, an unsuccessful attempt, after 4:30 A.M., to contact the Alameda, California base of Pan-American Airways for the purpose of enlisting their services in utilizing the direction finder of the latter company in ascertaining the exact position of the aircraft. It may be stated parenthetically that United Air Lines operating procedures in effect on the Western division at the time of the accident were inadequate to meet the requirements of such an emergency.

A sketch of the area involved in this report is attached hereto, marked "Exhibit A," and is, by reference, made a part hereof.

RADIO CONTACTS:

A transcription of the log entries of the Seattle, Portland, Medford and Oakland ground radio stations, pertaining to United Air Lines Trip 6-28, is attached hereto, marked "Exhibit B," and is, by reference, made a part hereof.

FINDINGS

1. United Air Lines Trip 6 of November 28, 1938, between Seattle, Washington and San Diego, California, with Portland and Medford, Oregon, Sacramento, Oakland, San Francisco, Fresno, Bakersfield, and Los Angeles, California, as intermediate points, was authorized by the company's currently effective Air Carrier Operating Certificate, issued by the Civil Aeronautics Authority.

2. The aircraft, aircraft engines, propellers, radio, instruments, and accessories involved in the flight were maintained, inspected and certificated in accordance with the company's currently effective Air Carrier Operating Certificate and existent Civil Air Regulations; and functioned normally during the entire flight.

3. Both Captain Stead and First Officer Jones were possessed of required ratings and certificates of competency for the flight and equipment involved, and were authorized, in the currently effective Air Carrier Operating Certificate, for service over the route of United Air Lines Trip 6 of November 28, 1938.

4. United Air Lines Trip 6 of November 28, 1938, was properly dispatched from Seattle, Washington to Portland, Oregon and from Portland, Oregon to Medford, Oregon.

5. Prior to clearing the trip from Medford, Oregon, company personnel involved failed to give proper consideration to the fuel supply on board or to the amount of fuel that might be required for the trip, in view of adverse weather and wind conditions forecast over the course to be flown.

6. The pilot failed to work an orientation problem and to definitely establish the position of the aircraft, either at the time of intersecting a leg of the Oakland radio range at 3:17 A.M., or during such additional period of time as to be able to either remain within range of or to return to a safe landing area.

7. At the time of intersecting a leg of the Oakland radio range at 3:17 A.M. the trip was an hour and three minutes overdue in Sacramento, according to the flight plan. The estimated position of the aircraft at this time was a maximum of thirty-five miles from Oakland, and there were approximately 150 gallons of gasoline aboard.

8. Subsequent to intersecting a leg of the Oakland radio range, the flight was continued in a westerly direction, flying on compass headings inconsistent with that required to follow the northeast leg of the Oakland radio range, for a period of time longer than could reasonably have been required to reach Oakland from the pilot's previously estimated position.

9. No effort was made by the pilot to conserve fuel, within a reasonable period of time after the trip failed to arrive in Oakland subsequent to intersecting a leg of the Oakland radio range at 3:17 A.M.

10. Trip 6-28 was cleared from Medford by an Oakland dispatcher who went off duty at 12:00 o'clock midnight, being relieved by another dispatcher who actually handled the flight from take-off in Medford until the accident occurred. The Oakland dispatcher on duty during the course of the flight failed to advise the pilot, either that he verify his position by working an orientation problem, or that he conserve fuel by reducing power, after the passage of a greater period of time than was required to reach Oakland from the pilot's previously estimated position on the northeast leg of the Oakland radio range.

11. The Medford, Fort Jones, Williams, Sacramento, Oakland, Red Bluff and Fresno radio ranges functioned normally during the period of the flight of United Air Lines' Trip 6 of November 28.

12. The trip forecast, made by the company meteorologist at Seattle, Washington, prior to departure of the trip, indicated that static conditions would be encountered south of Medford. Radio reception was actually impaired during the course of the flight prior to intersecting a leg of the Oakland radio range.

13. United Air Lines did not have in effect on its western division established procedures adequate to meet the emergencies encountered on this flight. The dispatcher on duty not only failed to promptly utilize such emergency facilities as were available, but also failed to demonstrate a reasonable degree of initiative and judgment in attempting to cope with the obvious emergencies.

PROBABLE CAUSE

Failure of the pilot to definitely establish the position of the aircraft through standard orientation procedures within a reasonable time after intersecting a leg of the Oakland radio range at 3:17 A.M., and of company flight dispatchers, charged with the responsibilities of directing the operation of the trip, to properly safeguard the flight, resulting in forced landing of the aircraft at sea due to exhausted fuel supply.

CONTRIBUTING FACTORS

1. Failure of the pilot and Oakland dispatcher involved in clearing the trip from Medford, Oregon, to give proper consideration to possible fuel requirements of the trip, in view of adverse weather conditions as forecast by both company and U. S. Weather Bureau meteorologists.

2. Failure of the pilot and dispatcher, after the aircraft was reported on a leg of the Oakland radio range, thought by the pilot to be the northeast leg, to recognize the inconsistency of the compass headings of the aircraft with the heading required to fly the on-course signal of the northeast leg.

3. Continuation of the flight in a westerly direction for an excessive period of time beyond that which would have been required to reach Oakland from the pilot's estimated position on the northeast leg of the Oakland radio range.

4. Failure of the pilot to conserve fuel by reducing power, when the trip did not arrive at Oakland within a reasonable period of time after reaching the estimated position on the northeast leg of the Oakland radio range.

5. Failure of the Oakland dispatcher, after the passage of a period of time excessive of that required to reach Oakland from the pilot's previously estimated position on the northeast leg of the Oakland radio range, to advise the pilot to establish his position by working standard orientation procedures, and to conserve fuel by reducing power.

Failure of the Oakland dispatcher to notify the superintendent of flight operations of the western division of United Air Lines, of the status of the trip, within a reasonable period of time after radio communications with the aircraft failed at 2:09 A.M., and also within a reasonable period of time after the aircraft was reported as being on the northeast leg of the Oakland radio range. Also his failure to promptly utilize such emergency facilities as were available, and to demonstrate a reasonable degree of initiative and judgment in the presence of an obvious emergency.

7. Inadequacy of procedures established by United Air Lines on its western division for aiding aircraft under such conditions of emergency.

RECOMMENDATIONS

It is recommended that the airline competency ratings of the pilot and both dispatchers involved in this accident be revoked.

It is further recommended that the Civil Aeronautics Authority:

"A"—Require each scheduled air carrier to set forth specific emergency procedures, to be approved by the Civil Aeronautics Authority. Such procedures should include:

1. A clear definition of an emergency condition.
2. A clear and specific outline of the duties and responsibilities of all company personnel involved.

In setting up such procedures, full consideration should be given to all facilities available, such as Lighthouse Service, radio beacons, U. S. Coast Guard Service, ground direction finders, and any other aids which might be useful.

"B"—Revise the Civil Air Regulations so as to require the air carrier dispatcher responsible for the clearance and conduct of flights, to designate the minimum fuel requirement for each flight prior to departure of the flight from each station within his dispatching authority.

"C"—Revise the Civil Air Regulations so as to (1) materially increase the minimum requirements for Air Carrier Dispatcher Certificates of Competency, and (2) specifically therein define the duties and responsibilities of air carrier dispatchers, and (3) prohibit the dispatching or ground control of any scheduled air carrier aircraft in flight by any person not possessed of a currently effective Air Carrier Dispatcher Certificate of Competency.

"D"—Subsequent to the revision of the Civil Air Regulations as recommended in paragraph "C" herein, thoroughly test the ability, to meet the revised requirements of such regulations, of (1) applicants for Air Carrier Dispatcher Certificates of Competency, and (2) persons already holding such effective Certificates of Competency.

"E"—*Flight Plan*

Prepare a standardized flight plan form and require all domestic scheduled air carriers to adopt such form. It is recommended that such flight plan include the following data:

1. Weather expected over the route to be flown.

2. The point to which the flight is cleared, designated alternates and intermediate stops.
3. Nature of flight (Contact or Instrument).
4. Proposed flight altitudes.
5. Temperatures expected at flight levels.
6. Wind direction and velocity.
7. Estimated ground speed.
8. Estimated time over fixes.
9. Estimated flight time.
10. Alternate plan in case of emergency.
11. Horse power to be used.
12. Estimated fuel consumption.
13. Estimated fuel required for trip.
14. Estimated fuel reserve.
15. Such other information as might be considered necessary or useful.

It is further recommended that the Civil Air Regulations require the flight plan of each trip to be transmitted to the next control point on the route to be flown.

"F"—Require all plane-to-ground position reports of scheduled air carriers to include the following information:

1. Position (estimated or definite fix).
2. Altitude.
3. Temperature of outside air.
4. Compass heading.
5. Wind direction and velocity.
6. Estimated time over next fix.
7. Any change in power out-put.
8. Weather conditions since last report.
9. Static conditions.
10. State of air (turbulence).
11. Such other information as might be considered necessary or useful.

It is recommended that any change in altitude, compass course, airspeed, or horse power output be reported to the ground at the time the variation or alteration occurs, or as soon thereafter as possible.

It is further recommended that all information transmitted in such plane-to-ground contacts be logged at the control point to which the flight plan has been transmitted, and that the flight control personnel in charge compare such information with comparable contents of such flight plan for the purpose of maintaining accurate and constant record of the operation and progress of the aircraft.

"G"—Navigation Log

Prepare a standardized navigational log and require all domestic scheduled air carriers to adopt such log. It is further recommended that such navigational log include the following data:

1. Compass course.
2. Track.
3. Weather conditions, including outside temperature, precipitation, air conditions (turbulence), static, ice and other pertinent data.

4. Time over fixes.
5. Air speed.
6. Ground speed between fixes.
7. DF bearings and fixes obtained by bearings.
8. Computed wind direction and force.
9. Estimated time over next fix.
10. Fuel distribution in tanks at take-off.
11. Time of shifting from one fuel tank to another, and distribution of fuel at such time.
12. Fuel consumption and power output.
13. Profile of course.
14. Such other information as might be considered necessary or useful.

"H"—Require a standard scheduled air carrier pilot and aircraft dispatcher training program to insure the maintenance of a uniform standard of proficiency. It is recommended that the training program require:

1. A thorough knowledge of navigation by dead-reckoning.
2. A thorough understanding of the use of all radio navigational aids, including radio and direction-finding equipment, in the aircraft and on the ground.
3. A thorough knowledge of basic meteorology as applied to surface and upper air and its effect on air carrier operations.
4. A thorough knowledge of the use of engine, flight and navigational instruments and the computers used with each.
5. Familiarity with the operation peculiarities and errors of all navigational aids and instruments.
6. Demonstration of ability to accurately and instantly identify by identification signal all radio range stations within the flight division and/or control area involved.
7. Such other requirements as might be considered necessary.

"I"—Expedite the installation of adequate automatic ground radio direction-finding equipment, particularly along the eastern and western coasts of the United States.

"J"—Encourage the adoption of 360° automatic aircraft direction-finders to the end that the present aural-null direction-finders may be replaced with more accurate units requiring less of the pilot's time for operation.

"K"—Standardize a nomenclature regarding courses, bearings, drifts, etc., so that the danger of misunderstanding on the part of pilots, dispatchers and all concerned during radio contacts be minimized.

"L"—Require that scheduled air carrier pilots and dispatchers be familiar with the most efficient engine settings for maintaining flight at the least possible fuel consumption on all equipment with which the particular personnel is concerned in the performance of regular duties; and that appropriate power charts be made part of pilot's flight kits, and be readily available in all dispatch offices.

"M"—Require that all scheduled air carriers thoroughly detail, to the satisfaction of the Civil Aeronautics Authority, the specific duties and responsibilities of each member of flight crews.

"N"—Request the Secretary of Agriculture to direct the Director of the United States Weather Bureau to furnish scheduled air carriers with an adequate number of weather reports from ships on the Pacific Ocean, the

Atlantic Ocean, the Caribbean Sea, and the Gulf of Mexico; and make immediate efforts to establish more adequate weather reporting facilities along the Pacific Coast of the United States and Alaska. It is recommended in this latter regard that such facilities include the employment of radio meteorographs in the vicinity of Los Angeles, California, Medford, Oregon, Seattle, Washington, and Juneau, Alaska.

"O"—Request the Secretary of Agriculture to direct the Director of the United States Weather Bureau to include in the airways' route forecasts the probable wind directions expressed in degrees and velocities in miles per hour to be expected at all flight levels during the forecast period. When no upper air data are available, the forecast should state that these elements are estimated. Such forecasts should be so expressed and punctuated as to be clearly understood by all concerned.

"P"—Request the Secretary of Agriculture to direct the Director of the United States Weather Bureau to publish and furnish to scheduled air carriers and other interested parties, airways maps in vertical cross section, showing conditions expected over airways included in the forecast.

FOR THE AIR SAFETY BOARD,

W. S. McDUFFEE,
Executive Officer.

Exhibit B

- 7:46 P.M. Mechanic Green to Seattle: Test for trip 6-28 on frequencies (3147.5 kilocycles) (5) and (5122.5 kilocycles) (6) stop time 59.0. Seattle to Mechanic Green: OK Call KKCA. Mechanic Green to Seattle: OK. (Seattle Log)
- 8:25 P.M. Jobson trip 6 to Seattle: Plane 66 testing on frequencies (3147.5 kilocycles) (5) (5122.5 kilocycles) (6). Seattle to Jobson trip 6: OK the correct time is 8:25 P.M. The Seattle barometer is 29.83. United proceeds only with safety. (Seattle Log)
- 8:36 P.M. Jobson trip 6 to Seattle: Off the Seattle field at 8:36 OK to clear Northwest Airways (to KKCA) and changing to night frequency. Seattle to Jobson trip 6: OK. Jobson trip 6 to Seattle: On night frequency. Seattle to Jobson trip 6: OK on night frequency. (Seattle Log)
- 8:31 P.M. Seattle to Portland and stations South: Trip 6-28 Stead Jobson Clay plane 66 estimated departure on schedule. Cleared to Portland contact 6,000; instruments Medford 8,000; Red Bluff 12,000; Sacramento descending; Oakland contact 4,000; crossing Williams 6,500; time six hours. Alternate fields Portland for Medford; Oakland for Sacramento; Sacramento for Oakland. Alternate plan hold Medford for weather improvement. 620 gallons of gas. Stop time 59.0. (8:32 P.M.) (Portland, Medford, Oakland Logs)
- 8:41 P.M. Seattle to Portland and stations South: Trip 6-28 departed Seattle 8:30 P.M. off the Seattle field 8:36 P.M. 266 pounds of mail, 16 pounds express, passengers—1 Portland no cab; 2 San Francisco cab 2; total 3. Pickups—1 Portland Los Angeles. Releasing 2 Portland San Francisco, 2 Portland San Diego, 1 Portland Salt Lake, 1 Portland Chicago, 1 Portland Denver trip 16-29, 1 Portland New York. 266 pounds South, 300 pounds forward, 123 pounds rear. 1 San Francisco bag in Number 4 pit. (8:42 P.M.) Forwarded Sacramento. (Portland Log)
- 8:50 P.M. Jobson trip 6: Over Tacoma 5,500 climbing to 6,000 at 8:48 P.M. Scattered to lower broken, above unlimited. Temperature 49. Estimate Castle Rock 9:13 P.M. Portland to Jobson trip 6: OK and Portland barometer 29.86. (Seattle also ack.) Stead trip 6 to Portland: OK. (Seattle and Portland Logs)
- 9:20 P.M. Trip 6 over Castle Rock 9:14 P.M. 6,000. Overcast above, estimated 9,000 unlimited, temperature 45, occasionally slightly rough, wind estimated 205.19. Estimate over the Portland field 9:32 P.M. Portland to trip 6: Portland barometer 29.86 wind East Southeast about 5. Jobson Trip 6 to Portland: OK. (Portland Log)
- 9:28 P.M. Trip 6 over Vancouver Lake and changing frequency. Portland to trip 6: OK to day frequency. Portland wind now South about 6. Jobson trip 6 to Portland: OK. (Portland Log)

- 9:30 P.M. (Edwards on remote.) Portland to trip 6: Portland wind Southeast about 10. Field is clear.
Jobson trip 6 to Portland: OK. (Portland Log)
- 9:49 P.M. Trip 6 called Portland for field clearance.
Portland to trip 6: OK to clear.
Jones trip 6 to Portland: OK. (Portland Log)
- 9:55 P.M. Jones trip 6 to Portland: Off the Portland field 9:54 P.M. changing frequency.
Portland to Jones trip 6: OK on night frequency. (Portland Log)
- 10:01 P.M. Portland to stations North and South: Trip 6-28 arrived Portland 9:30 P.M. First Officer L. Jones out 9:46 P.M. Cleared to Medford. 620 gallons of gas, 496 pounds of cargo South of Oakland, 286 pounds of mail, 19 pounds of express for Oakland, San Francisco and Los Angeles. 80 pounds of Company for Medford. Passengers—3 San Francisco cab 3, 1 Los Angeles no cab. Total 4. Pickups 1 Sacramento Los Angeles. Releasing 2 San Francisco Los Angeles, 2 Seattle San Diego. Total 4. (Portland Log)
- 10:50 P.M. Trip 6: Over Eugene at 10:43 P.M. 8,000, temperature 38, wind estimated 190-35, overcast 8,000, visibility variable 5 to 10 miles, occasionally slightly rough, occasional light rain, estimate over Medford 11:33 P.M. Medford to Jones trip 6: OK. The Medford barometer 29.74. (Portland Log)
- 11:02 P.M. Oakland to Medford: Trip 6-28 is cleared to Sacramento, cruise 12,000 to Red Bluff, crossing Williams 6,500 descending to Sacramento, no traffic reported.
Medford to Oakland: OK. (Medford and Oakland Logs)
- 11:22 P.M. Medford to Oakland: Advise recommendation for clearing trip 6-28 per flight plan to Oakland.
Oakland to Medford: OK. (Medford and Oakland Logs)
- 11:29 P.M. Medford to Stead trip 6: It's broken over the field 15 miles visibility, wind is dying down South Southeast 15 to 20, and it is very well broken. (Medford Log)
- 11:30 P.M. Stead trip 6 to Medford: OK. Over Table Rock and can see the field and am changing frequency.
Medford to Stead trip 6: OK to change to day frequency.
Trip 6: OK on night and day frequency.
Medford to trip 6: OK. Field is clear to land.
Stead trip 6 to Medford: OK. (Medford Log)
- 11:32 P.M. Medford to Oakland: Any answer on clearance? (Medford Log)
- 11:34 P.M. Oakland to Medford: With frontal system off coast and strong south wind and heavy rain reported at Farralon Islands and Oakland conditions decreasing suggest holding trip 6-28 for weather improvement at Oakland.
Probably daylight. Oakland Van Sciever. (Medford and Portland Logs)
- 11:35 P.M. Trip 6-28 arrived Medford. (Portland Log)
- 11:35 P.M. Trip 6-28 arrived Medford. (Medford Log)
- 11:36 P.M. Trip 6-28 still in Medford, no entries.
- 11:37 P.M. Trip 6-28 still in Medford, no entries.
- 11:38 P.M. Trip 6-28 still in Medford, no entries.
- 11:39 P.M. Trip 6-28 still in Medford, no entries.
- 11:40 P.M. Trip 6-28 still in Medford, no entries.
- 11:41 P.M. Oakland to Medford: With frontal system off coast, and strong South.
- 11:41 P.M. Abstract from Medford Log: (Clearance secured via telephone).
- 11:42 P.M. Wind and heavy rain reported at Farralon Islands, and Oakland conditions suggest holding Trip 6-28 for weather improvement, probably morning, signed Oakland VanSciever. (Portland Log)
- 11:43 P.M. Trip 6-28 still in Medford, no entries.
- 11:44 P.M. Trip 6-28 still in Medford, no entries.
- 11:45 P.M. Trip 6-28 still in Medford, no entries.
- 11:46 P.M. Trip 6-28 still in Medford, no entries.
- 11:47 P.M. Trip 6-28 still in Medford, no entries.
- 11:48 P.M. Trip 6-28 still in Medford, no entries.
- 11:49 P.M. Trip 6-28 still in Medford, no entries.
- 11:50 P.M. Trip 6-28 still in Medford, no entries.
- 11:51 P.M. Trip 6-28 still in Medford, no entries.
- 11:52 P.M. Sacramento to Medford: Is Trip 6-28 holding at Medford?
Medford to Sacramento: We are holding, but don't know how long.
Sacramento to Medford: OK. (Medford Log)
- 11:53 P.M. Trip 6-28 still in Medford, no entries.
- 11:54 P.M. Trip 6-28 still in Medford, no entries.
- 11:55 P.M. Trip 6-28 still in Medford, no entries.

11:56 P.M. Trip 6-28 still in Medford, no entries.
11:57 P.M. Trip 6-28 still in Medford, no entries.
11:58 P.M. Trip 6-28 still in Medford, no entries.
11:59 P.M. Trip 6-28 still in Medford, no entries.
12:00 A.M. Trip 6-28 still in Medford, no entries.
12:01 A.M. Trip 6-28 still in Medford, no entries.
12:02 A.M. Trip 6-28 still in Medford, no entries.
12:03 A.M. Trip 6-28 departed from Blocks at Medford. (Medford Log)
12:04 A.M. Trip 6-28 taxiing out to runway for take-off.
12:05 A.M. Stead, Trip 6 to Medford: Is the field clear to take off?
Medford to Stead, Trip 6: OK, field is clear to take off. (Medford Log)
12:06 A.M. No entries.
12:07 A.M. Trip 6-28 off the Medford field. (Medford Log)
12:08 A.M. No entries.
12:09 A.M. No entries.
12:10 A.M. Stead, Trip 6-28 to Medford: Off the Medford field at 12:07 A.M. Am changing frequency.
Medford to Stead, Trip 6-28: OK, change to night frequency.
Stead, Trip 6-28 to Medford: OK on frequencies 5 and 6. (Medford Log)
12:11 A.M. Medford to Stations North and South: Trip 6-28 arrived Medford 11:35 P.M., departed Medford 12:03 A.M., off the Medford field 12:07 A.M. Delay checking weather. Clear to Sacramento per original flight plan. 29 lbs. mail, no express, same passenger load. (Medford Log)
12:12 A.M. No entries.
12:13 A.M. No entries.
12:14 A.M. No entries.
12:15 A.M. No entries.
12:16 A.M. No entries.
12:17 A.M. No entries.
12:18 A.M. No entries.
12:19 A.M. No entries.
12:20 A.M. No entries.
12:21 A.M. No entries.
12:22 A.M. No entries.
12:23 A.M. No entries.
12:24 A.M. No entries.
12:25 A.M. No entries.
12:26 A.M. No entries.
12:27 A.M. Jones, Trip 6-28 to Medford: Reached cruising altitude, twelve thousand at 12:24 A.M.
Medford to Jones, Trip 6-28: OK. (Medford Log)
12:28 A.M. No entries.
12:29 A.M. No entries.
12:30 A.M. No entries.
12:31 A.M. No entries.
12:32 A.M. No entries.
12:33 A.M. No entries.
12:34 A.M. No entries.
12:35 A.M. No entries.
12:36 A.M. No entries.
12:37 A.M. No entries.
12:38 A.M. No entries.
12:39 A.M. No entries.
12:40 A.M. No entries.
12:41 A.M. No entries.
12:42 A.M. No entries.
12:43 A.M. No entries.
12:44 A.M. No entries.
12:45 A.M. No entries.
12:46 A.M. No entries.
12:47 A.M. No entries.
12:48 A.M. No entries.
12:49 A.M. No entries.

12:50 A.M. No entries.
12:51 A.M. No entries.
12:52 A.M. No entries.
12:53 A.M. No entries.
12:54 A.M. No entries.
12:55 A.M. No entries.
12:56 A.M. No entries.
12:57 A.M. No entries.
12:58 A.M. No entries.
12:59 A.M. No entries.
1:00 A.M. No entries.
1:01 A.M. No entries.
1:02 A.M. No entries.
1:03 A.M. Medford to Trip 6-28: No Shasta City report.
Trip 6-28 not heard. (Medford Log)
1:04 A.M. Red Bluff to Pacific 6-28: No Shasta City report. Go ahead.
Trip 6-28 not heard. (Seattle and Red Bluff Logs)
1:05 A.M. No entries.
1:06 A.M. No entries.
1:07 A.M. No entries.
1:08 A.M. No entries.
1:09 A.M. No entries.
1:10 A.M. Jones, Trip 6-28: Changing flight plan to fourteen thousand to
get on top.
(Sent to Airways Traffic Control.) Airways said OK to change
flight plan to fourteen thousand.
Oakland to Trip 6-28: OK to change flight plan to fourteen
thousand to get on top. Signed, Oakland, Showalter. (Oakland
Log)
1:11 A.M. Jones Trip 6-28 to Oakland: OK. (Medford Log)
1:12 A.M. Red Bluff to Medford and Jones, Trip 6-28: Red Bluff repeated
1:11 A.M. Oakland's OK to change flight plan.
Medford to Red Bluff: Trip 6-28 has it. (Red Bluff Log)
1:13 A.M. Red Bluff to Medford: OK I'm unable to read Trip 6-28. (Red
Bluff Log)
1:14 A.M. No entries.
1:15 A.M. No entries.
1:16 A.M. No entries.
1:17 A.M. No entries.
1:18 A.M. No entries.
1:19 A.M. No entries.
1:20 A.M. No entries.
1:21 A.M. No entries.
1:22 A.M. No entries.
1:23 A.M. No entries.
1:24 A.M. No entries.
1:25 A.M. No entries.
1:26 A.M. No entries.
1:27 A.M. No entries.
1:28 A.M. No entries.
1:29 A.M. No entries.
1:30 A.M. No entries.
1:31 A.M. No entries.
1:32 A.M. No entries.
1:33 A.M. Red Bluff to United Pacific 6-28: Have you passed the Shasta
City Range yet? (Red Bluff Log)
1:34 A.M. Jones, Trip 6-28: West of Shasta City, estimated at 1:15 A.M.
Fourteen thousand. We are now going on top at fifteen thousand.
Fly on South leg Ft. Jones Range, on course, compass course 190,
light rime ice, estimate Ft. Jones 1:50 A.M.
Portland to Jones, Trip 6-28: OK. (Portland Log)
1:35 A.M. Portland transmitted 1:34 A.M. report of Oakland and Red Bluff.
1:36 A.M. No entries.
1:37 A.M. Red Bluff to Trip 6: The Red Bluff Range and localizer is on.
Trip 6-28 not heard.
1:38 A.M. No entries.
1:39 A.M. No entries.

- 1:40 A.M. No entries.
- 1:41 A.M. Oakland to Trip 6-28 and Portland: Fresno weather: high thin overcast, visibility 10 miles, temperature 52, dew point 29, wind South 4, barometer 29.98.
Livermore weather: estimated three thousand, overcast, lower broken 8 miles visibility, rain, temperature 51, dew point 48, wind South-Southwest 20, barometer 29.98. (Portland Log)
- 1:42 A.M. Oakland to Trip 6-28: Oakland weather: 1900, overcast, broken clouds, 5 miles visibility, light rain, temperature 51, dew point 50, wind Southeast 8, barometer 29.97. (Portland Log)
- 1:43 A.M. Oakland to Trip 6-28: Williams 1:41 A.M. weather, 6000, overcast visibility 8 miles, sprinkling, temperature 46, dew point 45, wind East Southeast 9, barometer 29.85.
Reno 1:41 A.M. weather: High thin broken clouds, lower scattered at 8000, visibility 20 miles, temperature 30, dew point 21, wind West, Northwest 9, barometer 29.92.
Trip 6 not heard. (Portland Log)
- 1:44 A.M. This is station KRBP, Red Bluff, operating on 278 kilocycles (Red Bluff's localizer). (Red Bluff's Log)
- 1:45 A.M. No entries.
- 1:46 A.M. No entries.
- 1:47 A.M. No entries.
- 1:48 A.M. No entries.
- 1:49 A.M. No entries.
- 1:50 A.M. No entries.
- 1:51 A.M. Sacramento to Red Bluff: Have you any information on Trip 6? Red Bluff to Sacramento: Trip 6-28 estimates over Red Bluff 1:50 A.M. He hasn't come over yet.
Sacramento to Red Bluff: OK. (Red Bluff Log)
- 1:52 A.M. Oakland to Red Bluff: Potrero facilities (were) off due to power failure at 1:20 A.M. (Red Bluff Log) (Conflicts with Portland)
- 1:53 A.M. Oakland to Red Bluff: Potrero Hills facilities (are) off due to power failure. (Portland Log) (Conflicts with Red Bluff)
- 1:54 A.M. Stead Trip 6-28: Is Williams Range working all right? Working down through twelve thousand five hundred????
Oakland did not get it all. (Oakland Log)
- 1:55 A.M. Stead Trip 6-28: Is the Williams Range working? At Twelve thousand five hundred, dropping down now to ten thousand contact. We can hear the Sacramento and the ??? Range. They seem to be drowning out the Williams range. Is it operating OK? Oakland to Trip 6-28: OK, we will get a check on the Williams Range. (Portland Log)
- 1:56 A.M. Oakland to Sacramento: Did you get what Trip 6-28 said, and is your Range on? (Oakland Log)
- 1:57 A.M. Portland to Oakland: He says Sacramento or some other Range is drowning out the Williams Range. (Oakland Log)
- 1:58 A.M. Oakland to Teletype Station (by inter-phone) Will you have the Williams Range monitored right away?
Teletype Station to Oakland: OK. (Oakland Log)
- 1:59 A.M. Portland to Oakland: Are you checking to see if the Williams Range is operating OK?
Oakland to Portland: We are monitoring it now. (Portland Log)
- 2:00 A.M. No entries.
- 2:01 A.M. No entries.
- 2:02 A.M. No entries.
- 2:03 A.M. No entries.
- 2:04 A.M. No entries.
- 2:05 A.M. No entries.
- 2:06 A.M. Oakland to Trip 6-28: Trip 6 not heard. (Medford Log)
- 2:07 A.M. Stead Trip 6-28 to Red Bluff: Did you find any trouble with the Williams Range? (Portland Log)
- 2:08 A.M. Oakland to Trip 6-28: We monitored the Williams Range at Oakland and Blue Canyon, and it is operating OK with no interference. (Portland Log)
- 2:09 A.M. Stead, Trip 6-28: We are having excellent reception, but cannot receive Williams Range on account of some interference. Now flying at twelve thousand over broken cumulus and can't give a very good report now. Will report in a few minutes. (Seattle Log)
Portland to United Trip 6-28: OK.
Portland relayed to Oakland. (Portland Log)
- 2:10 A.M. Oakland to Portland: What altitude did he say?
Portland to Oakland: At twelve thousand. (Medford Log)

- 2:11 A.M. Portland to Sacramento: Any ships on the Sacramento Range? Sacramento to Portland: (Portland unable to read Sacramento on account of interference. (Medford Log)
- 2:12 A.M. Portland to Sacramento: Have you any ships on the Sacramento Range? Sacramento to Portland: There are no ships on the Sacramento Range. (Portland Log)
- 2:13 A.M. Portland to Trip 6-28: Trip 6-28 not heard. (Medford Log)
- 2:14 A.M. Portland to Stead Trip 6-28: Do you want them to cut the Sacramento Range for a few minutes to see if that helps on the interference. Trip 6-28 not heard. (Portland Log)
- 2:15 A.M. No entries.
- 2:16 A.M. Oakland to Sacramento: Ceiling at Oakland is expected to remain one thousand to fifteen hundred with light to moderate rain, conditions squally, Oakland to Sacramento with air slightly rough. The wind is South-West to West—Southwest 30 to 40. (Sacramento Log)
- 2:17 A.M. No entries.
- 2:18 A.M. No entries.
- 2:19 A.M. No entries.
- 2:20 A.M. No entries.
- 2:21 A.M. No entries.
- 2:22 A.M. Oakland to Teletype Station (interphone): Have Williams PX Stead, Trip 6-28, over this Station. Teletype OK'd.
- 2:23 A.M. No entries.
- 2:24 A.M. Oakland to Stead, Trip 6-28, copy Portland: Oakland sent Fresno, Livermore, Oakland, Williams and Reno 1:41 A.M. sequence
- 2:26 A.M. weather, and advised Sacramento to give Trip 6-28 the Sacramento
- 2:27 A.M. local weather. Trip 6-28 not heard. (Oakland Log)
- 2:28 A.M. No entries.
- 2:29 A.M. No entries.
- 2:30 A.M. Oakland to Sacramento: Have your local weather for Trip 6-28.
- 2:31 A.M. Give it to him, as I do not believe he can hear Oakland. (Oakland Log)
Sacramento to Oakland: OK. Just a minute.
- 2:32 A.M. No entries.
- 2:33 A.M. No entries.
- 2:34 A.M. Sacramento to Stead, Trip 6-28: Trip 6-28 not heard. (Oakland Log)
- 2:35 A.M. Sacramento to Stead, Trip 6-28: Trip 6-28 not heard. (Oakland Log)
- 2:36 A.M. Sacramento to Stead, Trip 6-28: Sacramento weather: overcast, 4000 lower scattered twelve hundred, visibility 5 miles, wind south-east 15 to 18. Sacramento barometer 29.98. Trip 6 not heard (Oakland Log)
- 2:37 A.M. No entries.
- 2:38 A.M. Oakland to Portland: Did you get the Fresno and Livermore weather OK?
Portland to Oakland: Yes.
Oakland to Portland: Give the Fresno and Livermore weather to trip 6-28 and try to contact Trip 6-28 for a Williams position.
Portland to Stead, Trip 6-28: Trip 6-28 not heard. (Oakland Log)
- 2:39 A.M. Portland to Stead, Trip 6-28: Trip 6-28 not heard.
- 2:40 A.M. No entries.
- 2:41 A.M. No entries.
- 2:42 A.M. Portland to Stead or Jones, Trip 6-28. Trip 6-28 not heard. (Medford Log)
Elko to Trip 6-28: Do you read Elko? Trip 6-28 not heard. (Medford Log)
- 2:43 A.M. Sacramento to Trip 6-28: Trip 6-28 not heard. (Elko Log)
- 2:44 A.M. Oakland to Trip 6-28 and Portland: Fresno 2:41 weather; Seventy-Five hundred, overcast, visibility 10 miles, temperature 57,
- 2:45 A.M. dew point 25, wind Southeast 11, barometer 30.00, thin spots.
- 2:46 A.M. Livermore weather: Estimated three thousand, overcast, visibility 8 miles, light rain, temperature 59, dew point 48, wind South, Southwest 8, barometer 29.99.
Oakland weather: Nineteen hundred, overcast, lower broken, visibility 5 miles, light rain, temperature 51, dew point 50, wind Southeast 12, barometer 29.99.
Reno weather: High thin scattered, lower scattered at eight thousand, visibility 20, temperature 32, dew point 16, wind West, Northwest 5, barometer 29.84.

- Donner Summit weather: High thin overcast, temperature 30, dew point 19, wind West 18. (Portland Log)
- 2:47 A.M. Portland to Stead, Trip 6-28: Trip 6-28 not heard. Oakland to Portland: Add the Williams weather on to that, and give him Medford—Oakland weather. Portland to Oakland OK.
- 2:48 A.M. Portland to Stead, Trip 6-28: Gave Fresno, Livermore, Oakland,
- 2:49 A.M. Donner Summit, Reno, Medford and Williams 2:41 A.M. sequence
- 2:50 A.M. weather. (Oakland Log)
- 2:51 A.M. Trip 6-28 not heard.
- 2:52 A.M. Sacramento to Stead. Trip 6-28: Sacramento weather; overcast four thousand, lower scattered twelve hundred, visibility 5 miles,
- 2:53 A.M. light rain, wind South 16, Sacramento barometer 29.98. (Red Bluff Log)
Trip 6-28 not heard.
- 2:54 A.M. No entries.
- 2:55 A.M. No entries.
- 2:56 A.M. Burbank to all Stations: Burbank standing by on Mountain Night Frequencies, reception OK. Can read Oakland to Salt Lake, also Oakland to Portland. (Burbank Log)
- 2:57 A.M. Oakland to Burbank: Stand by on Mountain Frequency for Trip
- 2:58 A.M. 6-28 and suspend all traffic until further advised. Oakland East and North: Suspend all traffic except ship to ground until advised.
- 2:59 A.M. Portland to Oakland: Can you check with Meteorologist and find out about wind shift, and the winds aloft. Oakland to Portland: Will see if I can. (Portland Log)
- 3:00 A.M. (Log entry) Time signal received OK. Conditions moderate to heavy static at times. Considerable fading of Oakland, Sacramento and Portland. Unable to read Red Bluff. Unable to hear Trip 6-28 (Medford Log)
- 3:01 A.M. No entries.
- 3:02 A.M. No entries.
- 3:03 A.M. Stead Trip 6-28 to Oakland: We have not been able to get Ranges. Have continued on compass course 150 degrees. Receiving Oakland strong and get an A on Fresno Range. Estimated position between Williams and Potrero. Can you tell me where the North
- 3:04 A.M. leg of the Fresno Range intercepts the Oakland Range? Where does the Northeast leg of the Oakland Range intersect the North leg of the Fresno Range. The Oakland Range is building up. (Portland Log) (Conflicts with Oakland Log)
Stead Trip 6-28: ??? now receiving a very distinct signal on
- 3:05 A.M. ??? Range. Get Fresno Range, estimated between Williams and Potrero. ?? Tell me where the Northeast leg of the Oakland Range intersects the Fresno North leg Range???
- 3:06 A.M. Oakland to Trip 6-28: One minute. Oakland to Stead, Trip 6-28: The northeast leg of the Oakland Range intersects the North leg of the Fresno Range vicinity of Fairfield or Clarksburgh, and the Potrero facilities are out due to
- 3:07 A.M. power failure. Oakland barometer is 30.03. Stead, Trip 6-28 to Oakland: OK. Oakland to Trip 6-28: What is your altitude and position? Stead, Trip 6-28 to Oakland: At ten thousand five hundred, up and down five hundred. See break ahead. Oakland to Trip 6-28: OK and there are no United ships flying. Jones, Trip 6-28 to Oakland: OK and ??? (interference from Northwest Trip 6). Oakland to Trip 6: Repeat, go ahead. Portland to Oakland: He wants to know if any lightning and rain at Oakland? Oakland to Portland: OK. Oakland to Stead, Trip 6-28: No lightning can be seen from here. Jones, Trip 6-28: OK. (Oakland Log) (Conflicts with Portland Log)
- 3:08 A.M. Stead Trip 6-28: We are at ten thousand five hundred in the clear between layers with a big break ahead. Believe we will drop down through it. What is the Oakland weather?
- 3:09 A.M. Oakland to Trip 6-28: Oakland weather nineteen hundred, overcast, lower broken, visibility 4 miles light rain. Trip 6 to Oakland: Any lightning or showers around Oakland?
- 3:10 A.M. Oakland to Trip 6: There is no lightning, but some light rain. Trip 6-28: OK. (Portland Log)
- 3:11 A.M. No entries.
- 3:12 A.M. No entries.
- 3:13 A.M. No entries.

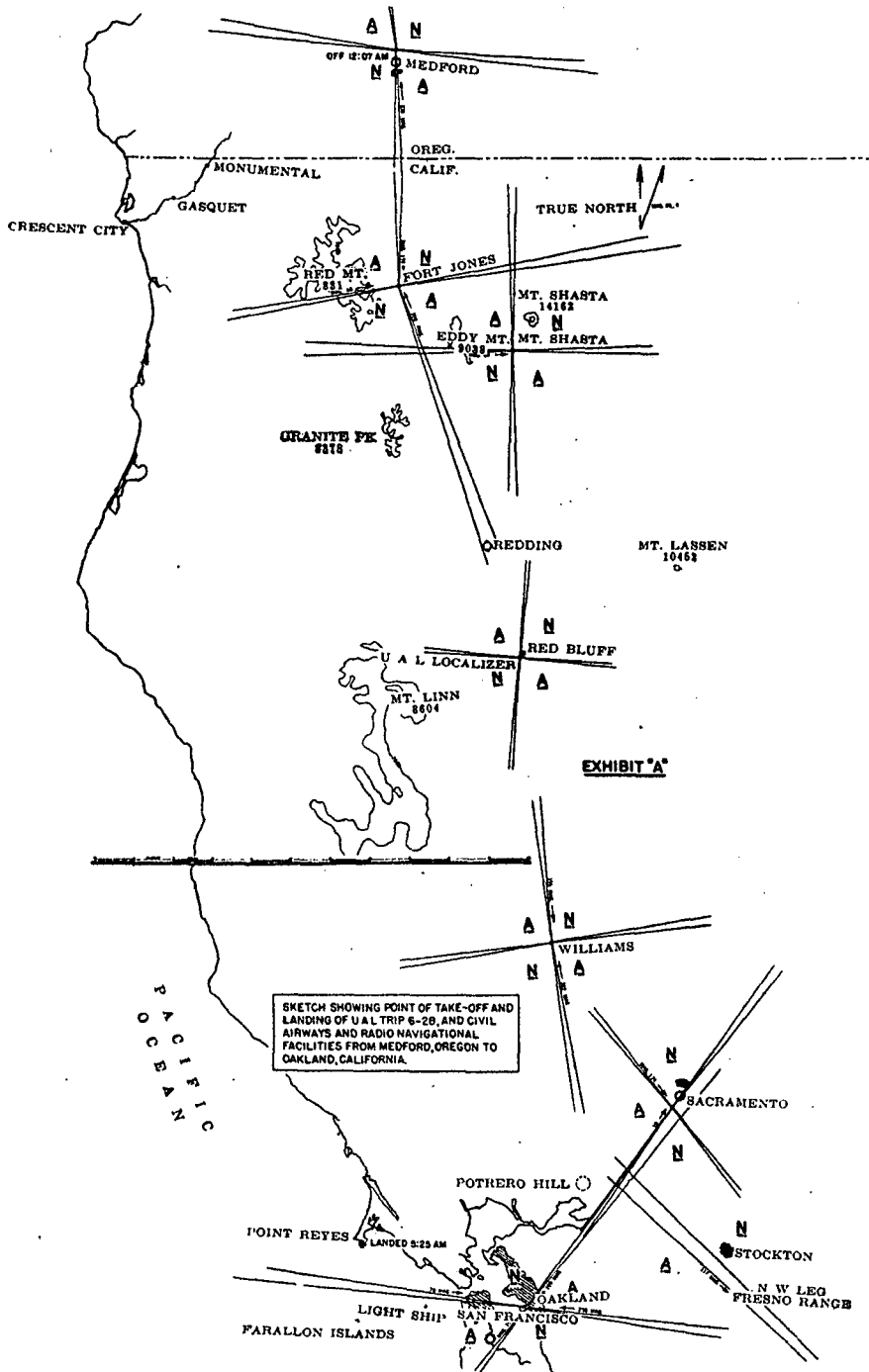
- 3:14 A.M. No entries.
- 3:15 A.M. Oakland to Stead, Trip 6-28: Special Hamilton weather at 3:05 A.M. Estimated twelve thousand, overcast, lower broken, visibility 8 miles, light mist, wind South 6. (Red Bluff Log)
Jones, Trip 6-28: OK. (Oakland Log)
- 3:16 A.M. Oakland to Stead, Trip 6-28: Oakland weather, overcast, ceiling twenty-two hundred, visibility good, 15 to 20 miles. First course light is visible, wind Southeast light, no lightning visible from any direction. Signed, Oakland, Showalter.
Jones, Trip 6-28: OK. (Oakland Log)
- 3:17 A.M. Stead, Trip 6-28 to Oakland: Definitely on Northeast leg of the Oakland Range ????
Oakland to Trip 6-28: OK, and repeat all after "Oakland Range."
Trip 6-28: Not heard. (Oakland Log)
- 3:18 A.M. Oakland to Medford: How much fuel on United Trip 6-28 out of your Station.
Medford to Oakland: OK.
- 3:19 A.M. Medford to Oakland: No fuel on at Medford.
Oakland to Medford: OK. (Red Bluff Log)
- 3:20 A.M. Oakland to Stead, Trip 6-28: You are cleared to the Oakland Range and no Airways Traffic reported. Showalter is on the roof, and it is OK to come direct to Oakland.
Stead, Trip 6 to Oakland: OK. (Oakland Log)
- 3:21 A.M. No entries.
- 3:22 A.M. No entries.
- 3:23 A.M. No entries.
- 3:24 A.M. No entries.
- 3:25 A.M. No entries.
- 3:26 A.M. No entries.
- 3:27 A.M. No entries.
- 3:28 A.M. No entries.
- 3:29 A.M. No entries.
- 3:30 A.M. No entries.
- 3:31 A.M. No entries.
- 3:32 A.M. No entries.
- 3:33 A.M. No entries.
- 3:34 A.M. No entries.
- 3:35 A.M. Salt Lake to Portland: Has Oakland cleared the circuit yet?
Portland to Salt Lake: Not yet. (Medford Log)
- 3:36 A.M. No entries.
- 3:37 A.M. No entries.
- 3:38 A.M. No entries.
- 3:39 A.M. No entries.
- 3:40 A.M. Oakland to Stead, Trip 6-28: The Bay weather.
Jones, Trip 6 to Oakland: Go ahead.
Oakland to Trip 6-28: The Oakland ceiling remains about the same, and San Francisco is eighteen hundred broken clouds.
Jones, Trip 6-28 to Oakland: What was that ceiling?
Oakland to Trip 6-28: Oakland ceiling twenty-two hundred, San Francisco, eighteen hundred, broken clouds, visibility 20 miles.
Jones Trip 6 to Oakland: OK.
- 3:41 A.M. Oakland to Trip 6: The Oakland barometer is 30.02.
Jones, Trip 6 to Oakland: OK. (Oakland Log)
- 3:42 A.M. Oakland to Stead, Trip 6: The Livermore 3:41 A.M. weather: estimated three thousand, overcast, visibility 10 miles.
Stead, Trip 6-28: OK. (Red Bluff and Medford Logs)
- 3:43 A.M. Oakland to Stead, Trip 6-28: Correction on Livermore weather. It's broken with ten miles visibility.
Stead, Trip 6-28 to Oakland: OK. (Red Bluff and Medford Logs)
- 3:44 A.M. No entries.
- 3:45 A.M. No entries.
- 3:46 A.M. No entries.
- 3:47 A.M. No entries.
- 3:48 A.M. No entries.
- 3:49 A.M. Oakland to Stead, Trip 6-28: What is your position now?
Stead, Trip 6-28 to Oakland: Still on the Northeast leg of the Oakland Range. Wind ??? about 25 degrees to right and proceeding towards Oakland, and that is all I can tell you.
Oakland to Trip 6-28: OK. (Oakland Log) (Conflicts with Portland)
Stead Trip 6-28: Still on Northeast leg Oakland Range. Have to deflect 20 to 25 to the right to stay on beam. (Portland Log) (Conflicts with Oakland Log above)

- Stead Trip 6-28: We are still following the Northeast leg of the Oakland Range, and there is a 20 to 25 degree drift to the right of the leg. We have definitely checked the Northeast leg of the Oakland Range and proceeding towards Oakland. (Red Bluff Log) (Conflicts with above Oakland and Portland Logs)
- Stead, Trip 6-28 to Oakland: We are still on the Northeast leg of the Oakland Range. It is necessary to correct 20 to 25 degrees to the right in order to stay on beam. We have positively located the Northeast leg of the Oakland Range. (Seattle Log) (Conflicts with above logs)
- 3:50 A.M. No entries.
- 3:51 A.M. No entries.
- 3:52 A.M. No entries.
- 3:53 A.M. Oakland to Stead, Trip 6-28: Reno 3:41 A.M. weather: Scattered clouds eight thousand, visibility???
- Williams weather; five thousand, overcast, lower scattered, seven thousand, visibility 5 miles.
- Stead, Trip 6-28: OK, what do you have there?
- Oakland sent 3:41 A.M. sequence weather.
- Trip 6-28 to Oakland: OK. (Red Bluff Log)
- 3:54 A.M. Portland to Oakland: Was that 20 degree correction right or left?
- Stead, Trip 6-28: Takes about 25 degrees to right to stay on course flying about 225 degree course. We have a North wind here to stay on course. (Medford and Portland Logs)
- 3:55 A.M. Portland to Trip 6-28: OK.
- 3:56 A.M. No entries.
- 3:57 A.M. No entries.
- 3:58 A.M. No entries.
- 3:59 A.M. No entries.
- 4:00 A.M. (Log Entry, Medford) Time signal out OK. Conditions poor. Oakland and stations south fading considerably. Moderate to heavy static at times. (Medford Log)
- Oakland to Sacramento: Ask Captain Williams the drift on the Sacramento Range.
- 4:01 A.M. Sacramento to Oakland: The drift was to the right. (Oakland Log)
- 4:02 A.M. No entries.
- 4:03 A.M. Portland to Stead, Trip 6-28: Westbound between Donner Summit and Sacramento reported 20 to 25 degrees to the right, ninety miles per wind. Trip 6-28 not heard. (Oakland Log)
- 4:04 A.M. Oakland to Stead, Trip 6-28: Did you get that, Stead. Trip 6 not heard. (Medford Log)
- 4:05 A.M. No entries.
- 4:06 A.M. Oakland to Stead, Trip 6-28: Oakland repeated Cap't Williams' information of 4:00 A.M.
- Sacramento to Oakland: (Cap't Williams) That was compass course 200 Westbound, ordinarily, and corrected to 175.
- Oakland to Stead, Trip 6: Did you get that Stead? Trip 6, not heard. (Oakland Log)
- 4:07 A.M. No entries.
- 4:08 A.M. Stead, Trip 6-28 to Oakland: What time did I give you my location on North Leg Oakland Range?
- Oakland to Trip 6-28: At 3:17 A.M. Northeast leg Oakland Range.
- Stead Trip 6-28: On Northeast leg Oakland Range, course below nine thousand, best of it at six thousand. Been out fifty minutes. Course now 225 N. to left A to right. Now takes 270 degrees to stay on course. If had been correct should be over Oakland. Am dropping down to see what is below. Have sixty gallons of gas, reduced throttle. There is something wrong with this course.
- 4:10 A.M. (Portland Log) (Conflicts Oakland)
- Trip 6-28 to Oakland: What time over did I give that information? (Now definitely on the Northeast leg of the Oakland Range)
- Oakland to Trip 6-28: One minute.
- Oakland to Stead, Trip 6: At 3:17 A.M. you reported definitely on Northeast leg of Oakland Range.
- Stead Trip 6-28 to Oakland: OK, I have been over 50 minutes from there, left of range???? (static) am 30 degrees off in my computations. There must be something wrong with the range. I have 60 gallons of gas, and I am (descending). Don't know exactly where I am???? (static terrible). I figure I should be over now. There must be something wrong with the range. I am going to come down slowly.
- Oakland to Trip 6-28: OK. (Oakland Log) (Conflicts with Portland)

- 4:11 A.M. No entries.
- 4:12 A.M. No entries.
- 4:13 A.M. No entries.
- 4:14 A.M. Oakland to Trip 6-28: What is your altitude now.
Stead, Trip 6-28: Can't tell, I am descending now.
Oakland to Trip 6-28: OK. (Oakland Log)
- 4:15 A.M. Oakland to Trip 6-28: Take a bearing on the Oakland Range with your loop. (Portland Log)
Stead, Trip 6-28: Just a minute. (Oakland Log)
- 4:16 A.M. Jones Trip 6-28: West of Oakland on Northwest leg of Oakland Range. What is the best manifold pressure.
- 4:17 A.M. Oakland to Trip 6-28: One minute.
- 4:18 A.M. Oakland to Stead, Trip 6-28: Decrease revolutions per minute to seventeen hundred, and increase the manifold pressure.
- 4:19 A.M. Trip 6-28 to Oakland: OK, increase it to what? (Oakland Log)
- 4:20 A.M. Oakland to Trip 6-28: Increase it till you get seventeen hundred.
- 4:21 A.M. Trip 6-28 to Oakland: OK. (Oakland Log)
- 4:22 A.M. Oakland to Trip 6-28: Decrease the revolutions per minute to seventeen hundred and increase the manifold pressure. Put your props to cruise at seventeen hundred and then increase the pressure with your throttle.
- 4:23 A.M. Trip 6-28 Oakland: What pressure?
Oakland to Trip 6-28: The manifold pressure. In other words, use your props.
- 4:24 A.M. You have to get about 22 inches on your manifold pressure.
- 4:25 A.M. Stead, Trip 6-28 to Oakland: OK. (Oakland Log)
- 4:26 A.M. No entries.
- 4:27 A.M. No entries.
- 4:28 A.M. No entries.
- 4:29 A.M. No entries.
- 4:30 A.M. Oakland to Stead, Trip 6-28: What is your compass course heading now? Stead, Trip 6-28: Now flying at 95 degrees exactly.
- 4:31 A.M. Oakland to Trip 6-28: OK. (Oakland Log)
- 4:32 A.M. No entries.
- 4:33 A.M. Sacramento (Cap't Williams) to Trip 6-28: Fly at 50 degrees and continue to take bearings on Oakland and Sacramento. Trip 6 not heard. (Oakland Log)
- 4:34 A.M. No entries.
- 4:35 A.M. Stead Trip 6-28: Have lightning static and can't read. Will try again in few minutes. (Portland Log)
Oakland acknowledged. (Portland Log)
Seattle to Trip 6-28: Fly at 50 degrees compass course and continually take bearings on Oakland and Sacramento Ranges. (Seattle Log)
- 4:36 A.M. Oakland to Stead, Trip 6-28: What quadrant are you listening to on the Oakland Range? Trip 6-28 not heard. (Oakland Log)
Oakland to Stead, Trip 6-28: Few thin clouds at Oakland, appears to be a few low clouds over the hills at Oakland. (Showalter)
- 4:37 A.M. Trip 6-28 not heard. (Oakland Log)
- 4:38 A.M. No entries.
- 4:39 A.M. Stead Trip 6-28: I have a check on Oakland and Fresno Ranges, 75 degrees Oakland, and bearing on Fresno is 85 degrees. Hard to get due to static.
- 4:40 A.M. Oakland to Stead, Trip 6-28: OK.
- 4:41 A.M. Oakland to Stead, Trip 6-28: Can you tune on the Oakland Range and let us know what quadrant you are in? (Oakland Log)
- 4:42 A.M. Stead Trip 6-28: We are light A quadrant and on course and think on the Northwest leg of Oakland Range.
Oakland to Stead, Trip 6-28: OK. (Oakland Log)
- 4:43 A.M. Oakland to Stead, Trip 6-28: See if you can get a bearing on Sacramento. Trip 6-28 not heard. (Oakland Log)
- 4:44 A.M. Portland to Trip 6-28: Is that Magnetic or true?
Jones, Trip 6-28: All bearings are magnetic.
Portland to Oakland: All bearings magnetic. (Portland Log)
- 4:45 A.M. Oakland to Stead, Trip 6-28: Were you getting an A on the Fresno Range when you checked it. Trip 6 not heard. (Oakland Log)
- 4:46 A.M. Oakland to Stead, Trip 6-28: Go ahead.
Stead, Trip 6-28: Receiving bearing on 350 kilocycles, 35 degrees and identification signal, dash dot dot dot space dot.
Oakland to Trip 6-28: OK. (Oakland Log)
- 4:47 A.M. Portland to Trip 6-28: That is Boise. (Portland Log)

- 4:48 A.M. No entries.
- 4:49 A.M. No entries.
- 4:50 A.M. Oakland to Stead, Trip 6-28: Try to get a bearing on Sacramento.
Stead, Trip 6-28: Unable to get bearing on Sacramento.
Oakland to Stead, Trip 6-28: OK. Now try to get another bearing on Oakland and Fresno again. Trip 6-28 not heard. (Oakland Log)
- 4:51 A.M. Oakland to Stead, Trip 6-28: Repeated above sent at 4:50 A.M. Trip 6-28 not heard. (Oakland Log)
- 4:52 A.M. Portland to Oakland: Don't believe he acknowledged the message from Sacramento about the 50 degrees. (Oakland Log)
Oakland to Stead, Trip 6-28: Get a bearing on Williams (326 kilocycles and one on Fresno and Oakland. Trip 6 not heard. (Oakland Log)
Stead Trip 6-28: I cannot get a bearing on Oakland account of this lightning and static. (Red Bluff Log)
Stead Trip 6-28: Am on the (Northwest??) (Southwest??) leg of Oakland Range. Cannot get anything on 326 kilocycles.
- 4:54 A.M. Oakland to Trip 6-28: Try and get one on Oakland Fresno. (Oakland Log)
- 4:55 A.M. Stead Trip 6-28: Could not get bearing, flying at 40 to stay on course. Almost on course on Oakland Range, slight A and getting a strong A on the Fresno Range. (Portland Log)
Oakland, Stead Trip 6-28: When you gave us your bearings, of Oakland and Fresno, what quadrant were you in?
- 4:56 A.M. Stead, Trip 6-28: I was almost on course, Oakland Range and (Strong) A Fresno Range.
Oakland to Stead, Trip 6-28: OK you are coming this way then. Do you see any lights. (Oakland Log)
- 4:57 A.M. Oakland to Stead, Trip 6-28: What is your altitude, and do you see any lights?
Stead Trip 6-28: About eighteen hundred, and I don't see any lights. (Oakland Log)
- 4:58 A.M. Oakland to Stead, Trip 6-28: Have you any visibility at all?
Stead, Trip 6-28: No clouds below and few scattered clouds above. (Oakland Log)
Stead, Trip 6-28: Visibility excellent, few scattered clouds. We are out over the water. (Portland Log)
Oakland to Stead, Trip 6-28: Are you out over the water?
Stead, Trip 6-28: That is OK.
Oakland to Trip 6-28: Your signals are getting stronger all the time. (Oakland Log)
- 4:59 A.M. Oakland to Stead, Trip 6-28: The Oakland field wind is southeast 15 to 20, and throttle as much as possible.
Trip 6-28 not heard. (Oakland Log)
Portland to Trip 6-28: Portland repeated 4:59 A.M. information. Trip 6-28 not heard. (Oakland Log)
- 5:00 A.M. Oakland to Stead, Trip 6-28: The Oakland field wind is Southeast 15 to 20, and throttle as much as possible.
Trip 6-28 not heard.
- 5:01 A.M. Trip 6-28: At 65 degrees, can see a beacon light. Will you get the wind at Farrolon Islands. That is the first light I have seen. (Portland Log)
- 5:02 A.M. Oakland to Trip 6-28: Will get the wind at Farrolon Islands right away, and will tell them to listen to you.
Stead, Trip 6-28: OK. (Oakland Log)
- 5:03 A.M. Oakland to Stead, Trip 6-28: Will you give us another gas check?
Stead, Trip 6-28: About 20 gallons, and can now see a light straight ahead of me at compass course 65 degrees.
Oakland to Trip 6-28: OK, and get up near the light you see. (Oakland Log)
Portland to Trip 6-28: Was the light on the left or the right side of the Oakland beam?
- 5:04 A.M. Stead, Trip 6-28: Light is straight ahead and in the N quadrant.
Oakland to Trip 6-28: OK. (Portland Log)
- 5:05 A.M. Portland to Oakland: Light is possibly Point Reyes.
Oakland to Portland: OK. (Oakland Log)
- 5:06 A.M. Oakland to Trip 6-28: If a light ten miles south of on course it is Farrolons, and if it is Point Reyes it will be on the North side of Range.
Stead, Trip 6-20: OK. Am getting N twilight signal. There is a light on my right at 70 degrees. My compass course is 90 degrees. How far from shore am I?
- 5:07 A.M. Oakland, to Trip 6-28: One minute. (Oakland Log)
- 5:08 A.M. Portland to Oakland: The light he is heading for is Point Reyes Light. (Portland Log)

- Trip 6-28: Which is Farrolon's, the one straight ahead of me or the one to the right? (Oakland Log)
- 5:09 A.M. Portland to Trip 6-28: Believe you are about 8 miles from Point Reyes.
- 5:09 A.M. Stead, Trip 6-28: Is that eight miles straight ahead?
Portland to Trip 6-28: That is OK. (Oakland Log)
- 5:10 A.M. Oakland to United Trip 6-28: How far is that light from the shore?
United Trip 6-28 to Oakland: What is the tide and the wind? (Portland Log)
- 5:11 A.M. Portland to Oakland: We estimate his position 8 miles from Point Reyes. The Point Reyes seem to have Peninsula. Seems 3 or 4 miles beyond light. (Portland Log)
- 5:12 A.M. Portland to Trip 6-28: The Peninsula is 3 or 4 miles long, inland side is rough??? It is semi-circular (point) (Oakland Log)
- 5:13 A.M. Oakland to Trip 6-28: Do not land on the beach. Land on the bench on shore side of light. (Portland Log)
Oakland to Trip 6-28: Land up back of light on a bench. It is level and it is rough along the shore. Turn your light on and we are getting the wind for you now.
Stead, Trip 6-28: OK, the lights are on and will land to (right of beacon). (Oakland Log)
- 5:14 A.M. Oakland to Trip 6-28: If you land on water, wheels up. If you land on bench, wheels down.
Trip 6-28: Compass course bearing now 50 degrees on Oakland Range. (Portland Log)
Cannot raise Point Reyes on telephone, still trying. Give us another check on the Oakland Range. (Oakland Log)
- 5:15 A.M. Trip 6-28: As near on Oakland Range (50 degrees). What is the wind at Farrolons? (Oakland Log)
- 5:16 A.M. Oakland to Stead, Trip 6-28: Still no wind from Farrolons.
Portland to Trip 6-28: Are you still N twilight? (Oakland Log)
- 5:17 A.M. Stead, Trip 6-28 to Portland: Strong N now, advise if tide is in or out. (Portland Log)
Portland to Trip 6-28: OK.
- 5:18 A.M. Oakland to Stead, Trip 6-28: If you get to Point Reyes and have enough fuel after you pass the (light), you will find a sandy beach on the East side of the (Drakes Inlet). Follow the shore and there is a big wide beach there.
Stead, Trip 6-28: North or South of Point Reyes? (Oakland Log)
- 5:19 A.M. Oakland to Trip 6-28: Just a minute.
Trip 6-28: Ready to land now. We turned at the lights, and there are two lights. One looks like a ship. We are still over the water. (Oakland Log)
Stead, Trip 6-28: We are right now turning South to a Point to some lights. Looks like a ship. We are practically out of gas. We are over water, right on the shore. (Portland Log)
- 5:20 A.M. Oakland to Stead, Trip 6-28: Follow the shore line, and if it is Point Reyes light you will find a sandy beach on South side of Drakes Inlet. Trip 6-28 not heard. (Oakland Log)
- 5:21 A.M. Oakland to Stead, Trip 6-28: We are trying to contact the boat you saw and have them follow you. (Oakland Log)
- 5:22 A.M. Stead, Trip 6-28: We pulled a flare and the shore is too rough for landing. Give us the wind.
Oakland to Trip 6-28: The wind is Southeast 12 at Point Reyes, and generally southeast 12 in that vicinity. Trip 6 not heard. (Oakland Log)
- 5:23 A.M. Trip 6-28 to Oakland: OK. (Red Bluff Log, also Burbank Log)
- 5:24 A.M. Portland to Trip 6-28: After you passed the light, was there about 2 miles of shore line running east and west?
Stead, Trip 6-28: We can't tell for sure. (Red Bluff Log)
- 5:25 A.M. to 5:25 A.M. (Some carrier on) (Red Bluff Log)
- 5:26 A.M. Oakland to Stead, Trip 6-28: We are trying to get ahold of all the boats in that territory, and locate the one you saw.
Trip 6-28 not heard. (Red Bluff Log)
- 5:27 A.M. Portland to Trip 6-28: Portland repeated 5:26 A.M. remarks, and said: Do you see lights now?
Trip 6-28 not heard. (Red Bluff Log)
(All of the above contacts were made on Mountain Frequency (5) 3147.5 kilocycles)



**CIVIL AERONAUTICS AUTHORITY: AIRMAN CERTIFICATE
SUSPENSION ORDER***

At a session of the Civil Aeronautics Authority
held at its office in Washington, D. C.,
on the 25th day of February, 1939

In the Matter of

CHARLES B. STEAD,

Holder of Airline Pilot
Certificate of Competency
No. 2072

} ORDER No. 609-1

**Order to Show Cause and Temporarily Suspending Airline Pilot
Certificate of Competency**

An accident involving aircraft of United States Registry NC-16066 having occurred on or about November 29, 1938, at or near Point Reyes, California, and the Air Safety Board having conducted an investigation of said accident, and having reported to the Authority the facts, conditions and circumstances relating thereto pursuant to the provisions of Section 702 of the Civil Aeronautics Act of 1938, and upon due consideration of said report;

IT APPEARING TO THE AUTHORITY, That there is probable cause to believe that the pilot of said aircraft, Charles B. Stead (hereinafter sometimes referred to as "respondent"), holder of Airline Pilot Certificate of Competency No. 2072, is not competent to perform the duties of an airline pilot, in that such reported facts, conditions and circumstances relating to said accident indicate that he failed to perform his duties in the following particulars:

- (a) On or about November 28, 1938, respondent was in command of aircraft NC-16066 and navigated said aircraft in scheduled operation between Seattle, Washington, and San Diego, California;
- (b) Prior to the departure of said aircraft from Medford, Oregon, while enroute, respondent failed to give proper consideration to the fuel supply on board said aircraft, or to the amount of fuel that might be required for the trip in view of adverse weather and wind conditions forecast over the course to be flown;
- (c) After respondent reported he was on a leg of the Oakland, California, radio range (thought by him to be the northeast leg), he failed to recognize the inconsistency of the compass headings of the aircraft with the heading required to fly the on-course signal of the northeast leg;
- (d) Respondent continued the flight of said aircraft in a westerly direction for an excessive period of time, beyond that which would have been required for said flight to reach Oakland from respondent's estimated position on the northeast leg of the Oakland radio range;

* On the same date suspension orders were also issued with the relation to the Air Carrier Dispatcher Certificates of Competency of Thomas P. Van Selever and Phillip S. Showalter.

- (e) Respondent failed to work an orientation problem and to establish definitely the position of the aircraft, either at the time of intersecting a leg of the Oakland radio range at 3:17 a m., November 29, 1938, or during such additional period of time as to be able either to remain within range of or to return to safe landing area;
- (f) No effort was made by respondent to conserve fuel within a reasonable period of time after the aircraft failed to arrive in Oakland subsequent to intersecting a leg of the Oakland radio range;

AND THE AUTHORITY FINDS THAT:

- (1) An emergency exists requiring immediate action in respect of safety in air commerce;
- (2) Such emergency requires the suspension of Airline Pilot Certificate of Competency, No. 2072, held by respondent, for a period of thirty (30) days from the date hereof;
- (3) A public hearing is necessary to enable the Authority to determine whether (a) the public interest requires that said Certificate be suspended, in whole or in part, for any further period, and (b) any cause exists which would justify the permanent revocation of such Certificate, in whole or in part.

Now, Therefore, the Authority, acting pursuant to Section 205(a), 609, and 1005(a) of the Civil Aeronautics Act of 1938, issues the following order:

IT IS ORDERED, That Airline Pilot Certificate of Competency, No. 2072, be and the same is hereby suspended for a period of thirty (30) days from the date hereof,

IT IS FURTHER ORDERED, That Charles B. Stead, holder of said Certificate of Competency, be and he is hereby directed to appear before a duly authorized representative of the Authority on such date, within thirty (30) days from the date hereof, and at such place, within the City and County of San Francisco, California, as shall be designated by the Authority, and show cause why said Certificate of Competency should not be suspended, in whole or in part, for any further period, and why said Certificate should not be permanently revoked, in whole or in part.

By the Authority:

PAUL J. FRIZZELL,

Secretary.

(SEAL)

**CIVIL AERONAUTICS AUTHORITY: AIRMAN CERTIFICATE
HEARING ORDER**

At a session of the Civil Aeronautics Authority
held at its office in Washington, D. C.,
on the 1st day of March, 1939

In the Matter of

CHARLES B. STEAD,

Holder of Airline Pilot
Certificate of Competency
No. 2072

} Docket No. 197

In the Matter of
 THOMAS P. VAN SCIEVER,
 Holder of Air Carrier
 Dispatcher Certificate
 of Competency No. 258

} Docket No. 200

In the Matter of
 PHILIP S. SHOWALTER,
 Holder of Air Carrier
 Dispatcher Certificate
 of Competency No. 267

} ..
 } Docket No. 201.

**Order Setting Date and Place for Hearing and
 Designating Presiding Officer**

The Authority having on February 25, 1939, issued orders Nos. 609-1, 609-2, and 609-3 temporarily suspending the Certificates of Competency of CHARLES B. STEAD, THOMAS P. VAN SCIEVER, and PHILIP S. SHOWALTER, respectively, and directing these said persons to appear before a duly authorized representative of the Authority on such date and at such place within the City and County of San Francisco, California, as shall be designated by the Authority, and show cause why these said Certificates of Competency should not be suspended for a period longer than 30 days and why the said Certificates should not be permanently revoked, and having on the same date issued order No. 609-4 joining and consolidating for hearing the proceedings instituted by said orders;

IT IS ORDERED BY THE AUTHORITY THAT: The hearing on the matters with respect to which respondents are required to show cause shall be held at 660 Mission Street, City and County of San Francisco, California, on the 20th day of March, 1939, at 10 A.M. (Pacific Standard Time).

IT IS FURTHER ORDERED THAT: Harllee Branch, Vice Chairman of the Authority, be and he hereby is designated to preside at said hearing, and he is hereby authorized to adjourn or postpone such hearing to another time or place either before the time when the same is first directed to be heard, or thereafter, and is further authorized to sign and issue subpoenas, to administer oaths, to examine witnesses, to receive evidence, to take depositions, to grant or deny in his discretion motions for a severance of the issues involved in this proceeding, and to do and perform such other acts as are ordinarily entrusted to a presiding judicial officer.

By the Authority:
 /s/ PAUL J. FRIZZELL,
 Secretary.

(SEAL)

CIVIL AERONAUTICS AUTHORITY: DOCKET NO. 8-401-E-1**Certificate of Public Convenience and Necessity****Delta Air Corporation—"Grandfather" Certificate**

In the matter of the Application of Delta Air Corporation for a Certificate of Public Convenience and Necessity under Section 401(e)(1) of the Civil Aeronautics Act of 1938.

Decided February 25, 1939.

Applicant found entitled, under section 401(e)(1) of the Act to a certificate of public convenience and necessity authorizing it to engage in air transportation with respect to mail, passengers, and property between the terminal point Charleston, S. C., certain intermediate points, and the terminal point Fort Worth, Tex.

Ernest V. Moore for Applicant.

Fred M. Glass and *Hubert A. Schneider* for Civil Aeronautics Authority.

Opinion**BY THE AUTHORITY:**

Delta Air Corporation, by application filed September 23, 1938, and amendments thereto, filed October 11, 1938, and October 17, 1938, seeks a certificate of public convenience and necessity under section 401(e)(1) of the Civil Aeronautics Act of 1938. Authorization is sought by the applicant to engage in scheduled air transportation of mail, passengers, and property between the terminal points Charleston, S. C., and Fort Worth, Tex., and the intermediate points Columbia, S. C., Augusta and Atlanta, Ga., Birmingham, Ala., Meridian and Jackson, Miss., Monroe and Shreveport, La., and Tyler and Dallas, Tex.

The application was filed within the statutory period and due notice thereof was given to the public and to the air carriers included in a list issued by the Authority. A public hearing thereon was held before an examiner of the Authority, whose report was duly filed and served. Under the Authority's procedure, an opportunity was given for taking exceptions to this report. Applicant filed no exceptions.

Section 401(a) of the Act provides that no air carrier shall engage in any air transportation unless there is in force a certificate issued by the Authority authorizing such air carrier to engage in such transportation. However, an air carrier engaged in air transportation on the date of enactment of the Act may continue so to engage until such time as the Authority shall pass upon an application for a certificate for such transportation, if within 120 days from the date of enactment of the Act such air carrier files an application for such certificate. Section 401(e)(1) requires that a certificate shall be issued to an applicant upon proof only that during the so-called "grandfather" period¹ it was an air carrier, continuously operating as such (except as to interruptions of service over which it had no control) unless the service it rendered for such period was inadequate and inefficient.

Proof that an applicant was an air carrier involves, under the Act, proof that it was a citizen of the United States. To establish this, applicant herein introduced evidence that it is a corporation, incorporated under the laws of the State of Louisiana in 1930. The applicant further introduced evidence

1. From May 14, 1938 to August 22, 1938, the effective date of section 401.

that 14,124 shares or 77 per cent of its total outstanding shares of capital stock, including those shares held by officers and directors, were held by citizens of the United States. This evidence was in the form of a certificate of the registrar of voters of the Parish of Ouachita, La., showing that the holders of 13,528 shares of stock were, as of October 24, 1938, registered voters in the parish, and affidavits of two stockholders not named in that certificate, owning 596 shares of the stock, that they were born in the United States and had never been divested of citizenship. Applicant's vice president and general manager also testified that to his personal knowledge all the officers, directors, and stockholders of the applicant were then and during the "grandfather" period, citizens of the United States.

To prove that it continuously operated as an air carrier during the "grandfather" period, applicant introduced evidence that it began transporting mail over air mail route No. 24 in July, 1934, pursuant to a contract awarded by the Postmaster General on June 8, 1934, and that it began passenger and property service in August, 1934. The record shows that it has continuously transported passenger, property, and mail over this route, serving the points designated in the contract and subsequent extensions thereof, with the exception noted below, throughout the "grandfather" period.

During the "grandfather" period, the applicant conducted one round trip daily between Atlanta, Ga., and Fort Worth, Tex., with stops at Birmingham, Ala., Meridian and Jackson, Miss., Monroe and Shreveport, La., Tyler (except as noted below) and Dallas, Tex.; one additional round trip daily between Atlanta and Fort Worth, with stops at all of the same points except Meridian and Tyler; one round trip daily between Charleston, S. C., and Atlanta, Ga., with stops at Columbia, S. C., and Augusta, Ga.; and one round trip daily, except Sundays and holidays, between Atlanta and Birmingham. Passengers, property, and mail were carried on all schedules except that no mail was carried on the eastward run of the last mentioned trip from Birmingham to Atlanta.

Prior to August 1, 1938, a load limit was prescribed for aircraft using the landing field at Tyler because of the poor condition of that field, which required the applicant to omit stops if its airplanes carried in excess of four passengers. The applicant was required to discontinue service to that point in the interest of safety on August 1, 1938. Occasional interruptions of service occurred with respect to the westward run of the trip between Atlanta and Birmingham, which was operated at night and was canceled a few times because of adverse weather conditions.

There is no evidence in the record indicating that the service rendered by the applicant during the "grandfather" period was inadequate or inefficient.

Section 401(e)(1) of the Act provides that a certificate issued under that section shall authorize the applicant to engage in air transportation "(A) with respect to all classes of traffic for which authorization is sought, except mail, between the terminal and intermediate points between which it * * * so continuously operated between May 18, 1938, and the effective date of this section, and (B) with respect to mail and all other classes of traffic for which authorization is sought, between the terminal and intermediate points between which the applicant * * * was authorized by the Postmaster General prior to the effective date of this section, to engage in the transportation of mail."

Authority to transport mail over air mail route No. 24 was granted to the applicant by the Postmaster General under the contract previously men-

tioned, which defined the route as extending from Charleston, S. C., to Fort Worth, Tex., via Columbia, S. C., Augusta and Atlanta, Ga., Birmingham, Ala., Meridian and Jackson, Miss., Monroe and Shreveport, La., and Dallas, Tex. This contract provided that the applicant might omit service between Dallas and Fort Worth until such time as the Postmaster General required performance of such service. By order of the Postmaster General dated February 28, 1935, effective March 4, 1935, Tyler, Tex., was included as a stop on this route. Mail service to Fort Worth, Tex., was required by similar order dated March 5, 1938, effective March 15, 1938. No other changes were made in authorizations prior to August 22, 1938.

We find that from May 14, 1938, until August 22, 1938, the effective date of section 401 of the Act, the applicant was an air carrier continuously operating as such, except as to interruptions of service over which it had no control, and that it was authorized by the Postmaster General prior to August 22, 1938, within the meaning of Section 401(e)(1)(B) of the Act, to engage in the transportation of mail between the terminal point Charleston, S. C., the intermediate points Columbia, S. C., Augusta and Atlanta, Ga., Birmingham, Ala., Meridian and Jackson, Miss., Monroe and Shreveport, La., Tyler and Dallas, Tex., and the terminal point Fort Worth, Tex.

The applicant is, therefore, entitled to a certificate of public convenience and necessity authorizing it to engage in air transportation with respect to mail, passengers, and property between the terminal and intermediate points named in the preceding paragraph.

An appropriate order will be entered.

The following members of the Authority concur in the above opinion:

/s/ EDWARD J. NOBLE,
HARLEE BRANCH,
ROBERT H. HINCKLEY,
OSWALD RYAN,
G. GRANT MASON, JR.

Orders
Serial Number 5

THE UNITED STATES OF AMERICA
CIVIL AERONAUTICS AUTHORITY
WASHINGTON, D. C.

At a Session of the Civil Aeronautics Authority
held in the City of Washington, D. C., on
the 25th day of February, 1939.

In the Matter of the Application of

DELTA AIR CORPORATION

For a certificate of public convenience and necessity under
section 401(e)(1) of the Civil Aeronautics Act of 1938.

Docket No.
8-401-E-1

Order Authorizing Issuance of Certificate

Delta Air Corporation having filed application for a certificate of public convenience and necessity under section 401(e)(1) of the Civil Aeronautics

Act of 1938, and a full hearing thereon having been held, and the Authority upon consideration of the record of such proceedings having issued its opinion containing its findings, conclusions, and decisions, which is attached hereto and made a part hereof, and finding that its action in this matter is necessary pursuant to said opinion:

IT IS HEREBY ORDERED that there be issued to Delta Air Corporation a certificate of public convenience and necessity authorizing it, subject to the provisions of such certificate, to engage in air transportation with respect to persons, property, and mail between the terminal point Charleston, S. C., the intermediate points Columbia, S. C., Augusta, Ga., Atlanta, Ga., Birmingham, Ala., Meridian, Miss., Jackson, Miss., Monroe, La., Shreveport, La., Tyler, Tex., and Dallas, Tex., and the terminal point Fort Worth, Tex.

IT IS FURTHER ORDERED that said certificate shall be subject to the terms, conditions, and limitations prescribed by Regulation 401-F-1 issued by the Authority on February 24, 1939, all amendments thereto, and such other terms, conditions, and limitations as may from time to time be prescribed by the Authority.

IT IS FURTHER ORDERED that said certificate shall be issued in the form attached hereto and shall be signed on behalf of the Authority by the Chairman of the Authority and shall have affixed thereto the seal of the Authority attested by the Secretary. Said certificate shall be made effective from the 22d day of August, 1938.

By the Authority:

PAUL J. FRIZZELL,
Secretary.

(SEAL)

THE UNITED STATES OF AMERICA
CIVIL AERONAUTICS AUTHORITY
WASHINGTON, D. C.

Certificate of Public Convenience and Necessity

Delta Air Corporation

is hereby authorized, subject to the provisions hereinafter set forth, the provisions of Title IV of the Civil Aeronautics Act of 1938, and the orders, rules, and regulations issued thereunder, to engage in air transportation with respect to persons, property, and mail as follows:

Between the terminal point Charleston, S. C., the intermediate points Columbia, S. C., Augusta, Ga., Atlanta, Ga., Birmingham, Ala., Meridian, Miss., Jackson, Miss., Monroe, La., Shreveport, La., Tyler, Tex., and Dallas, Tex., and the terminal point Fort Worth, Tex.

to be known as Route No. 24.

The holder shall render service to and from each of the points named herein, except as temporary suspensions of service may be authorized by the Authority, and may (1) begin or terminate or begin and terminate trips at points short of terminal points; (2) continue to serve regularly any point named herein through the airport last regularly used by the holder to serve such point prior to the date of issuance of this certificate; and (3) continue to maintain regularly scheduled non-stop service between any two points not consecutively named herein if non-stop service was regularly scheduled by the holder between such points on August 22, 1938, and on the date of issuance of this certificate. In addition to the service hereinabove expressly prescribed, the holder may regularly serve any point named herein through

any other airport convenient thereto and may render any other, scheduled non-stop service between any two points not consecutively named herein, if and only if such holder complies with such procedure relating thereto as may be prescribed by the Authority.

The exercise of the privileges granted by this certificate shall be subject to such reasonable terms, conditions, and limitations required by the public interest as may from time to time be prescribed by the Authority.

This certificate shall be effective from the 22d day of August, 1938.

IN WITNESS WHEREOF, The Civil Aeronautics Authority has caused this certificate to be executed by its Chairman and the seal of the Authority to be affixed hereto, attested by the Secretary of the Authority on this the 25th day of February, 1939.

/s/ HARLEE BRANCH,
*Vice Chairman and
Acting Chairman.*

(SEAL)
Attest: /s/ PAUL J. FRIZZELL,
Secretary.

CIVIL AERONAUTICS AUTHORITY: REGULATION CONCERNING TERMS OF "GRANDFATHER" CERTIFICATES

At a session of the Civil Aeronautics Authority
held at its office in Washington, D. C., on
the 24th day of February, 1939.

Acting pursuant to the authority vested in it by the Civil Aeronautics Act of 1938, particularly sections 205(a) and 401(f) thereof, and finding that its action is necessary and appropriate to carry out the provisions of the Act, and is required by the public interest, the Civil Aeronautics Authority hereby makes and promulgates the following regulation:

Regulation 401-F-1: Terms, Conditions and Limitations of Certificates of Public Convenience and Necessity Issued Under Section 401 (e) (1) of the Act

Unless the order authorizing the issuance of a particular certificate shall otherwise provide, there shall be attached to the exercise of the privileges granted by each certificate of public convenience and necessity issued pursuant to section 401 (e) (1) of the Civil Aeronautics Act of 1938, the terms, conditions and limitations hereinafter set forth, and such other terms, conditions and limitations as may from time to time be prescribed by the Authority.

I.

If at any time the holder of the certificate desires to render a scheduled non-stop service between any two points not consecutively named in the certificate, and if non-stop service between such points is not then regularly scheduled by such holder, such holder shall file with the Authority written notice of its intention to inaugurate such service. Such notice shall be filed at least twenty days prior to inaugurating such service, shall be conspicuously entitled "Notice of Non-Stop Service" and shall fully describe such service. At the time such notice is filed with the Authority a copy thereof shall be served by such holder upon the Postmaster General and upon such other persons as the Authority may require: *Provided*, That subject to the provisions of section 405(e) of the Act, non-stop service may be inaugurated

between any two points at any time without the filing of the notice herein prescribed if, during the twelve months preceding such inauguration, non-stop service was regularly scheduled by such holder between such points during a period of at least forty-five days.

Such non-stop service may be inaugurated upon the expiration of twenty days after the filing of such notice unless (1) the Authority notifies such holder within said twenty-day period that a direct straight-line course between the points between which such service is to be operated appears to involve a substantial departure from the shortest course between such points as determined by the route described in the certificate, in which event such service shall not be inaugurated unless and until the Authority finds, upon application of the holder and after notice and public hearing, that the public interest would not be adversely affected by such service on account of such substantial departure; or (2) such service involves a schedule designated for the transportation of mail and the inauguration of such service on such date would be prohibited pursuant to the provisions of section 405(e) of the Act, in which event the inauguration of such service shall be subject to said section.

The Authority may, subject to the provisions of section 405(e) of the Act, permit non-stop service to be inaugurated at any time after the filing of the "Notice of Non-Stop Service" herein prescribed whenever the circumstances warrant such action.

If any non-stop service regularly scheduled by the holder on the date of issuance of the certificate was not regularly scheduled by the holder on August 22, 1938, and if the holder files a "Notice of Non-Stop Service" with respect to such service with the Authority within thirty days after such date of issuance, the holder may, subject to the provisions of section 405(e) of the Act, continue to render such service: *Provided*, That if a direct straight-line course between the points between which such service is operated appears to involve a substantial departure from the shortest course between such points as determined by the route described in the certificate, and if the Authority shall, after notice and public hearing instituted within ninety days after such date of issuance, find that the public interest would be adversely affected by such service on account of such substantial departure, such service shall thereupon be discontinued: *Provided further*, That subject to the provisions of section 405(e) of the Act, non-stop service may be continued between any two points without the filing of the notice herein prescribed if, during the twelve months preceding the date of issuance of the certificate, non-stop service was regularly scheduled by the holder of the certificate between such points during a period of at least forty-five days.

II.

If the holder of the certificate desires to serve regularly a point through any airport not then regularly used by such holder, such holder shall file with the Authority written notice of its intention so to do. Such notice shall be filed at least thirty days prior to inaugurating the use of such airport. Such notice shall be conspicuously entitled "Notice of Airport Change," shall clearly describe such airport and its location, and shall state the reasons the holder deems the use of such airport to be desirable. At the time such notice is filed with the Authority, a copy thereof shall be served by the holder upon

the Postmaster General and upon such other persons as the Authority may require.

The use of any such airport may be inaugurated upon the expiration of thirty days after the filing of such notice, unless within said thirty-day period the Authority shall serve upon the holder an order directing such holder to show cause why such use should not be disapproved: *Provided*, That the Authority may permit the use of any airport prior to the expiration of such thirty-day period whenever the circumstances warrant such action. Upon service of such order, such use shall not thereafter be inaugurated, except as may be expressly permitted by such order, unless and until the Authority finds, after notice and public hearing, that the public interest would not be adversely affected by such use.

In no event, however, shall the holder use the provisions of this Article as authority to receive regularly passengers or property at one airport and discharge the same at any other airport serving the same point.

III.

It shall be a condition upon the holding of the certificate that any intentional contravention in fact by the holder of the terms of Title IV of the Act or of the orders, rules, or regulations issued thereunder or of the terms, conditions, and limitations attached to the exercise of the privileges granted by the certificate, even though occurring without the territorial limits of the United States, shall, except to the extent that such contravention in fact shall be necessitated by an obligation, duty, or liability imposed by a foreign country, be a failure to comply with the terms, conditions, and limitations of the certificate within the meaning of section 401(h) of the Act.

By the Authority:

PAUL J. FRIZZELL,
Secretary.

INTERSTATE COMMERCE COMMISSION: AIR MAIL DOCKET NO. 35

Boston-Maine Airways, Incorporated, Base Rate Mileage

Submitted July 29, 1938.

Decided September 6, 1938.

1. Order of March 11, 1935, in *Air Mail Compensation*, 206 I. C. C. 675, does not establish rates for the carriage of air mail by airplane over extensions of air-mail route 27.
2. Fair and reasonable rates on air-mail route 27 as extended, determined and published.

Karl A. Crowley, Walter E. Kelly, and William C. O'Brien for Postmaster General.

W. A. Cole for carrier.

REPORT OF THE COMMISSION

DIVISION 3, COMMISSIONERS McMANAMY, MAHAFFIE, AND MILLER

By DIVISION 3:

Exceptions were filed by the Postmaster General to the report proposed by the examiner and a reply was filed by the complainant. The Postmaster

General also requested oral argument before the Commission but later withdrew that request.

The Civil Aeronautics Act of 1938, approved June 23, 1938, repeals the Air Mail Act of 1934, excepting certain provisions, but further provides that proceedings pending before the Interstate Commerce Commission for the determination of rates for the transportation of air mail by aircraft on the date of the enactment of the Civil Aeronautics Act of 1938 "shall be continued, orders therein issued, appeals therefrom taken, and payments made by the Postmaster General pursuant to such orders, as if this Act had not been enacted."

By complaint filed December 2, 1937, Boston-Maine Airways, Incorporated, a contractor, by succession in interest, for the transportation of air mail by airplane under the Air Mail Act of 1934, as amended, over air-mail route 27, alleges that extensions to that route approved by the Postmaster General have so increased its length that the base mileage named for the route in *Air Mail Compensation*, 206 I. C. C. 675, 725, is no longer substantially the monthly equivalent of one daily round trip over the entire route. Complainant also alleges that, in consequence of such increase in the length of the route and the resulting increase in the mileage flown, the rate of compensation received, due to the manner of application of the scale by the Postmaster General, is no longer adequate. An increase of the base mileage named in *Air Mail Compensation*, *supra*, to be made effective as of August 1, 1937, is sought.

In his answer the Postmaster General opposed the prayer of the complaint and particularly that part which seeks the retroactive application of any relief granted. After due notice, hearing has been held at which complainant and the Postmaster General appeared. The former presented evidence.

Complainant is the successor to National Airways, Incorporated, and, with the approval of the Postmaster General, the contract for transportation of air mail, and the service connected therewith, held by the latter company, as the original contractor under the Air Mail Act of 1934, was transferred to complainant, effective March 1, 1937.

Route 27 is V shaped, extending, at the time of the decision cited, from Boston, Mass. to Bangor Maine, and from Boston to Burlington, Vt., a total distance of about 400 miles. In publishing the rate for this route along with others then under consideration, the Commission fixed 33 $\frac{1}{2}$ cents as reasonable to apply to a base of 24,000 airplane-miles which was substantially the monthly equivalent of one daily round trip over the entire route. The air-mail rates fixed in *Air Mail Compensation*, *supra*, are subject to the following proviso, as amended in 222 I. C. C. 602, 608:

The base named for each route shall be used only for the mileage named for that base and shall be (1) progressively decreased 1 cent upon each increase in the number of airplane miles actually flown with mail each month which equals 10 per cent of the mileage named for that base * * * *Provided*, That where the mileage named in the table is substantially the monthly equivalent of one daily round trip over the entire route, the base named for that mileage shall not be decreased until the miles actually flown with mail each month equal 180 per cent of the mileage named, but shall, after the miles actually flown with mail each month equal 180 per cent of the mileage named, be decreased, as herein provided, upon each increase of 10 per cent in the mileage named over 180 per cent of the mileage named.

Since that decision, remeasurement of the route, or the designation of additional way stations not in direct air line between previously existing sta-

tions, have increased the length of original route to a maximum of approximately 409 miles, and from time to time the route has been seasonally extended 33 miles from Bangor to Bar Harbor, Maine, but this extension is no longer authorized.

Effective August 4, 1937, the route was extended from Bangor to Caribou, with intermediate stops at Millinocket, Houlton, and Presque Isle, all in Maine, a distance of 168 miles. On August 10, 1937, it was extended an additional 74 miles from Burlington to Montreal, Canada. Thus the route is increased in length from slightly over 400 miles to a maximum of approximately 650 miles, and the monthly equivalent of one daily round trip from approximately 24,000 airplane-miles to from 38,500 to 40,000, depending upon the method and time of computation. One daily round trip monthly over the entire route, therefore, has become more than 160 per cent of the base mileage named by the Commission. Until these route extensions became effective there was no authorized increase in the amount of airplane-miles flown by the carrier great enough to cause the rate to vary from the base named. However, in addition to the increase in the mail-pay mileage resulting from the increase in the length of the route, some service additional to the single round trip originally authorized has been approved. For example, on February 15, 1938, service over the extended route was authorized, which, on basis of 100 per cent performance, would, for the following month, have amounted to about 66,844 miles. This would have been about 166 per cent of the "equivalent of one daily round trip over the entire route" as it existed during that month. But it would also have been nearly 280 per cent of the 24,000 miles originally named by the Commission as the "monthly equivalent of one daily round trip over the entire route." While the record does not show the actual mail mileage flown during March, 1938, it does show that prior thereto complainant flew over 200 per cent of 24,000 miles in one month, and the application of the provisions of the scale caused a decrease of 2 cents per airplane-mile in the rate paid, although the mileage flown was less than 120 per cent of the monthly equivalent of one daily round trip over the extended route. During no month has the authorized mileage been the equivalent of 180 per cent of one daily round trip over the route as extended, although on two occasions it has exceeded that percentage of 24,000 miles in amounts sufficient to cause a reduction of the rate when the proviso to the scale was applied to that mileage, by the Postmaster General.

The carrier protested such compensation, and, in consequence, the Postmaster General, on November 4, 1937, brought the matter to the attention of the comptroller general, with a request that he rule upon the applicable rate under the scale and the proviso thereto. In responding, the comptroller general states:

The question which you present appears to be one primarily for the consideration of the Interstate Commerce Commission in fixing and adjusting rates and base mileage for air mail routes under the act of August 14, 1935, 49 Stat. 614, and of your Department in extending the mileage on said routes as authorized by said act. Insofar as concerns the particular route referred to * * *, it appears that the computation of the mail pay is in accordance with existing orders of the Interstate Commerce Commission. In such circumstances no action by this office appears required at this time.

Authority for the extension of the route exists under section 3 (c) of the act as amended.¹ Authority of a similar nature was also contained in the original act. Under this provision the rate of compensation payable on the extension of any route "shall not be in excess of the rate per mile fixed for the service thus extended." There is also authority under the act² for agreements for lesser rates for the carriage of air mail over all or a part of an air-mail route under specified circumstances. But, without assuming such agreements to be permitted thereby under the conditions of this case, it is stated that there has been no such agreement with respect to such special rates on any schedule on this route.

Climatic and other conditions affecting this route are described in the report, supra, at page 743. Both extensions here are to the north and offer no escape from the climatic conditions there described. As extended there are 16 stations, including termini, on the route, one of which is temporarily in disuse.

The record includes monthly and annual reports of the carrier and its predecessor showing statistical and financial data pertaining to operation on the route. Analysis of these shows that as the mileage flown on the route has increased the cost of operation also has increased. The average operating expense for corresponding periods, August to January, in 1936-37 and 1937-38, shows the cost of operation in the former period, before the extension of the route, to have been about 44.5 cents per airplane-mile flown, and in the latter period, after the route was extended, 50 cents. At the time of the transfer of the air-mail contract, occurring between these periods, the previous operating agreement between the air line and its affiliated railroads, under which the latter bore a considerable part of the expense of operation as described in *National Airways, Inc., Rate Review, 1934-1936*, 226 I. C. C. 409, was abrogated, so that during the latter period, although a part of the personnel of the air line was paid by the railroads, much of the expense formerly borne by them had become air-line expense. This accounts for a part of the difference in expense shown above. A part is also due to an increase in direct aircraft operating expense which averaged 22 and 26 cents per airplane-mile, respectively, during the two periods.

The *National Airways, Inc., Rate Review, supra*, shows that, notwithstanding complainant received, from the lease of space in its airplanes, sums substantially in excess of the amount paid for transportation by actual users thereof, and at the same time was, under the arrangement then existing with its affiliated railroads, benefited by the payment of a considerable part of the operating expenses customarily paid by air-transport companies, it received only a moderate profit from its total operations. As there shown, most of that profit was earned in activities other than the transportation of air mail. The record herein shows that for the fiscal year ended June 30,

1. Section 3 (c) of the Air Mail Act of 1934, as amended, provides: "If, in the opinion the Postmaster General, the public interest requires it, he may grant extensions of any route: Provided, That the aggregate mileage of all such extensions on any route in effect at one time shall not exceed two hundred and fifty miles, and that the rate of pay for such extensions shall not be in excess of the rate per mile fixed for the service thus extended."

2. Section 3 (f) of the act provided, inter alia, that the Postmaster General "may, under such regulations as he may prescribe, authorize and, notwithstanding any other provisions of this Act, compensate for a special schedule or an extra or emergency trip in addition to any regular schedule over air-mail routes or portions thereof at the same mileage rate paid for regular schedules on the contract route or routes, or at a lesser rate if agreed to by the contractor and the Postmaster General."

1937, when incidental revenues totaled over \$16,000, complainant and its predecessor together earned a net income from operations of about \$6,400. In *National Airways, Inc., Rate Review, supra*, it appeared that nearly one-half the total revenue from such incidental services became net income. No scheduled exclusively passenger service appears to have been maintained prior to June 30, 1937. Subsequent to that date and up to January 31, 1938, the carrier did no better, the record showing that notwithstanding net incidental revenues of more than \$4,000 in that period it sustained a deficit in net income from operations of over \$5,600. Exclusion of losses which may have been sustained from the minor amount of exclusively passenger mileage said to have been flown, less than 4 per cent of the total mileage, would not materially affect the result. There is therefore, no indicated reason for a modification of the maximum rate of compensation heretofore published for transportation of air mail by airplane on this route.

Conclusions.—This proceeding arises by reason of the change in the compensation paid complainant for the transportation of air mail subsequent to the extensions of the route covered by the original contract. Under section 6 (c) of the act such compensation is paid "at the rate fixed by order of the Commission." It thus becomes necessary to determine at the outset whether the additional mileage occasioned by the extensions was properly included in determining the rate payable or, in other words, whether the rate paid was that "fixed by order of the Commission."

The power to fix and determine fair and reasonable rates is legislative in character. *Minnesota Rate Cases*, 230 U. S. 352. When such rates are determined and fixed by order, the order, where uncertain, may be clarified by reference to the report filed with it, and made a part thereof. *American Exp. Co. v. Caldwell*, 244 U. S. 617. Although the report in *Air Mail Compensation, supra*, makes reference to section 3 (c) of the act authorizing extensions of routes, neither the order nor the report in that case show that any consideration was given to the determination of rates for extensions. On the contrary, the report clearly shows that in considering the nature of its function under section 6 (a) the Commission said that it was dealing with the Postmaster General's route pattern then existing. As stated on page 695 of the report:

We could not reasonably hope, or be expected, to fix rates which would satisfactorily and adequately meet every prospective change in the designation of routes, in the letting of contracts, or the prescription of service requirements which the Post Office Department may find desirable or essential. Indeed, it is not conceivable that either the department or we can foresee every contingency likely to arise * * *

The term "route" as used in paragraph 6(a) unquestionably covers the *present contract routes* and, under all the circumstances, we shall in this proceeding fix rates *only* for those routes. When major changes in routing and service occur, the rates can and should be reviewed and revised as the statute clearly contemplates. [Italics supplied.]

While it is true that the rates provided were designed to change as service fluctuated, the report further shows that the fluctuations in service contemplated were those resulting from additional service between the same termini. At page 715 of the report, the Commission said:

An increase or reduction in the number of air-mail schedules on a given route results in an increase or reduction in the number of airplane-mail miles flown per month, and, consequently, in the compensation paid to the con-

tractor. The parties agree that the unit cost of service to the contractors bears a direct relation to *the number of air-mail schedules* authorized to be flown over the route. [Italics supplied.]

In that connection, by note, it referred to the testimony as follows:

The witness for the Post Office Department testified: "Unquestionably, in my opinion, *there should be a differential between schedules in that respect (the advisability of basing rates on the number of schedules operated).*" [Italics supplied.]

Any doubt in that respect there may be is entirely dispelled by a consideration of the conclusions on page 723 of the report as follows:

* * * If possible * * * a reasonable rate should be so made as to reflect the equitable adjustment therein necessary to maintain that relation between service actually performed and the charges therefor which will be reasonable to those rendering and those receiving the service. It is believed that such result can be accomplished here by establishing rates on a basis which will automatically change those rates to correspond to changes in the service.
* * *

It is recognized that the variations in service *here considered* may arise from one or more of several causes. The airplane miles flown with mail may be increased by reason of the use in mail service of *existing schedules* not theretofore used for transporting the mail, or because of the establishment of entirely *new schedules*; it may decrease because *existing mail schedules* are discontinued. * * * the rates hereinafter fixed to yield reasonable compensation for all service which may be performed *under the contracts* have been designed to give effect, as fairly as possible on this record, to all changes which may occur. [Italics supplied.]

If it were not obvious from this language that substantial modifications of route mileage, such as is here involved, were not in contemplation, reasonable doubt is dissipated by the fact that 33 established routes in existence when that decision was rendered had a combined length of 28,794 miles, while under section 3 (f) of the act the Postmaster General was limited to an aggregate of 29,000 miles for all routes and extensions thereof. Some minor variation in the route mileage might have been expected, but no substantial change was predictable.

The Postmaster General contends that there is present in the report language which warrants the construction which he has placed upon the scale, namely, that the rate fixed by the Commission were intended to apply to airplane-miles flown with mail on extensions of routes. We find no such intent from the language on which he relies. He also relies upon our decision in *National Parks Airways, Inc., Base Rate Mileage*, 220 I. C. C. 149, in which, when construing the scale and ascertaining the applicable rate, we included certain increased mileage due to a revision of the length of the route. We did not regard that revision as an extension of the route, as the mileage involved was small and the termini of the route both before and after the revision remained the same.

It is thus apparent that the order in *Air Mail Compensation, supra*, does not in itself, or through the operation of section 6(c) of the act, provide a rate of compensation for extensions of routes, and that the mileage over such extensions cannot be taken into consideration in determining the rate under that order for application to the route itself.

It does not follow, of course, that there is no provision for a rate of payment for service over the extension. Such provision is specifically made by the act, section 3 (c) providing that "the rate of pay for such extension

shall not be in excess of the rate per mile fixed for the service thus extended." Moreover, it does not follow that no rate for the extension or for the route as extended may be fixed under section 6 (a) of the act. Rates for a route as covered by the contract, and for the route as subsequently extended, were fixed in *Air Mail Rates for Route No. 31*, 214 I. C. C. 387.

The service authorizations issued by the Postmaster General and contained in the record show the distance between stations and the frequency of service required to be flown. The carrier's flight performance over the route is reported as the basis for determining the compensation to be paid. It is known in detail as to each part of the route. From these data the amount of service rendered over the original portions of the route is readily ascertainable. With this knowledge it is practicable to determine the rate applicable under the published scale for the service performed on the original route, and that is the rate of compensation which the Postmaster General is directed by section 6 (c) to pay for the service performed on those portions of the route existing when the scale was published. Although the act does not specifically provide for the payment of the same rate for service over the extensions of a route as has been fixed for the original route, such rate is the maximum rate which may be paid for service over an extension, and since no other rate is provided by agreement or otherwise, it may be implied that the rate fixed for the original route is also the applicable rate on the extensions.

As to service over the original route we find that, to the extent the rates of compensation paid to the complainant for the transportation of air mail by airplane, and the service connected therewith, over route 27 were less than rates ascertained in the manner described, they were less than the rates applicable under the Commission's order.

As previously stated, there is no indication on this record that any modification of the base rate formerly determined and fixed as fair and reasonable is warranted, and the fact that "the monthly equivalent of one round trip over the entire route" is now substantially greater does not modify this conclusion. In *Air Mail Compensation, supra*, there are several routes on which the rate fixed is shown to have been equal to that for route 27, and upon which the base mileage "equivalent of one round trip over the entire route" per month is greater than that on route 27, as extended. It cannot be said, therefore, that this mileage in the circumstance of one daily round trip per month was a controlling factor in fixing the rates then published.

We find that for the future the fair and reasonable rates of compensation for the transportation of air mail by airplane, and the service connected therewith, over route 27, as now extended, will be for each airplane-mile actually flown with mail, subject to the provisions of section 3 (f) of the act, the rates determined by applying the provisions of the order of March 11, 1935, as amended by the order of June 14, 1937, in *Air Mail Compensation*, 206 I. C. C. 675 and 222 I. C. C. 602, to a base rate of 33½ cents per airplane-mile for a base mileage of 38,500 miles.

The findings herein are without prejudice to any rates which may be fixed by the Civil Aeronautics Authority under the provisions of the Civil Aeronautics Act of 1938 which differ materially from those of the Air Mail Act of 1934.

An appropriate order will be entered. . .

**INTERSTATE COMMERCE COMMISSION: AIR MAIL
DOCKET NO. 28****Air Mail Rates for Route No. 6***Submitted July 14, 1938.**Decided September 15, 1938.*

Rates of compensation for the transportation of air mail by airplane and the service connected therewith over air mail route No. 6 not shown to be unfair and unreasonable. Petition dismissed.

Gerald B. Brophy and George A. Spater, for petitioner. *Walter E. Kelly and William C. O'Brien* for Postmaster General.

REPORT OF THE COMMISSION

DIVISION 3, COMMISSIONERS McMANAMY, MAHAFFIE, AND MILLER

BY DIVISION 3:

Subsequent to the service of the report proposed by the examiner, the air mail contract for route No. 6 was transferred by North American Aviation, Inc., to Eastern Air Lines, Inc. (new company), with the approval of the Postmaster General. Exceptions to the report were filed by the new company, the Postmaster General filed reply, and the case was orally argued before us.

The Civil Aeronautics Act of 1938, approved June 23, 1938, repeals the Air Mail Act of 1934 (excepting certain provisions), but further provides that proceedings pending before the Interstate Commerce Commission for the determination of rates for the transportation of air mail by aircraft on the date of the enactment of the Civil Aeronautics Act of 1938 "shall be continued, orders therein issued, appeals therefrom taken, and payments made by the Postmaster General pursuant to such orders, as if this Act had not been enacted."

North American Aviation, Inc., by petition filed August 30, 1937, sought an increase, effective July 16, 1937, in the base mileage for air mail route No. 6 as determined and published in *Air Mail Compensation* 206 I. C. C. 675. The Postmaster General filed answer denying the necessity for the relief sought, and denying our authority to fix and determine a reasonable rate from the date of filing the petition or from any date other than one subsequent to the date of the order herein and asking us to make a further examination and audit of the books, records, and accounts of the carrier before assignment of the petition for hearing. At the opening of the hearing counsel for the Postmaster General sought a continuance upon the ground that an audit of the books, accounts and business records of petitioner by us and a report of such audit to the Postmaster General was required by law before a hearing could be held. This motion was denied, *Air Mail Rates for Route No. 31*, 214 I. C. C. 387, *Air Mail Rates for Route No. 24*, 222 I. C. C. 749, and he then moved to have the proceeding limited to a consideration of rates for the future. This motion also was denied.

Air mail route No. 6 extends from Newark, N. J., to Miami, Fla., with intermediate stops at Philadelphia, Pa., Baltimore, Md., Washington, D. C., Richmond, Va., Raleigh, N. C., Charleston, S. C., and Jacksonville, Daytona Beach, Vero Beach, and West Palm Beach, Fla. In *Air Mail Com-*

compensation, supra, base rates of compensation were fixed for the transportation of monthly average mail loads of 300 pounds, or less, over all domestic air mail routes then in operation, with the base rate for each route applicable only to the mileage named therefor. The rate for route No. 6 was fixed at 26 cents per airplane mile for a base of 145,000 miles per month. Provision was made for progressive increase or decrease of 1 cent in the base rate for each 10 per cent decrease or increase, respectively, in the mileage flown. For average mail loads in excess of 300 pounds all rates were made subject to the increases¹ provided in the act.

During the period under consideration in *Air Mail Compensation, supra*, two round trips daily in mail-pay service between Newark and Miami were authorized on route No. 6. Since that time and until July 16, 1937, the mileage authorized in mail-pay service each month has approximated 145,000 airplane miles, the base mileage named for the route. As a result, the unit rate for the transportation of mail loads of 300 pounds or less has been 26 cents per airplane mile, the base rate named. Frequently, however, due to average mail loads in excess of 300 pounds, compensation has been at rates ranging from 28.6 to 37.8 cents per airplane mile.

Effective July 16, 1937, the Postmaster General authorized an additional daily round trip in mail-pay service between Jacksonville and Miami, thus adding approximately 20,600 airplane miles to the monthly total authorized. As a result, the rate per airplane mile for the transportation of mail loads of 300 pounds or less over the entire route has been reduced automatically by the operation of the proviso in the order in *Air-Mail Compensation, supra*, from 26 cents to 25 cents per airplane mile. In addition, the increase in the number of miles flown has reduced the average monthly loads per mile upon which compensation is based.

The petition alleges that the rate as thus reduced is not fair and reasonable and seeks an increase in the base mileage to which the base rate of 26 cents shall be applicable, such increase to be made effective as of the effective date of the service order authorizing the additional mail-pay schedule. Thus, although the prayer for relief is directed toward a change in base mileage only, the petition questions the sufficiency of the rate in force and is, in effect, an application under section 6 of the act for a reexamination of the fair and reasonable rate for route No. 6.

Corporate history. North American Aviation, Inc., was incorporated on December 6, 1928, under the laws of Delaware and in 1929 purchased the entire capital stock of Pitcairn Aviation, Inc., operator of two air mail routes, one extending from Newark to Atlanta, Ga., and the other from Atlanta to Miami. This subsidiary, the name of which was changed in 1930 to Eastern Air Transport, Inc., subsequently purchased the assets of Ludington Air Lines, operator of a passenger service between Washington and Newark. Following the cancellation of air-mail contracts in February, 1934, and the publication of advertisements for temporary service, Eastern Air Lines, Inc. (old company), a wholly owned subsidiary of North American Aviation, Inc., organized in April, 1934, for the purpose of submitting bids in response to the advertisements for temporary service, was the successful bidder on air-mail routes Nos. 5, 6, and 10.

In accordance with a plan of reorganization adopted as of November 30, 1934, North American Aviation, Inc., disposed of its stock interests in other

1. One tenth of the base for each additional 100 pounds or fraction thereof.

air-mail contractors and dissolved most of its subsidiaries. It took over practically all of the assets of Eastern Air Transport, Inc., and Eastern Air Lines, Inc. (old company), including the new mail contracts, which were transferred to it as of midnight December 31, 1934. Eastern Air Lines, Inc. (old company), was later dissolved. Effective at midnight, November 30, 1936, North American also acquired, with the approval of the Postmaster General, the mail contract for air mail route No. 20, between New Orleans, La., and Houston, Texas via intermediate points.

In addition to its air-transport operations North American was engaged in the manufacture of aircraft and accessories. From January 1, 1935 to April 22, 1938, when Eastern Air Lines, Inc. (new company), acquired the four mail contracts and took over the transport operations, the two types of operation were conducted through an Eastern Air Lines Division and a Manufacturing Division, respectively. Separate records were maintained for the airline division with the interest of North American therein recorded as "head office account." All property of the airline division was transferred to Eastern Air Lines, Inc. (new company), at the time it took over the transport operations.

Investment. The asset side of the balance sheet of Eastern Air Lines Division as of September 30, 1937, shows: current and accrued assets, \$643,906, including \$40,495 cash; investments, \$67,703; deferred debits, \$356,445; real property and equipment, \$2,441,104; accrued depreciation—real property and equipment, \$1,098,605; miscellaneous physical property, \$91,373; and accrued depreciation—miscellaneous physical property, \$27,066. The liability side shows: current and accrued liabilities, \$417,662; deferred credits, \$218 operating reserves, \$75,338, and head office account, \$1,981,644. Deferred debits include preliminary expenses amounting to \$144,129 incurred by Pitcairn Aviation prior to the inauguration of operations under the original contracts and goodwill amounting to \$155,866, representing the excess of the purchase price over the value of the assets received by the predecessor company in connection with the purchase of the Ludington Lines.

Many items of property reflected in the investment accounts were used interchangeably on all four routes or in various degrees in the operation of two or more routes. However, no separation of investment as between routes is shown on the books or in the reports to the Postmaster General covering the operations of the various routes. In response to a request of the examiner for the views of the parties as to a proper method for such a separation, North American submitted an exhibit showing the portion of each balance sheet item as of September 30, 1937, it considered properly applicable to route No. 6. The investment in flying equipment was allocated on the basis of the proportion of the yearly mileage flown on that route to the total flown on the system and that for buildings and miscellaneous equipment at common points on the ratio of stops on route No. 6 schedules to total stops at each point. Other items, including current assets and liabilities, were, when allocations were required, prorated on various bases, viz., revenues, expenses, number of passengers, payroll, etc.

On this basis the "head office account" applicable to route No. 6 amounted to \$884,116. The Postmaster General accepted the allocations as made, but excluded the items of preliminary expense and goodwill as not applicable to operations under the present contract, and arrived at an amount of \$735,300 as representing that portion of the total investment of North American in its

airline division properly assignable to operations on Route No. 6. Both estimates reflected a net book value of real property and equipment applicable to that route amounting to \$613,207. However, North American would add to the total amount developed by its exhibit, items of \$174,520 representing additional cash and \$918,420 goodwill, or going concern value, and reach a total investment assignable to route No. 6 of \$1,977,056.

In connection with the latter items, North American's treasurer testified that the balance sheet of the airline division was not indicative of its cash position, as under the method of divisional financing employed, the divisions were allowed only enough cash for their immediate needs. Inasmuch as the head office stood ready at all times to make additional advances, he would consider one-half of its cash and marketable security balance, or \$480,110, as fairly representing the division's cash position. He was also of the opinion that an item of \$1,867,466 originally recorded as goodwill in connection with the purchase of Pitcairn Aviation but written off in 1933 should properly be considered an investment of the airline division.

Aircraft. During 1936, operations were conducted with 14 Douglas DC-2 and five Lockheed Electra planes. Two of the 10 Douglas DC-3 planes, contracted for early in 1936, were delivered in December of that year and the others were received during the following year. The Electras were sold as the new planes were acquired, and in November, 1937, five DC-2's were advertised for sale, delivery to be made at the close of the peak season, in April, 1938. Although a participant in the development of the proposed DC-4, North American had no further contracts for the purchase of additional aircraft.

Operations. The termini and intermediate stops on route No. 6 have been hereinbefore shown. Route No. 5 extends from Newark to New Orleans, La.; route No. 10 from Chicago, Ill., to Jacksonville; and route No. 20 from New Orleans to Houston, Tex. Thus route No. 6 coincides with route No. 5 between Newark and Richmond and connects with route No. 10 at Jacksonville.

In addition to the authorized mail-pay schedules, various exclusive-passenger schedules have been operated over all or portions of route No. 6, the majority of which carried mail on a weight-credit basis. During the winter season extra service is provided between Newark and Miami either by additional through schedules or extra sections on regular flights. More frequent local service between Newark and Washington and Richmond, referred to as the "Merry-go-round," has been provided throughout the year.

As of September 30, 1937, the mail-pay service on route No. 6 consisted of two round trips daily between Newark and Miami and one round trip daily except Sundays and holidays between Jacksonville and Miami. In addition, there was a daily round trip weight-credit service between the last named cities. "Merry-go-round" service included eight round trips between Newark and Washington, four and one-half of which furnished mail service on a weight-credit basis; one round trip between Newark and Richmond, and one round trip between Washington and Richmond. Both of the latter provided weight-credit service. All of these schedules were daily or daily except Saturdays, Sundays or holidays. With the exception of one round trip between Newark and Washington and a one-way trip, Richmond to Washington, the weight of the mail on all weight-credit service on the

"Merry-go-round" was credited by the Postmaster General to mail-pay trips on route No. 5.

Reports to the Postmaster General, covering operations for the 12 months' period ended October 31, 1937, show that 3,787,400 airplane miles were flown on route No. 6, of which 3,704,273 were in revenue service. Mail-passenger miles, as reported, totaled 1,810,231, but figures shown on one of North American's exhibits indicate that the reported figures for December and January were overstated by 26,839 and 33,202 miles, respectively. The testimony shows that prior to July 1, 1937, all "Merry-go-round" schedules were reported as scheduled exclusive passenger miles on route No. 6, but no separation as between weight-credit and non-mail service was shown. Since that date all schedules over the "Merry-go-round" transporting mail, the weight of which is credited to route No. 5 pay schedules, have been reported in connection with that route's operations and weight-credit and exclusive passenger mileage have been separately reported. On this basis the reports for the 4 months ended October 31, 1937, indicate that a total of 999,178 miles were flown over route No. 6, of which 646,420 were in mail pay, 167,745 in exclusive passenger, 152,792 in weight-credit, and 32,221 in non-revenue service. During the full year period the average monthly mail load ranged from 283 to 610 pounds. It exceeded 300 pounds during 9 of the 12 months.

Allocation of revenues and expenses. As hereinbefore shown, North American operated four air-mail routes and certain nonmail service. Although no separation of revenues, expenses and other income items is shown by the books, a separation as between routes was made for the purpose of reporting to the Postmaster General. However, no separation as between the expenses of mail and nonmail services was attempted.

Passenger and mail revenues were credited directly to the route on which earned. Express and excess baggage revenues were allocated on a pound-mile basis and incidental revenues according to routes or points originating the business.

Expenses were classified and distributed in general as follows: (1) direct and (2) indirect ship—distributed to the various types of planes and then prorated according to the number of miles flown on each route by each type of plane; (3) direct station—assigned directly or prorated on basis of scheduled stops; (4) traffic and advertising—prorated on basis of number of revenue passengers, except agents' commissions on ticket sales which are allocated on basis of passenger revenue on each route; (5) balance of station; and (6) ground radio and general—prorated on basis of a combination of passenger and poundage statistics.

The record shows that the per-mile expense assigned to route No. 6 has constantly exceeded that for the system as a whole, notwithstanding the fact that the mileage flown on this route approximated the combined mileages of the other routes. A consideration of the weight given to the number of revenue passengers and the number of pounds carried in the separation of traffic and advertising, ground radio, balance of station and general and administrative expenses, raises a question as to the reasonableness of the bases employed in the allocation of indirect expenses between the various routes.

Net income from operations. Although the evidence of record covers the results of operations from the inauguration of the contract service and consideration is given thereto, discussion will here be limited to the 12 months

ended October 31, 1937, the last full year of record in this proceeding. Such a period is sufficient to reflect seasonal variations in traffic and in this instance more nearly reflects present-day operating conditions.

The reported net income from operations on route No. 6 for the 12 months' period was \$53,649. Revising that amount to reflect a reduction of \$2,403 in the recorded mail revenue and reductions aggregating \$49,047 in recorded expenses, of which \$26,887 represents the excess of accruals to the reserves for overhaul of planes and engines over the costs charged thereto, and \$22,159 represents an adjustment of alleged overaccruals to the reserve for obsolescence and depreciation of inventories, the Postmaster General arrived at an adjusted net income from operations of \$100,293. Agreeing to the revenue adjustment and to reductions in the recorded operating expenses to reflect adjustments in the reserve accruals aggregating \$23,884, North American developed an adjusted net income from operations for the period of \$75,130.

Its treasurer explained that the accrual method of providing for future overhauls was used, and admitted that based on past experience approximately \$32,000 of the amount accrued during the period here involved would be reversed later. The balance then remaining in the reserve account would, in his opinion, be both reasonable and necessary under the accrual method of accounting. On this basis he would reduce expenses on route No. 6 as recorded by \$15,833.

On January 1, 1935, when North American took over the contract operations, the balance in the material and supplies account was \$176,933, against which a reserve for obsolescence and depreciation amounting to \$92,351 was recorded. As of October 31, 1937, the inventory totaled \$342,537 and the balance in the reserve was \$173,918. A witness for the Postmaster General testified that the amount in the reserve as of January 1, 1935, was in his opinion sufficient to cover obsolescence and depreciation on the inventory as of October 31, 1937. On that basis \$81,567, representing excess of accruals over losses charged against the reserve during the intervening period, was treated as a credit to operating expenses in the Postmaster General's exhibit. North American's treasurer testified that the balance in this reserve would be reduced to \$130,524 as of December 31, 1937, and that in his opinion the proper credit to operations would be \$43,394 instead of \$81,567. The adjustments in the recorded expenses as sought by the parties represent the portion of the respective credits allocable to route No. 6 for the period under discussion.

The treasurer also pointed to the absence of any provision for Federal income and undistributed profits taxes. He testified that computed on the basis of a \$75,000 income and the theory that route No. 6 operations constitute a separate entity for tax purposes such taxes would amount to approximately \$23,000.

Depreciation. North American revised its depreciation rates with respect to aircraft and engines from time to time. During the year ended October 31, 1937, operations were conducted with Lockheed and Douglas aircraft and depreciation thereon was charged to operations at the rate of 33½ and 25 per cent per annum, respectively. These rates were applied to the cost of each plane, but the monthly charge is to be discontinued when a net book value of \$5,000 is reached. The effect of this method is to write off the depreciable value of a Lockheed in 32 months, a Douglas DC-2 in 44 months

and a Douglas DC-3 in 45 months. Engines used in Lockheed and Douglas planes were depreciated at flat rates, without allowance for salvage, based on estimated service lives of 2,500 and 3,500 hours, respectively. Many were continued in service after being fully depreciated. During 1937 engines used in the DC-2's were converted to a new type at an average cost of \$3,536. Subsequent depreciation charges were based on net book value after conversion and an estimated service life of 2,000 hours. As of July 1, 1937, the policy of discontinuing depreciation charges on engines when a residual value of \$500 was reached was adopted.

A witness for the Postmaster General testified that the accepted accounting practice is to deduct the estimated residual value from cost and depreciate the remainder over the estimated service life of the asset. Had this method been followed, aircraft depreciation would have been approximately \$25,000 less during the year ended October 31, 1937. In addition, it appears that operations were charged with more than reasonable amounts for depreciation of engines due to the failure to allow for a residual value and to estimate properly the service life. However, this result was partially off-set, so far as the period under discussion is concerned, by the use of certain units after depreciation charges thereon had ceased. Furthermore, the major portion of the profits realized from the sale of Lockheed planes and Whirlwind engines, which were credited to operating expense, during July, August, and September, 1937, should, under our decision in *Air Mail Rates for Route No. 24*, 222 I. C. C. 749, be considered as pertaining to the period prior to the year here under discussion. Thus, although the record indicates that certain adjustments should be made in the depreciation charges relating to aircraft and engines, it appears that no revision of the operating results for the year ended October 31, 1937, would result therefrom, as the adjustments if made would to a large extent be compensating.

"Merry-go-round" service. During the hearing it developed that the results of operations for the year ended October 31, 1937, both as reported and as adjusted, reflected an inconsistent treatment of the results of the local or "Merry-go-round" service between Newark and Washington and Richmond. As heretofore stated, prior to July 1, 1937, all such schedules were so reported and accounted for. Subsequently those trips furnishing weight-credit service, where the weights of mail were credited to mail pay trips on route No. 5, were reported and accounted for as on that route. Contending that all "Merry-go-round" schedules were inaugurated and have since been operated as route No. 6 service and that the method of reporting therefor since July 1, 1937, was necessitated by a revision of the form furnished by the Postmaster General for making such reports, North American sought to have the results of its operations for the four months ended October 31, 1937, as reported, adjusted so as to include the results of the operation of the weight-credit trips as a part of the operations of route No. 6. Such results are estimated by it on the basis of a proportion of all expenses to have been a net loss of \$45,144. However, the Postmaster General would correct the inconsistency by eliminating the results of the operation of the schedules in question from the operations of route No. 6 during the preceding 8 months. Using the average monthly loss as disclosed by North American's estimate, this would increase the income on route No. 6 by approximately \$11,000 per month.

To support his contention that these schedules are properly to be considered route No. 5 service, the Postmaster General relies mainly on the acceptance by the contractor without protest of service orders and payment of compensation therefor upon such a designation. The latter, however, contended that the designation of routes was not material so long as it was allowed to report and account for the schedules as route No. 6 service. Testimony as to its informal complaints to the Postmaster General concerning this service subsequent to July 1, 1937, is conflicting.

Under the provisions of the act requiring that rates be fixed for the transportation of mail and the service connected therewith over each air-mail route, and over each section thereof covered by a separate contract, it is necessary to determine to what route operations conducted over overlapping portions of two or more routes are to be assigned. In the absence of contrary provisions in the contracts, it would appear that decision of the routes to which exclusive passenger schedules operated under such conditions are assigned is a matter of managerial discretion not controlled by law. However, to eliminate the possibility of any assignment which might defeat the purposes of the act, a carrier's exercise of such discretion should be examined in the light of its reasonableness.

A witness for North American testified that the chief reason for considering "Merry-go-round" service to be a part of route No. 6 operations was the particular traffic conditions arising in connection with the contract operations over that route. Unlike most other domestic routes which enjoy an eight months' peak of passenger traffic during the good flying period of the year, route No. 6 has a three months' peak during the winter or poorest flying season. The witness stated that it was for the purpose of keeping properly trained personnel and efficient equipment available for the peak traffic period that the frequent service between Newark and Washington was inaugurated and maintained. Route No. 5, on the other hand, is said to provide a normal traffic flow. Furthermore, it was pointed out that mail-pay trips on route No. 5 stop at all points common to both routes, while those on route No. 6 stop only at Washington, because of the size of equipment and necessity for making connections at termini. Because mail service to Camden and Baltimore on route No. 6 is required by contract, the majority of the "Merry-go-round" flights are stopped at these points to supply this service on a weight-credit basis. Furthermore, it was an order of the Postmaster General requiring route No. 6 service to Richmond that caused the extension to that city of certain of the "Merry-go-round" schedules, theretofore terminating at Washington, although at that time service to Richmond was provided by the regular mail-pay schedules on route No. 5. A review of the mail service furnished by the "Merry-go-round" weight-credit schedules from the standpoint of connections, congestion relief, necessity to fulfill contract requirements and convenience, indicates that this service is an adjunct to route No. 6 operations, rather than to those of route No. 5. Thus for the purposes of this proceeding the entire "Merry-go-round" service will be considered a part of route No. 6 operations.

Increased expenses. In addition to the results of operations through October, 1937, hereinbefore discussed, North American introduced evidence indicating that increases in certain expense items, effective subsequent to that date, would necessitate an increase in the cost of future operations. As shown by its exhibit, the anticipated increase in 1938, as compared with

1937 costs, is \$336,601, of which \$173,153 is allocated to route No. 6. The employment of additional personnel, increased compensation for captains and pilots, as required by the terms of the air-mail contracts, and numerous increases in individual salaries will, it is alleged, result in an addition of \$90,904 to the annual payroll. The operation of Douglas DC-3 aircraft will result in additional depreciation expense of \$90,900. The other increases indicated by applicant's exhibit are: social security taxes, \$19,077; rental at Washington airport, \$12,000; gasoline, \$64,718, and insurance, \$59,002.

Although not admitting that all of the increased expenses claimed were necessary, counsel for the Postmaster General directed his objection to consideration thereof to the failure of North American to present evidence with respect to anticipated offsetting increases in revenue. Upon cross examination the latter's witness admitted that the management had planned its program for the future on the basis of a normal increase of approximately 10 per cent in passenger revenues. However, the general traffic manager testified that in October, 1937, the failure of such expectation to materialize caused him to direct a special inquiry into the causes thereof. Upon further questioning he stated that the solution of such problems was to discover and correct the causes if possible rather than to retrench immediately. It was admitted, however, that some increase in revenue is both hoped for and expected. In this connection it must be noted that a program of equipment replacement to provide increased capacity can be justified in advance only on an assumption that the increased capacity will be required to accommodate prospective traffic.

Base mileage. In order to maintain a reasonable relation between service performed and the charges therefor, the rates in *Air Mail Compensation, supra*, were established on a basis designed to change in inverse ratio to changes in volume and frequency of service. North American did not criticize the reasonableness of the basis adopted in general, but questioned the results of its application in the present instance. Because of the comparatively small additional mileage resulting from the new segmentary schedule authorized effective July 16, 1937, as compared with the extensive operations conducted by the contractor, any resulting reduction of unit cost is said to be almost too insignificant for mathematical computation.

It is further alleged that peculiar circumstances have subsequently arisen causing results not contemplated by the decision in *Air Mail Compensation, supra*, North American contended (1) that with the present base mileage the additional mail-pay authorization produces a total monthly mail compensation less than would have been received under the old authorizations and (2) that the base mileage became inadequate upon the authorization, subsequent to the date of its establishment, of extensive weight-credit service. The latter contention was particularly stressed at the oral argument by counsel for Eastern Air Lines, Inc. (new company). The record shows that the reduction in total monthly compensation subsequent to the inauguration of the additional mail-pay schedule was largely due to the effect of the additional mileage on the average monthly load, thus eliminating or reducing the poundage bonus provided for by the act, rather than to the effect of the scale. The effect of merely increasing the base mileage to include the extensive new weight-credit service would be to change the relationship between the pay miles flown and the base mileage, and thus result in a rate for application to the pay miles higher than that resulting from the existing rela-

tionship. It does not follow, of course, that such increase in base mileage should be unaccompanied by a decrease in the base rate. As said on page 717 of *Air Mail Compensation, supra*: "Rates determined with relation to actual mileage and those with relation to construction mileage may well differ."

Conclusion. If all adjustments of the recorded figures were made as contended for by North American the result of operations on route No. 6 is a net operating income for the year ended October 31, 1937, of approximately \$30,000. That amount does not reflect any provision for Federal income or undistributed profits taxes. However, the income would be substantially increased if a more equitable division of operating expenses between the several routes operated, the necessity for which has heretofore been discussed, were made. Although the record indicates that revenues from nonmail schedules exceeded direct aircraft operating expenses, but failed to meet a proportionate share of all expenses, no attempt was made to ascertain the number of miles flown in such service or the additional expenses occasioned thereby. With respect to the necessity of considering increased expenses in the future, the probability of increased passenger and express revenues cannot be overlooked. Furthermore, in *Air Mail Compensation, supra*, the Commission recognized that revenues from sources other than mail may not be all that such services reasonably warrant.

Of the total recorded net book value of real property and equipment, cash, and material and supplies, including motor fuel and oil, as shown on Eastern Division's balance sheet as of September 30, 1937, the parties have estimated that \$714,517 should be allocated to route No. 6 operations. The adjustment of the reserve for depreciation and obsolescence of inventory, hereinbefore made, would require an increase of \$22,018 in that amount. The record sustains applicant's contention that the cash balance as recorded on Eastern Division's balance sheet does not represent either its reasonable needs in that connection or the amount actually available currently under the method of divisional financing used. While we have generally not recognized goodwill as an element of value we have given recognition to going-concern value although a specific amount has not been fixed therefor.

On exceptions Eastern Air Lines, Inc. (new company), contends that the results of operations should be stated in more exact terms, that is, that the amounts involved in the adjustments referred to above should be determined and applied as adjustments to the recorded results. In addition it seeks to have an alleged profit of \$18,968 from the sales of fuel, repair service and special flights eliminated from consideration in the determination of reasonable rates. However, the evidence of record is insufficient to make an exact determination of the results of operation. Moreover, it is unnecessary for the purposes of this proceeding to state the results of operation with great precision. Deficiencies in earnings alone do not conclusively establish the need for or amount of increase in mail compensation. In *Air Mail Compensation, supra*, the Commission refused to determine rates merely by deducting from the cost of operation, plus a fair return on investment, the revenues derived from sources other than mail transportation. Rate making is not an exact science and there is no mathematical test of a reasonable rate. As stated in *Air Mail Compensation, supra*, the rates must be fair alike to those rendering and those receiving the service. Furthermore, the act provides that if it shall be contended or alleged by the holder of an air

mail contract that the rate of compensation in force for the service involved is insufficient, the burden of establishing such insufficiency and the extent thereof shall be assumed by him. We think that burden has not here been sustained.

We find that the rates of compensation for the transportation of air mail by airplane and the service connected therewith over air mail route No. 6 have not been shown to be unfair and unreasonable. The petition will be dismissed.

The findings herein are without prejudice to any rates which may be fixed by the Civil Aeronautics Authority under the provisions of the Civil Aeronautics Act of 1938, which differ materially from those of the Air Mail Act of 1934.

Order

At a Session of the INTERSTATE COMMERCE COMMISSION, Division 3, held at its office in Washington, D. C., on the 15th day of September, A. D. 1938.

Air Mail Docket No. 28

Air Mail Rates for Route No. 6

Investigation of the matters and things involved in this proceeding having been made, and said Division having, on the date hereof, made and filed a report containing its findings of fact and conclusions thereon, which report is hereby referred to and made a part hereof;

It is ordered, That the petition herein be, and it is hereby, dismissed.

By the Commission, Division 3.

W. P. BARTEL,
Secretary.

(SEAL)

INTERSTATE COMMERCE COMMISSION: AIR MAIL DOCKET NO. 32

Air Mail Rates for Route No. 26

Submitted July 27, 1938.

Decided September 16, 1938.

Rate of compensation for the transportation of air mail by airplane and the service connected therewith over air mail route No. 26 found not to have been fair and reasonable. Fair and reasonable rate, as of date of filing of petition, determined and published.

John S. Wynne and Robert W. Oliver for petitioner.

Walter E. Kelly, Assistant Solicitor, and *William C. O'Brien*, for Postmaster General.

REPORT OF THE COMMISSION

DIVISION 3, COMMISSIONERS McMANAMY, MAHAFFIE, AND MILLER

BY DIVISION 3:

No exceptions were filed to the proposed report of the examiner which was served on the Postmaster General and the carrier.

The Civil Aeronautics Act of 1938, approved June 23, 1938, repeals the Air Mail Act of 1934 (excepting certain provisions), but further provides that proceedings pending before the Interstate Commerce Commission for the determination of rates for the transportation of air mail by aircraft on the date of the enactment of the Civil Aeronautics Act of 1938 "shall be continued, orders therein issued, appeals therefrom taken, and payments made by the Postmaster General pursuant to such orders, as if this Act had not been enacted."

By petition filed November 22, 1937, under the provisions of section 6(a) of the Air Mail Act of 1934, as amended, Hanford Airlines, Inc., a Delaware corporation, seeks determination of the fair and reasonable rate of compensation for the transportation of air mail and the service connected therewith over air mail route No. 26, such rate to be effective as of the date of filing of the petition. The answer of the Postmaster General denies that the present rate is not fair and reasonable, and denies our authority to fix and determine a reasonable rate from the date of filing of the petition, or from any date other than one subsequent to the order herein. The Postmaster General also, by petition, which was denied, and by motion made at the hearing, requested that an examination of the carrier's books, accounts, records, and expenditures be made and a report thereof furnished him pursuant to the direction of sections 6(b) and 10 of the act, as amended, before hearing on the issue of the reasonableness of the rate of compensation. An audit under section 6(b) is not a condition precedent to the determination of the reasonableness of rates under section 6(a). *Air Mail Rates for Route No. 31*, 214 I. C. C. 387. Moreover, prior to the hearing a report of an audit of the carrier's books, accounts, records, and expenditures for the period from the beginning of operations to March 31, 1937, was made to the Postmaster General as directed by section 10, and a supplemental report of a similar audit for the period from April 1 to June 30, 1937, was transmitted to him while hearing was in progress. Tentative reports under section 6(b) based upon these audits were served at approximately the same time as the section 10 reports. In *Air Mail Docket No. 39, Hanford Airlines, Inc.-Hanfords Tri-State Airlines, Inc., Rate Review, 1934-1937*, decided June 14, 1938, we found that no unreasonable profit was derived or accrued from the rate of compensation for the transportation of air mail by airplane over route No. 26 for the period June 1, 1934 to June 30, 1937.

Contract for the carriage of air mail on route No. 26 was awarded by the Postmaster General to Hanfords Tri-State Airlines, Inc., petitioner's predecessor, and was assigned to petitioner with the approval of the Postmaster General effective July 1, 1936. In *Air Mail Compensation*, 206 I. C. C. 675, pursuant to the direction of section 6(a), base rates of compensation per airplane mile were fixed for the transportation of mail loads of 300 pounds or less, computed monthly upon the average mail load carried per mile, for all domestic air-mail routes then being operated, subject to the following proviso, as amended in 222 I. C. C. 602, 608:

The base named for each route shall be used only for the mileage named for that base and shall be (1) progressively decreased 1 cent upon each increase in the number of airplane miles actually flown with mail each month which equals 10 per cent of the mileage named for that base, * * * *Provided*, That where the mileage named in the table

is substantially the monthly equivalent of one daily round trip over the entire route, the base named for that mileage shall not be decreased until the miles actually flown with mail each month equal 180 per cent of the mileage named, but shall, after the miles actually flown with mail each month equal 180 per cent of the mileage named, be decreased, as herein provided, upon each increase of 10 per cent in the mileage named over 180 per cent of the mileage named.

The rate for route No. 26 was fixed at 32 cents with a base mileage of 50,000 per month.

At the time of that decision route No. 26 extended from St. Paul, Minn., to Kansas City, Mo., with intermediate stops at Minneapolis, Minn., Sioux Falls, S. Dak., Sioux City, Iowa, Omaha, Nebr., and St. Joseph, Mo. At Sioux Falls a lateral line extended to Bismarck-Mandan, N. Dak., with stops at Huron and Aberdeen, S. Dak. Petitioner's predecessor then maintained mail-passenger schedules equivalent to one round trip daily over the entire route. No exclusive passenger schedules were operated. On July 1, 1936, when petitioner assumed operation, a second mail-passenger schedule was effective between Omaha and Kansas City. Various changes in the route and schedules have since been made and additional intermediate stops have been established. In September, 1936, Minneapolis was made a terminus and the route was extended from Kansas City to Tulsa, Okla., a distance of 214 miles, by the Postmaster General, the extension being operated in weight-credit mail service on Sundays and holidays. Other weight-credit mail service was performed by petitioner at different times, but all such service was discontinued July 27, 1937. Effective February 5, 1937, Huron became the junction for the Bismarck-Mandan line. Petitioner shows that as a result of these and other changes, the route distance has been increased from 848 to 1,114 miles.¹

While, at the time the initial rate was fixed, the base mileage of 50,000 per month was substantially the monthly equivalent of one round trip daily, at the present time the monthly equivalent of one round trip per day over the extended route is 67,768 miles. Due to the additional mail-passenger schedules authorized by the Postmaster General, the total monthly mileage on the present route is 95,297. Since this exceeds 190 per cent of the base mileage, petitioner assumes the rate would, under the scale, be decreased to 31 cents and for each additional 5,000 miles flown, would be further decreased 1 cent. This result would be accomplished only by including mileage over the Tulsa extension which was not in contemplation when the base mileage was fixed in *Air Mail Compensation, supra*. Petitioner points out that when its mileage reaches 92,031 its mail compensation at 32 cents has reached the minimum compensation under the next lower rate of 31 cents, and by reason of the provision in *Air Mail Compensation, 222 I. C. C. 602*, that compensation payable under any rate determined under the scale should not exceed the minimum compensation payable under the next lower rate so determined, no compensation would be received for the mileage flown between 92,031

1. Mileage on which compensation for mail service is based does not necessarily accord with the distance actually flown. For example when Huron became the junction for the Bismarck-Mandan line, mileage flown was increased 51 miles. No pay for this mileage was received during the period February 5 to July 1, 1937. Similarly, between January 1 and February 5, 1937, Sioux City was used as a junction for the Bismarck-Mandan line because of airport conditions at Sioux Falls. This entailed an additional flight of 31 miles without compensation.

and 95,000 miles. The mileages are based upon 100 per cent performance, and while the rate of compensation has not yet been affected, due to a slightly lower performance record, petitioner believes that as it is now entering the season of high performance its operation will be around 99 per cent, with consequent reduction in its rate.

The extension of the route to Tulsa by the Postmaster General was permitted under the provisions of section 3(c) of the act, as amended. The act also provided that the rate of compensation payable on the extension of any route "shall not be in excess of the rate per mile fixed for the service thus extended." While the Postmaster General has compensated petitioner for mail service over the extension (other than the weight-credit mail service) by use of the 32-cent base rate fixed for the original route, the reasonableness of such rate for service over the extension, or for service over the extended route as a whole, has not been considered by us. See A. M. Docket No. 35, *Boston-Maine Airways, Inc., Base Rate Mileage*, decided September 6, 1938.

Petitioner shows that its net loss for the fiscal year 1937 was \$106,660 and for the 7 months ended January 31, 1938, \$69,838, making a total deficit of \$176,498. At the commencement of its operations it had a recorded investment in real property and equipment of \$61,243, with current and accrued assets of \$184,740² and current and accrued liabilities of \$3,126. On January 31, 1938, its recorded investment in real property and equipment was \$263,123, less accrued depreciation of \$90,785, or a net book value of \$172,338. Current and accrued assets were \$97,476 and current and accrued liabilities, \$25,434. Operating reserves aggregated \$9,581.

Petitioner took over from its predecessor two tri-motored Fords, four Lockheed Vegas, and 13 Wasp engines, purchased on various dates between 1931 and 1935. The Fords, one of the Vega planes, and eight of the engines were retired. Four Lockheed Electras, two new and two second-hand, one Waco plane equipped with Jacobs engine, which is used as a training ship, and 12 Wasp engines, were acquired. Petitioner's investment in planes and engines increased from \$22,710, representing cost of equipment taken over from its predecessor, to \$124,386, net book value as of January 31, 1938, compared with the investment of its predecessor at the time *Air Mail Compensation supra*, was decided, of \$34,460.³

The Electra planes which are twin-motored and have a capacity of 10 passengers, were thought by petitioner to be the most suitable modern equipment and the most efficient type to fit its operation, meeting both requirements of the route and the Department of Commerce standards, and giving consideration also to the modern equipment used by its air-line connections and to the competition it encountered with modern streamlined equipment of the railroads, particularly between the Twin Cities and Kansas City and between Omaha and Kansas City. Both mail and passenger service have benefited by the resultant improvements in speed, efficiency, and dependability.

Petitioner's operating revenues for the fiscal year June 30, 1937, were \$308,311, consisting of mail, \$220,139, passenger, \$80,868, express and freight, \$3,410, and miscellaneous, \$3,894. Its operating expenses for that year were \$411,097 and taxes assignable to operations \$4,055, making a deficit from operations of \$106,841. For the 7-month period ended January 31, 1938, rev-

2. Footnote omitted in official copy.

3. Footnote omitted in official copy.

enues were \$226,507, made up of mail \$165,112, passenger, \$55,953, express and freight, \$2,251, excess baggage, \$581, and miscellaneous services, \$2,610. Operating expenses were \$295,410, resulting in a net loss from operations of \$68,903. Total revenues in the 1937 fiscal year were equivalent to 32.43 cents per mile flown, of which 8.51 cents came from passengers and 23.16 cents from mail, as compared with per-mile revenues of 38.57 cents received by petitioner's predecessor, of which approximately 7.24 cents came from passengers and 30.50 cents from mail. For the 7 months ended January 31, 1938, total revenue per mile was 37.47 cents, of which 9.26 cents came from passengers and approximately 27.31 cents from mail. Revenues from express and freight have been nominal due mainly to the short hauls.

Per-mile costs, including taxes assignable to operations, are shown to have been 43.67 cents for the 1937 fiscal year, and 48.86 cents for the 7 months ended January 31, 1938. These costs are compared with the predecessor's cost of 41.47 cents for the 1936 fiscal year. While expenses show generally an increase in the per-mile costs in all of the classifications into which expenses are divided by the system of accounts, the largest increases in the fiscal year 1937 over operations of the predecessor were for taxes, depreciation, and in the accounts grouped under the general head of traffic and advertising and general and administrative.

Among the factors which are set out by petitioners as having increased its cost of operation are the higher depreciation and insurance charges due to the acquisition of modern and more expensive equipment; and increase in personnel cost due to the addition of more employees and higher salaries and wages. For example, the cost per mile for pilots and copilots for the fiscal year 1936 was 5.77 cents which for the 1937 fiscal year had advanced to approximately 7.27 cents. This resulted primarily from the operation of faster planes. Pay for pilots is graduated according to the speed of the equipment flown. Agreements have also been made with its mechanics and dispatchers calling for substantial wage increases. Another item contributing to the personnel cost has been the training given the pilots, copilots, dispatchers, and radio operators with resulting increased safety and efficiency of the service. Social security taxes have augmented operating expenses. This tax became effective January 1, 1936, and under the provisions of the law will increase each year until 1949. In July, 1936, the total tax amounted to \$114, whereas in January, 1938, it amounted to \$619.

Since its acquisition of the route petitioner has added crash and workmen's compensation insurance which had not been carried by its predecessor. The operation of the new equipment has resulted in higher charges since rates are based on the insurable values. Monthly rentals for fields, offices, airports, etc., have likewise increased, some portion of which is due to the additional stops required by the Postmaster General.

There has been a steady growth both in the total amount of mail carried and the mail-pound miles. Petitioner shows that while its predecessor for the fiscal year 1936 carried an average of 42.84 pounds per mail-pay mile with pound miles of 30,092,190 and mail compensation of \$224,301, for the fiscal year 1937, petitioner carried an average of 63.85 pounds with total pound-miles of 44,918,402 and compensation of \$220,139, and in the following 7 months it carried an average of 58.53 pounds with total mail-pound miles of 30,203,680 and compensation of \$165,112. Its rate of pay per mile flown with mail for the respective periods was 25.2 cents and 29.9 cents, as com-

pared with 32 cents paid its predecessor in the 1936 fiscal year. Miles flown in weight-credit service in the 1937 fiscal year were 169,386 and in the 7-month period, 35,974. Had this service been paid for at the 32-cent rate, mail compensation in the respective periods would have been \$279,302 and \$176,630.

The number of revenue passengers carried by petitioner's predecessor in the 1936 fiscal year was 5,214 with revenue passenger miles of 1,278,492. Passenger revenue represented 7.58 cents per revenue mile with an average distance per passenger of 245.20 miles and revenue per passenger-mile of 4.16 cents. In the 1937 fiscal year the number of revenue passengers carried by petitioner was 6,704 with revenue passenger miles of 1,631,929. Passenger revenue per mile was 9.31 cents. Distance per passenger was 243.42 miles and revenue per passenger-mile 4.96 cents. In the 7 months ended January 31, 1938, petitioner carried 5,364 passengers with revenue passenger miles of 1,341,891. Passenger revenue per mile was 10.13 cents and miles per passenger 250.16. Revenue per passenger-mile was 4.16 cents. Passenger revenues show a progressive increase. The monthly averages for the three periods, respectively, were \$4,437, \$6,739 and \$7,993. Passenger density has also increased from 1.88 per mile for the 1937 fiscal year to 2.43 per mile in the 7-month period.

Development of petitioner's passenger traffic has been the result of intensive efforts, particularly through advertising in newspapers, periodicals, and through traffic solicitation. Petitioner reduced its passenger fares during the winter months to approximate first-class railway fares plus Pullman charges. These reduced fares were to be effective until June, at which time they would revert to the standard basis of 5 cents a mile with round-trip fares of approximately 4.5 cents a mile. The reduced winter fares were slightly less than 4 cents a mile.

Witness for the Postmaster General criticized the expense incurred by petitioner for traffic and advertising showing that expenditures in this connection exceeded passenger revenues by approximately \$2,000 in December, 1937, and \$1,565 in January, 1938. Expenses for traffic and advertising in those months were from \$2,000 to \$3,000 higher than in any preceding month and resulted principally from the increased newspaper and periodical advertising. This increased expenditure was coincident with the publication of the reduced winter fares. For the 7-month period beginning July, 1936, traffic and advertising expense represented about 50 per cent of passenger revenues, but for the corresponding months in 1937-1938 the ratio was 63 per cent. Although the number of passengers carried increased from 4,060 to 5,364, passenger revenues per revenue mile decreased from 10.91 to 10.13 cents. Petitioner believes its winter fares were justified by railroad competition and by similar reductions made by other air lines. Until the petitioner inaugurated a direct service between Kansas City and Minneapolis via Omaha and Sioux City there was little difference between the railroad schedule and petitioner's schedule between Kansas City and Minneapolis. The schedules of the railroads are fixed to meet the convenience of the traveling public whereas petitioner's schedules are fixed to meet the convenience of the mail service. For example, trip No. 2 is required by the Postmaster General to depart from Kansas City at 5:30 a.m., for Minneapolis via Omaha. The only part of route No. 26 which is not lighted is between Minneapolis and Omaha, and that will be lighted during the present year.

Witness for the Postmaster General makes certain adjustments in the operating expenses of petitioner, totaling \$9,481 for the 1937 fiscal year and \$2,056 for the 6 months ended December, 1937. Certain minor adjustments relate to the accounting of proceeds of sale of buildings and equipment parts which were less than, or greater than, the net book value. The witness took the position that these items should have been entered under operating expenses on the theory that the loss or profit was attributable to the failure to make correct depreciation charges. Another exception is taken to the method of accounting for certain items recorded as organization expenses which are being amortized through operating expenses, rather than through profit and loss. Whether, under the provisions of the system of accounts prescribed by the Postmaster General, the accounting for the sale of equipment or the organization expenses should be handled through operating expense accounts or through profit and loss accounts is unimportant for present purposes. Entries in accounts cannot change facts or create income and, even when in conformity with the prescribed system of accounts, we are not precluded from inquiring into their propriety or the correctness of the results shown thereby. *Air Mail Rates for Route No. 24*, 222 I. C. C. 749.

Among the assets acquired from the predecessor company was an item of \$100,000 variously referred to as goodwill, going concern value, or pioneering cost of route No. 26. Subsequent to the Tulsa extension of the route the carrier, with the permission of the Postmaster General, increased this item by \$50,000. Witness for the Postmaster General contended that if the item represented the cost of pioneering the air mail extension it should be deducted from the operating expenses. The evidence does not establish however, that the item is a capitalization of expenses that had been charged to operations, but rather that it is in the nature of a goodwill item. As such, it is not an element entering into the rate base. *Des Moines Gas Company v. City of Des Moines*, 238 U. S. 153; *Missouri Pac. R. Co.*, 40 Val. Rep. 249.

The witness also challenged the service life assigned by petitioner to the new Electra planes and the Wasp engines with which they are equipped as being too short, resulting in excessive depreciation charges to operating expense. It is contended that a proper service life would be 5 years for planes and 5,000 hours for engines and that depreciation charges have been excessive to the extent of \$8,433 in the 1937 fiscal year and \$6,372 for the succeeding 6-month period.⁴ The adjustments produce a total deficit from operations of \$89,106 as of June 30, 1937, and of \$49,067 as of December 31, 1937. The witness pointed out that the two Electra planes purchased second-hand had been in use at that time for 35 and 26 months, respectively, and that on the basis of an additional 2 years assigned them by petitioner the older planes would have a longer service life than the 4 years used for depreciating the new Electras. Similarly, 4,000 hours are being used for Wasp engines purchased new, while 5,000 hours were assigned to the Wasp engines recently purchased second-hand. Petitioner explains that the reason for the long over-all period assigned to second-hand equipment is due to the fact that there is a certain "proved performance" on such equipment. The price paid for the second-hand Electras was approximately one-half of the cost new, and the rate of depreciation was based on the price paid.

4. Based on residual values of \$1,000 for Electras, \$200 for Vegas, \$50 for Wasp C and \$200 for Wasp Jr., engines, adopted by petitioner and made effective in February, 1938.

There has been a tendency in the industry to assign comparatively short lives to aircraft. In *Air Mail Compensation*, 216 I. C. C. 166, we found that a service life of 3 years for Electras used by Northwest Airlines, from whom petitioner made its purchases, was probably too brief and, in *Air Mail Rates for Braniff Airways, Inc.*, 226 I. C. C. 752, that depreciation of Lockheed Electras on a 3-year basis was too low and that this type of equipment should be regarded for the purpose of section 6 of the act as having a service life of at least 4 years. Other decisions indicate that depreciation charges on Lockheed Electras are based on a service life of 4 years and 3,000 hours for each engine.⁵ *Air Mail Rates for Route No. 24, supra; Chicago and Southern Air Lines, Inc., Rate Reviews, 1935-1936*, 223 I. C. C. 535, 543.

The 4-year period used by petitioner is generally consonant with the present practice of other air lines using this type of equipment. The question is not what use the previous owners may have assigned the equipment but what period of use the petitioner may expect from the equipment, having due regard not only to wear and tear and to obsolescence, but also to safety and the attraction of the traveling public. Many factors such as the constant development and improvement of aircraft and the striving towards increased safety and convenience for the traveling public influence air-line operators in adopting a comparatively short service life for equipment. It is believed, however, that in estimating life expectancy it is desirable to resolve doubts in favor of a longer rather than a shorter life. *Air Mail Compensation, supra*, page 179. The effect of an adjustment of depreciation to a base of 5 years for the new Electras and to 5,000 hours for the Wasp engines would merely reduce the deficit from operations by about \$9,000 per annum.

Based upon revenue miles flown the Postmaster General shows per-mile operating revenues for the fiscal year 1937 of 35.30 cents, with adjusted operating expenses including depreciation charges, of 45.50 cents, a net deficit of 10.20 cents. For the succeeding 6-month period revenues per revenue mile flown are 40.83 cents, and adjusted expenses including depreciation charges, 50.96 cents, a net deficit from operations per revenue mile of 10.13 cents.

In addition to the 168,137 shares of stock of \$1 par value issued to the predecessor company in payment for property and equipment, petitioner issued additional stock which totaled as of June 30, 1937, 393,137 shares of a total authorized capitalization of 400,000 shares, to enable it to purchase needed equipment and to provide working capital. Other than the stock held by petitioner's predecessor, all of the issue has been taken by the executive vice president. Due to continued losses petitioner in November, 1937, found itself without sufficient funds to operate. Accordingly, the par value of the stock was reduced from \$1 to 35 cents per share and one-half of the 393,137 shares outstanding were returned for resale. The authorized capitalization was further increased to 600,000 shares, making a total of 403,431 shares available for sale. The executive vice president purchased all of the stock, except 32,004 unissued shares, at a price aggregating \$129,999.

Petitioner anticipates that it will be necessary within the next year to replace one of the Electras purchased second-hand. Such a plane equipped for air line use will cost approximately \$55,000. Four of the engines pur-

5. Wright engines.

chased second-hand with the planes will also have to be replaced and the manufacturers have indicated that an increase in price ranging from \$500 to \$1,000 per engine may be expected. Such an increase would make a total expenditure for engines in the neighborhood of \$10,000.

The communication equipment which was taken over from the predecessor company and rebuilt is also rapidly becoming obsolete and in need of replacement. This will necessitate an expenditure of approximately \$20,000. It is the desire of petitioner also to give its pilots the training for blind flying afforded by the Link trainer which is used by air lines generally. The Link trainer costs approximately \$5,000, although it might be possible for petitioner to rent one from some of the other air lines. Petitioner thus estimates that it is faced with an expenditure of some \$90,000 for equipment within the next few years.

As stated in *Air Mail Compensation, supra*, page 723, the reasonableness of rates for the transportation of mail by airplane must be determined with relation to the service actually performed. The service which petitioner is now rendering on route No. 26 has changed materially from that considered by the Commission when the rate of 32 cents was fixed. Passenger service is required by the Postmaster General and that requirement compels the acquisition and operation of equipment superior to that which would be required if the mail were flown without passengers. The equipment which petitioner is now operating is adapted to meet the reasonable requirements of the route. Increased expenses made necessary following the extension authorized by the Postmaster General to Tulsa, the improvements in facilities, and the higher standards of safety and efficiency of both equipment and personnel have not been met by increased revenue. Some improvement will be effected by the elimination of the weight-credit service for which petitioner has received no compensation. However, the net result for the 6 months following July, 1937, when all mail schedules were put on a pay basis, does not indicate that revenues will be sufficient to meet operating expenses. Continued operating losses make it increasingly difficult for petitioner to finance necessary improvements. The air-transport industry is one in which the highest possible standards of safety must be maintained.

We find that the rates of compensation for the transportation of air mail by airplane and the service connected therewith over route No. 26, as now extended, were not fair and reasonable from and after November 22, 1937, the date of the filing of the petition herein, and that subject to the provision of section 3(f) of the act the fair and reasonable rates of compensation for each airplane mile actually flown with 300 pounds of mail or less, and the service connected therewith, were, are, and will be rates determined by applying the provisions of the Commission's order in *Air Mail Compensation, supra*, as amended, to a base rate of 33 $\frac{1}{2}$ cents per airplane mile for a base mileage of 67,000 miles per month.

The findings herein are without prejudice to any rates which may be fixed by the Civil Aeronautics Authority under the provisions of the Civil Aeronautics Act of 1938, which differ materially from those of the Air Mail Act of 1934.

An appropriate order will be entered.

MAHAFFIE, *Commissioner*, concurring in part:

I concur except as to the retroactive feature of the order. See 216 I. C. C. 166, 191.

Order

At a Session of the INTERSTATE COMMERCE COMMISSION, Division 3, held at its office in Washington, D. C., on the 16th day of September, A. D. 1938.

Air Mail Docket No. 32**Air Mail Rates for Route No. 26**

This proceeding being at issue upon petition and answer on file, and having been duly heard and submitted by the parties, and full investigation of the matters and things involved having been made, and said division having, on the date hereof, made and filed a report containing its findings of fact and conclusions thereon which said report is hereby referred to and made a part hereof:

It is ordered, That fair and reasonable rates of compensation for the transportation of air mail by airplane and the service connected therewith over Air Mail Route No. 26 as extended to Tulsa, Oklahoma, on and after November 22, 1937, the date of the petition herein, were, are, and will be, for each airplane mile actually flown with 300 pounds of mail or less, subject to the provisions of section 3(f) of the Air Mail Act, as amended, the rates determined by applying the provisions of the Commission's order in *Air Mail Compensation*, 206 I. C. C. 675, as amended by the Commission's order of June 14, 1937, to a base rate of 33 $\frac{1}{2}$ cents per airplane mile for a base mileage of 67,000 miles per month.

By the Commission, Division 3.

W. P. BARTEL,
Secretary.

(SEAL)