



OFFICIAL EMPLOYEE PUBLICATION OF THE FEDERAL AVIATION AGENCY

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**AERIAL APPLICATION**

## Bounced Radio Signals for Better Communication

Radio signals bounced off the troposphere will give better communication on North Atlantic air routes if the FAA is successful in a development project now under way.

Equipment, including a special antenna system and a high-powered amplifier, has been ordered by the FAA's Bureau of R & D for tests to learn whether such a "forward scatter" method of transmitting can be made effective in the very high frequencies now used for airways communications.

The "forward scatter" principle, in use in our northern defense lines for several years, now gives crystal clear voice communication between places as distant as Kotzebue, Alaska, and any continental U. S. city. It involves directional broadcast of radio waves, some of which are bounced back from the troposphere earthward where they are received in exceptional clarity. Only recently, it became evident that this technique could be applied to aeronautical communications where one station is mobile.

## L.W. Burton Continues As WNA Director

Mr. L. W. Burton will continue as Director of Washington National Airport. This announcement was made by the FAA's Office of Public Affairs on October 31, 1960. Mr. Burton has been on leave of absence for several weeks.

Mr. Burton has been Director of Washington National Airport since February 1, 1958. Until recently he was also Acting Director of the Bureau of National Capital Airports.

Mr. G. Ward Hobbs was named Director of the Bureau in September and assumed overall responsibilities for Washington National Airport and supervision of the construction of Dulles International.

Editor

Thomas J. Wholey

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## New Program Provides "New Look"

The initial phase of a training program designed to provide the "new look" in Flight Service Stations is now complete.

Some 425 selected specialists from every corner of the FAA's Regions have concluded four weeks of intensive training at the FAA School at Oklahoma City. While there, they concentrated study on the new responsibilities of the Flight Service Specialist for pre-flight briefing and in-flight assistance to the pilot.

This included a detailed study of the preparation and use of various weather maps, reports and forecasts in pilot briefing; Flight Assistance procedures and responsibilities as provided in the new Flight Assistance Service manual; operation of UHF/VHF direction-finding equipment and practice in lost aircraft

orientation; and extensive workshop practice in briefing and assisting pilots.

These specialists, at least one from each of the FAA's stations and combined station-towers, have returned to their facilities. With the aid of specially prepared training packets from the FAA School, they will assist in the on-the-job training of the more than 4000 other Flight Service specialists.

Completion of this program, being administered by the Training Division of the Office of Personnel and Training with U. S. Weather Bureau participation, will be another big step forward in meeting FAA's continuing responsibility to provide pilots with the assistance they need for safe flight operation.



James T. Pyle, Deputy Director of the FAA, and Rear Admiral G. B. H. Hall, USN, Commander, Fleet Air Hawaii, discuss jet-age airspace problems in the Hawaiian area. Mr. Pyle was on a six-week FAA facility inspection trip of the Far East.

# Open Cockpit Aircraft In The Jet Age

The pilot glanced over the list of items he was asked to bring along. It included a "hard hat", a good pair of untinted ground glass lensed goggles, flight jacket, gloves, coveralls, dungarees, shoes suitable for walking on rough terrain, notebook and writing materials. The beginning of a fiction story? Not at all.

This list of items, along with a set of instructions, was handed to eleven FAA General Operations Inspectors who knew that they would be flying in open cockpit aircraft in this, the jet age.

The 11 General Operations Inspectors did their flying while attending an aerial applicator course from September 12 to October 14, 1960. The course was held at The Ohio State University's School of Aviation, Columbus, Ohio, in cooperation with the College of Agriculture. Here they learned what it takes to become a successful aerial applicator. William F. Clifton, FS-440, FAA's General Operations Branch Chief, real-

izing that the Aerial Application industry is booming, felt that a short, on-the-job course for some of the General Operations inspectors would give them a first-hand insight into the problems encountered by aerial applicators. He felt too, that this schooling would help with inspections in the field and counter some of the problems by providing to the aerial applicator some of the benefits of up-to-date training given the students at the University.

The proposal, submitted to Personnel and Training, was approved; arrangements were made and the pilots were on their way.

Here they learned that a successful aerial applicator learns early that he must be more than simply a pilot. He needs an understanding of agriculture--its growth and problems--in order to work effectively with agricultural leaders. He finds it necessary to understand the properties, effects and methods of application of insecticides, herbicides,

and fungicides. The applicator learns to recognize common destructive insects and diseases as well as their life cycles and damaging effects.

The course covered a five-week period, five days a week. It included 30 hours of flight instruction and field operations with 10 hours dual and 20 hours solo and 86 hours of classroom and laboratory instruction.

Aircraft used were the Stearman, Piper J3 Duster and Sprayer, Piper PA-18 and PA-18A, Grumman AG-Cat and Piper Pawnee. Most of the classroom work was done during morning hours; the afternoons were set aside for flying. Daily briefings preceded each flight session with post-flight critique. These lectures reviewed aircraft flying and performance characteristics. They helped recall how and why an airplane performs; the paramount importance of angle of attack to controlled flight; how sudden application of power may induce stalling and loss of control; the influence of the cargo and



air temperature on performance; the influence of angle of bank and airspeed on the time required for applicator turnaround.

Flight training was conducted at the Orleton Farm, about 25 miles west of Columbus, Ohio. This is a working farm under the management of Mr. John Sawyer. Here they did weed spraying, fertilizing and dispensing of lime dust. Part of the training included finding various farms about 30 miles away. This was done by using county maps and auto road maps. Most times, only certain fields on a farm need be sprayed or dusted and the right field must be found. To do this, the students found the actual field to be worked from sketches drawn on the backs of envelopes.

For some of the FAA students, this wasn't their first attempt at living the life of an agricultural pilot. Earl D. Baird, GADO Albuquerque, N. M., from Region 4, has had 11 years' experience as an agricultural pilot; Russell V. Fishback, GADO Phoenix, Ariz., in Region 4, has had one year; John B. Cureton, GADO Birmingham, Ala., Region 2, had two years.

Others taking the course were, Paul J. Baker, GADO Columbus, Ohio, Region 1; John J. Kenny, GADO Midland, Texas and Theodore Barefield, GADO Shreveport, La., both from Region 2.

Region 3 selected Thomas A. Stagner, GADO Rapid City, S. Dak., and John C. Smith, GADO Wichita, Kans. Others from Region 4 included Bernard A.

Geier, GADO Billings, Mont., and Channing C. Sargent, GADO Van Nuys, Calif. From the Washington office came Walter F. Delear, General Operations Branch, FS-440.

The instructional staff for the course was composed of professional applicators and operators, doctors, competent flight instructors and maintenance personnel as well as Ohio State University professors.

Students did their own loading of insecticide and a reasonable amount of maintenance. Landings and take-offs were on and from a sod field runway. In order to get the effect of what it would be like to land and take off from a levee, flags were set in the ground on the runway which closed the runway down to a width of 15 feet. To make things a little more complicated, further up the runway were two 22-foot poles set on either side of the runway with a rope stretched between. All landings and take-offs were made between the poles and under the rope. If the poles or rope were hit, they were supposed to give. Since no one hit the rope, this part of the test was never completed.

In some cases, the instructor would fly between two trees with just about a six-inch clearance on either side of the wing--then the student would do the same. Another test included two additional sets of poles with ropes stretched across them and spaced far enough apart so that the student could fly over one rope and under the other, make a

procedure turnaround them come back and reverse the procedure. To make this a little more difficult, the second set of poles were set at a slight angle which cut down the amount of clearance on either side. The pullups in front of trees and other obstacles is similar to the reaction you would get on a quick rise while riding on a roller coaster. The same feeling is true when letting down quickly over these same obstacles to start the spray or dusting as you would get on the quick downward ride on a roller coaster.

But none of this was included in the itinerary to turn out stunt flyers. These were "hazards" placed there to show the students some of the obstacles regular aerial applicators run across each time they do their job.

Traveling at a speed of between 80-90 mph in a Stearman, or 70-80 mph in the smaller air cubs, students flew the planes above the tops of crops and trees anywhere from six inches to thirty feet above the ground.

In order to determine the best hopper gate opening and measure distribution of pellet-sized fertilizer, plastic waste baskets were used. These were placed side-by-side until they took up 40 to 50 feet of ground space. Students then flew over these about 20 feet above the ground and dropped pellets to measure the swath width.

Stearman aircraft could carry about 1000 pounds of lime dust and about the same amount of spray. Cubs carry about



During dual instructor flight, FAA student and instructor prepare to take off in a Stearman from the sod field runway at the Orleton Farm where flight training for the course was conducted. Russell V. Fishback stands beside plane in aerial applicator's "uniform of the day."

600 pounds of spray and about 650 pounds of dust. Liquid insecticide is pumped into a tank located in or near the fuselage of the aircraft. When spraying, the liquid is forced through a piece of "pipe" (or booms) on each side of the wing and forced out through nozzles. The dust comes out of a spreader which is located beneath the fuselage and near the landing gear.

Aerial application, or commercial agricultural flying, represents the use of aircraft as a moving elevated platform from which may be distributed chemicals or seed upon the land or crops. Aerial application is one of the oldest work uses of aircraft, dating back to the experimental dusting of citrus orchards in 1919.

It is estimated that a little over 5000 aircraft were used in aerial application in 1957. These aircraft were flown 865,800 hours for this purpose—eight percent of the total flying time in general aviation. The 865,800 hours flown in 1957 represented the greatest activity in aerial application during the six years from 1952 to 1957 inclusive. The acreage treated in 1957 was also the highest reported in this six-year period—61,255,000 acres. This coverage was equal to the combined area of the States of Connecticut, Massachusetts, Vermont, New Hampshire, New Jersey, Maryland and Pennsylvania.

As part of the curriculum, one of the subjects taught covered the safe handling of insecticides. The point of just how

potent new organic phosphates are and how they can affect humans by absorption through the body, was vividly brought out in a graphic display within the first few minutes of this particular part of the course. The instructor had two mice; one a little larger than the other. He touched each on the nose with a minute particle of organic phosphate. "Within a minute-and-a-half," said the instructor, "these mice will be dead."

He went on to say that what the students would see within that short span of time, "would be the same effects and violent spasms a man would go through if he, too, were to absorb into his body this same substance. The only difference," continued the instructor, "is that where it would take a man a period of possibly weeks to die, the mice will die in the same manner only much quicker." Within a minute-and-a-half, the mice were dead. The vivid demonstration left a marked impression on the students and helped them realize that this was only one item which they could pass on to aerial applicators.

Three agricultural pilots gave flight instructions. These were, John Varnell, Houston, Texas; Paul Hursh, Amana, Iowa, and Vernon Vick, Bowling Green, Ohio. Director of The Ohio State University School of Aviation is J. J. Eggspuehler.

The course runs the full gamut. It takes in principals and problems related to application equipment and deposit measurements; care and service of aircraft,



In flagging, two men at both ends of field guide aerial applicator. As plane finishes run, flag is dropped; men move about 11 paces to one side and process repeated until entire field is covered.

engines and dispersing equipment; Entomology and insect control; preventive medicine; defoliation, weed and brush control; seeding and fertilizing; plant disease control; and laws and regulations.

Upon completion of the course, one of the students said of the aerial applicator, "He just about flies by the seat of his pants."



Plastic waste baskets, standing side-by-side, were used to measure swarth width. At right students load fertilizer into a Stearman.

## Large Expansion Program

The FAA has scheduled the largest expansion of its air navigation and air traffic control systems to date with a program totalling \$163,250,000 for the current fiscal year. The program is designed to provide the air navigation facilities and air traffic control equipment and special purpose buildings to cope with the great demands of civil and military aviation on the Federal Airways System.

The program provides for the construction of nine transition terminal ATCC or ARTCC buildings at an average cost of \$1,900,000 each. Thirteen long range radars, each costing an estimated \$2,400,000, for 10 ARTCCs are contained in the program while 41 radar bright displays, costing an average of \$405,000 will be installed at 22 ARTCCs. Additionally, the program calls for the installation of 14 radar beacon systems at an average cost of \$293,000 at 13 long range radar installations. Radar beacons provide controllers with more positive identification of radar targets.

Thirteen airport traffic control towers, costing an average of \$160,000 each, will be established under the program. Instrument landing systems will be installed at 20 airports at an average cost of \$269,000. In addition, 18 instrument landing systems will be relocated in the program.

A total of 17 airports will be equipped with high intensity approach lighting systems with sequenced flashing lights. The average cost of the high intensity approach lights equipped with the sequenced flashing lights is \$205,000. High intensity approach lighting systems will be relocated under the program at 11 locations. In addition to the full lighting systems a total of 55 existing high intensity approach lighting systems will be fitted with the sequenced flashing lights at an average cost of \$36,000. Threshold lights will be installed at 39 locations.

The program calls for the establishment of terminal very high frequency omnidirectional radio ranges (VOR) at 17 airports at an average cost of \$104,000. These VORs are employed as an approach aid to airports. Other VORs are used for en route navigation.

FAA will install teletypewriter equipment at 30 locations for delivery of meteorological information to the U. S.

Weather Bureau, while the Alaska teletypewriter circuit will be modernized with the installation of new equipment. New high speed teletypewriter circuits will be provided at eight cities at an average cost of \$342,000 and expanded automatic weather data interchange service will be provided at 10 locations.

Two Flight Service Stations will be established, one at Hibbing, Minnesota and one at Fort Yukon, Alaska, and 11 Flight Service Stations will be converted to remotely controlled stations. A new terminal building will be provided for the airport operated by FAA on Wake Island in the Pacific at an estimated cost of \$682,000. The instrument runway at Cold Bay, Alaska will be extended and a parking and refueling apron constructed at an estimated cost of \$1,687,000.

Specific locations announced in the program are subject to some changes depending on local conditions, the realignment of airways, shifts in traffic patterns and programming factors. The equipment in the program is provided by the FAA and in some instances, land is provided by airports or local communities.

Following is a listing with details of the planned program, including locations and estimated costs. The average costs shown include the estimated cost of the equipment itself, construction, installation and commissioning, including flight checking.

Transition terminal air traffic control center buildings will be constructed at an average cost of \$1,900,000 at the following nine locations:

Boston, Mass.; Detroit, Mich.; El Paso, Texas; Los Angeles, Calif.; Miami, Fla.; New Orleans, La.; New York, N. Y.; St. Louis, Mo., and Washington, D. C.

Thirteen long range radars will be established at an average cost of \$2,400,000 at the following locations. (\*Denotes military radar for joint military/FAA use; name in parentheses indicates the ARTCC or Centers to be served.):

Boise, Idaho (Seattle); Cody, Wyo. (Salt Lake City); Dell, Mont. (Salt Lake City); El Centro, Calif.\* (Los Angeles, Phoenix); Guam, Mariana Islands \*(Guam); Honolulu, Hawaii (Honolulu); La Plata, Colo. (Denver).

Marble Canyon, Ariz. (Phoenix); Oklahoma City, Okla. \*(Fort Worth); Puu

Manawahua, Hawaii (Honolulu); Raton, N. M. (Albuquerque); Rome, Wis. (Chicago), and Wilcox, Ariz. \*(Phoenix).

Radar bright display equipment will be installed at an average cost of \$405,000 at the following ARTCCs. (Number in parentheses indicates the number of Systems (Projects) assigned to the ARTCC):

Albuquerque, N. M.; Anchorage, Alaska; Atlanta, Ga. (3); Chicago, Ill. (2); Denver, Colo.; Detroit, Mich.; El Paso, Texas (2).

Fairbanks, Alaska; Fort Worth, Texas; Honolulu, Hawaii (2); Indianapolis, Ind.; Los Angeles, Calif. (4).

Miami, Fla. (2); New Orleans, La.; New York, N. Y. (2); Oakland, Calif.; Phoenix, Ariz. (4).

St. Louis, Mo.; Salt Lake City, Utah (2); San Antonio, Texas (2); Seattle, Wash. (4), and Washington, D. C. (2).

Radar beacon systems will be established at an average cost of \$293,000 at 13 sites and remoted to ARTCCs. The radar site is given first while the ARTCC center which it serves is in parentheses (\*Denotes service provided to two centers as shown):

Boise, Idaho (Seattle); Cody, Wyo. (Salt Lake City); Dell, Mont. (Salt Lake City); El Centro, Calif.\* (Los Angeles, Phoenix); Guam, Mariana Islands (Guam); Honolulu, Hawaii (Honolulu); La Plata, Colo. (Denver).

Marble Canyon, Ariz. (Phoenix); Oklahoma City, Okla. (Fort Worth); Puu Manawahua, Hawaii (Honolulu); Raton, N. M. (Albuquerque); Rome, Wisc. (Chicago), and Wilcox, Ariz. (Phoenix).

Airport traffic control towers will be established at an average cost of \$160,000 at the following 13 locations:

Alton, Ill.; Dallas (Addison), Texas; Decatur (DeKalb-Peachtree), Ga.; Decatur, Ill.; El Centro, Calif.; Hawthorne, Calif.; Islip, N. Y.

Minneapolis (Crystal), Minn.; Minneapolis (Flying Cloud) Minn.; Modesto, Calif.; Muncie, Ind.; San Diego (Gillespie), Calif., and San Diego (Montgomery), Calif.

Instrument landing system (ILS) will be installed at an average cost of \$269,000 at 20 airports listed below. (\*Denotes second system):

Ashville, N. C.; Buffalo, N. Y.; Cincinnati (Lunken), Ohio; Covington, Ky.\*;

Denver (Stapleton), Colo.\*; Detroit (Wayne), Mich.; Houston, Texas.

Jackson, Mich.; Juneau, Alaska; Kahului, Hawaii; Kalamazoo, Mich.; Klamath Falls, Ore.; Los Angeles, Calif.\*

Lynchburg, Va.; Memphis, Tenn.; Philadelphia, Pa.; St. Louis, Mo.; San Juan, Puerto Rico; West Palm Beach, Fla., and Hilo, Hawaii.

Standard high intensity approach lights as well as sequenced flashing lights will be installed at an average cost of \$205,000 at the 17 airports as follows (\*Denotes second system):

Battle Creek, Mich.; Boise, Idaho; Boston, Mass.; Charleston, W. Va.; Fargo, N. Dak.; Des Moines, Iowa; Erie, Pa.; Miami, Fla.; Nashville, Tenn.

New Orleans, La.; Oakland, Calif.\*; Orlando, Fla.; Pittsburgh, (Greater), Pa.; Reading, Pa.; San Francisco, Calif.; Tallahassee, Fla., and Youngstown, Ohio.

Approach light systems will be relocated at an average cost of \$103,000 at 11 airports:

Baltimore, Md.; Cold Bay, Alaska; Fairbanks, Alaska; Flint, Mich.; Greensboro, N. C.; Los Angeles, Calif.

Miami, Fla.; Mobile, Ala.; New York (La Guardia), N. Y.; Raleigh, N. C., and Syracuse, N. Y.

FAA will establish sequenced flashing lights on existing high intensity approach lighting systems at an average cost of \$36,000 at the following 55 locations. (\*Denotes second system):

Allentown, Pa.; Arcata, Calif.; Bakersfield, Calif.; Bedford, Mass.; Binghamton, N. Y.; Bismark, N. Dak.; Bristol, Tenn.; Casper, Wyo.; Cedar Rapids, Iowa; Columbus, Ohio\*; Corpus Christi, Texas; Lafayette, La.; Lansing, Mich.; Lubbock, Texas; Mansfield, Ohio; Medford, Ore.; Monterey, Calif.; Muskegon, Mich.; New Bedford, Mass.; Newport News, Va.; Niagara Falls, N. Y.; Ontario, Calif.

Pendleton, Ore.; Peoria, Ill.; Pittsburgh, Pa.; Portland, Maine; Rochester, Minn.; St. Petersburg, Fla.; Dallas, Texas; El Paso, Texas; Eugene, Ore.; Flint, Mich.; Fresno, Calif.

Green Bay, Wisc.; Harrisburg, Pa.; Honolulu, Hawaii; Huntington, W. Va.; Hutchison, Kans.; King Salmon, Alaska; Santa Barbara, Calif.; Seattle-Tacoma, Wash.\*; Sioux Falls, S. Dak.; Spartanburg, S. C.; Springfield, Mo.

Teterboro, N. J.; Toledo, Ohio; Tyler, Texas; Utica, N. Y.; Waterloo, Iowa; Wheeling, W. Va.; White Plains, N. Y.; Wilmington, Del.; Wilmington, N. C.; Winston-Salem, N. C., and Yakima, Wash.

Additional threshold lights will be installed at an average cost of \$26,000 at the following 39 airports. (\*Denotes second system):

Albany, N. Y.; Arcata, Calif.; Augusta, Ga.; Austin, Texas; Beaumont, Texas; Billings, Mont.; Binghamton, N. Y.; Burbank, Calif.

Charlotte, N. C.; Chattanooga, Tenn.; Chicago, Ill.; Columbia, S. C.; Detroit (Willow Run), Mich.; Flint, Mich.; Fort Wayne, Ind.; Greensboro, N. C.

King Salmon, Alaska; Lansing, Mich.; Lexington, Ky.; Lubbock, Texas; Medford, Ore.; Miami, Fla.; Moline, Ill.; Newark, N. J.\*.

Newport News, Va.; New York (La Guardia), N. Y.; Norfolk, Va.; Ontario, Calif.; Providence, R. I.; Raleigh-Durham, N. C.; Richmond, Va.; San Diego, Calif.

Santa Barbara, Calif.; Shreveport, La.; Sioux Falls, S. Dak.; Syracuse, N. Y.; Teterboro, N. J.; Washington (National) D. C., and Winston-Salem, N. C.

A total of 17 very high frequency omniranges (VOR) will be installed for approach to airports at an average cost of \$104,000 at the locations given:

Astoria, Ore.; Chicago (Meigs), Ill.; Decatur, Ala.; Gary, Ind.; Hot Springs, Ark.; Lima, Ohio; Marion, Ind.; Marshall, Texas; Melbourne, Fla.

Milwaukee (Timmerman), Wisc.; Minneapolis (Flying Cloud), Minn.; Lewiston, Idaho; Roseburg, Ore.; San Antonio (Stinson), Texas; Santa Monica, Calif.; Shreveport (Downtown), La., and Wenatchee, Wash.

Weather Bureau teletypewriter service is to be installed at an average cost of \$14,400 at six new locations while improved FAA equipment will replace leased equipment at 24 other places. (\*Locations where new service will be established):

Akron, Ohio\*; Appalachicola, Fla.\*; Ashville, N. C.; Baton Rouge, La.; Chantilly (Dulles), Va.\*; Chicago (Meigs), Ill.\*; Chicago (Midway), Ill.; Cincinnati, Ohio; Clayton, N. M.; Columbia, Mo.

Detroit, Mich.; Erie, Pa.; Eureka, Calif.; Grantsburg, Wisc.\*; Huron, S. Dak.; Louisville, Ky.; Memphis, Tenn.; New Haven, Conn.; North Platte, Neb.; Pensacola, Fla.

Rapid City, S. Dak.; Reading, Pa.; Rockford, Ill.; St. Petersburg, Fla.; San Antonio, Texas; Sault Ste. Marie, Mich.; South Bend, Ind.; Van Nuys, Calif.\*; Worcester, Mass., and Ypsilanti, Mich.

The Alaska teletypewriter circuit covering 43 installations will be modernized with 100 word-per-minute machines at an average cost of \$60,000:

Anchorage, Angoon, Aniak, Annette, Bethel, Bettles, Big Delta, Cordova, Duncan Canal, Fairbanks, Farewell.

Galena, Gulkana, Gustavus, Haines, Hinchinbrook, Homer, Iliamna, Juneau, Kenai, King Salmon, Kodiak (Woody Island).

Kotzebue, McGrath, Middleton Island, Minchumina, Moses Point, Nenana, Nome, North Nenana, Northway, Point Barrow, Rogers Point.

Sisters Island, Sitka, Skwentna, Summit, Sunset Cove, Talkeetna, Tanana, Unalakleet, Yakataga, and Yakutat.

A new high speed circuit at an average cost of \$342,000, and capable of 850 words per minute, will connect eight cities as follows:

Denver, Colo.; Kansas City, Mo.; Louisville, Ky.; Miami, Fla.; New York, N. Y.; San Francisco, Calif.; Seattle, Wash., and Washington, D. C.

Automatic weather data interchange service, at an average cost of \$141,000, will be expanded at the 10 cities given: Birmingham, Ala.; Columbus, Ohio; Houston, Texas; Indianapolis, Ind.; Oklahoma City, Okla.; Phoenix, Ariz.; Pittsburgh, Pa.; Portland, Ore.; Tulsa, Okla., and Wichita, Kan.

Two Flight Service Stations will be established at Hibbing, Minn., costing \$89,500 and at Fort Yukon, Alaska costing \$373,100.

FAA will consolidate the control of 11 Flight Service Stations. Service will be removed, at an average cost of \$86,000, to the location given in parentheses:

Battle Mountain, Nev. (Elko, Nev.); Bryce Canyon, Utah (Cedar City, Utah); Drummond, Mont. (Missoula, Mont.); Dubois, Idaho (Idaho Falls, Idaho); Dyersburg, Tenn. (Jackson, Tenn.); Eagle, Colo. (Grand Junction, Colo.).

Hanksville, Utah (Grand Junction, Colo.); La Grange, Ga. (Anniston, Ala.); Lamoni, Iowa (Des Moines, Iowa); Otto, N. Mex. (Albuquerque, N. M.), and Phillip, S. Dak. (Pierre, S. D.).

A new terminal building will be built at Wake Island, Pacific Ocean at a cost of \$682,000.

An extended instrument runway and a parking and refueling apron will be built at Cold Bay, Alaska at an estimated cost of \$1,687,000.

Locations of proposed facilities listed above are subject to revisions as detailed surveys are conducted.

## High Standards

It is the policy of the Federal Aviation Agency, as prescribed in Agency Bulletin 59-33, that the highest possible standards of democracy be maintained in official acts and all employees receive equal treatment and opportunity based on considerations of merit and fitness.

All appointments, transfers, promotions or other personnel actions which affect an individual's employment status shall therefore be made solely on the basis of merit and qualifications, except as otherwise provided by law or regulation.

No discrimination in any form, including failure to effect personnel actions, shall be exercised because of race, color, religion, or national origin.

It is the responsibility of every official, supervisor, and employee of the Federal Aviation Agency to make this policy effective.

## Military Flight-waivers

The signing of military flight-waivers (Release from Claim for Injury or Death) by FAA employees who are engaged in approved familiarization flights aboard USAF aircraft is no longer required. This change will be incorporated by the Air Force in a forthcoming revision to its regulation, AFR 76-6.

In essence, here is what the change will say. When a Federal employee is aboard a military aircraft and his presence is in connection with performing official duties, whether for actual travel purposes, for training, or engaged in examining rated air crew personnel of the Armed Services, the requirement for signing a release is automatically waived.

Until this revision is incorporated into AFR 76-6, and even if you do go ahead and sign a release form, then, in the opinion of the General Counsel:

- It will not bar recovery under the Federal Employee's Compensation Act
- Such release, if signed, will not jeopardize protection under private (commercial) insurance policies since it is intended only as a possible release of U. S. Government liability. However, it is possible that a clause in a private contract of insurance could otherwise preclude recovery thereunder for riding in a military aircraft. (Check the small print on your insurance policy.)

## Promotion Program

The Personnel Programs Division is examining ways of improving the Agency's promotion program. Principal objectives of the study are to:

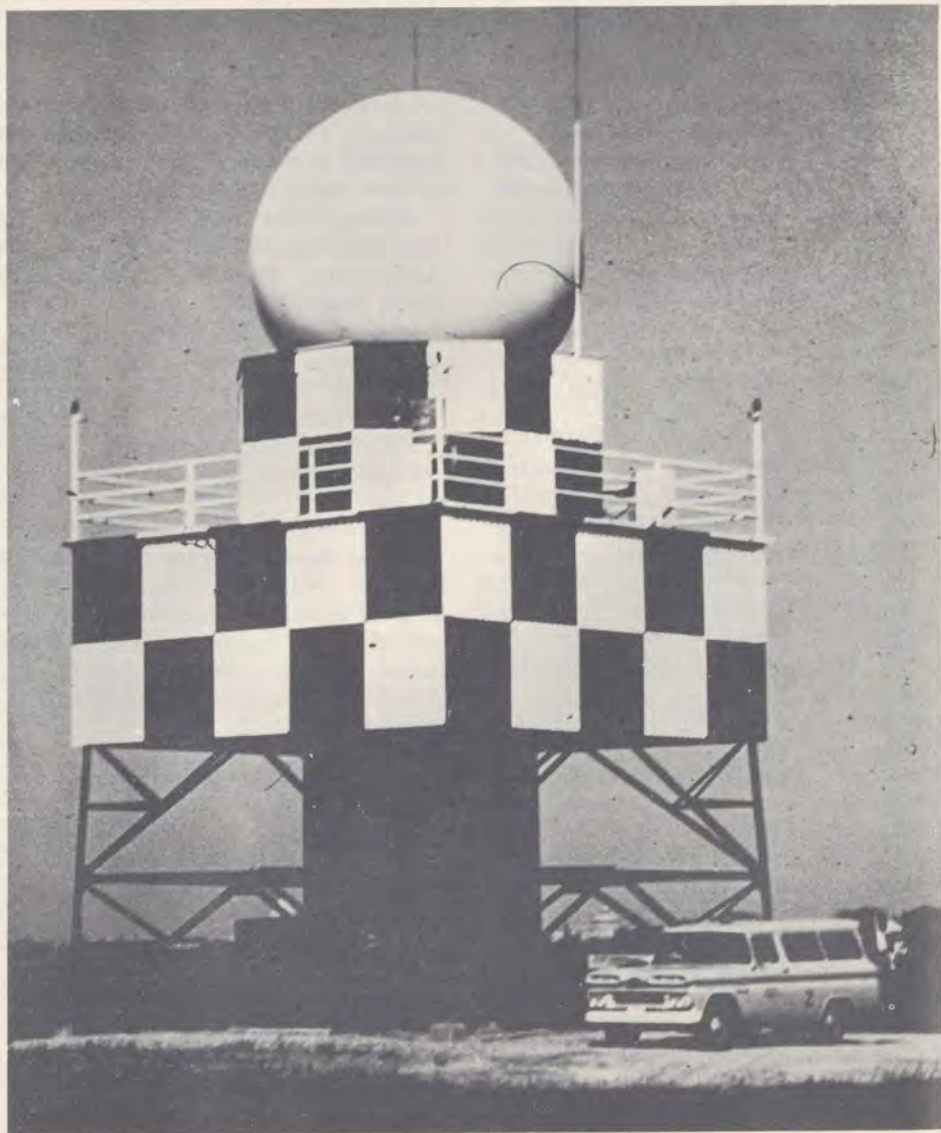
- Find faster ways to give candidates' names to the official making the selection.
- Find more efficient ways to process promotion plan actions in order to ease the administrative burdens and, if possible, to reduce costs.
- Provide for more extensive line management and supervisory participation in evaluating candidates for promotion.
- Develop better methods of evaluating candidates for promotion.

In regard to the latter, some of these methods include the possibility of giving more emphasis to the use of qualification

requirements above the minimums set under CSC standards, improving supervisors' performance ratings by tying the elements to be rated more directly to job requirements, and revising the employee promotion appraisal to improve the rating process. Consideration is also being given to the use of test batteries and individual and group interviews for certain levels of jobs.

At this stage, the study is concentrated on jobs located in field facilities and offices and is confined to three of the Agency's major occupations—Airways Operations Specialists, Electronic Technicians and Aviation Safety Officers.

The project group, in cooperation with the Bureaus of ATM, F&M and FS, hopes to make its recommendations quickly for plans which will cover about 75% of the Agency's employees.



Airport Surface Detection Equipment Building at Washington National Airport. This production type ASDE radar system, third of ten being built for the FAA, enables air traffic controllers to see details of surface traffic on airports.

# Retirees' Health Benefits

The Civil Service Commission is setting up procedures to notify all retired Federal employees and survivor-annuitants as to their eligibility for health benefits coverage under the Retired Employees Health Benefits Act signed into law by the President September 8, 1960. The new law, which becomes effective July 1, 1961, is expected to cover about 415,000 persons. It does not affect the 1,800,000 employees who are covered by the Federal Employees Health Benefits Act of 1959.

The Government will contribute between \$15,000,000 and \$25,000,000 to the first-year cost of the new program, with the exact amount depending upon how many annuitants participate. The annuitants will pay the balance of the cost of their coverage not met by the Government contribution.

On October 1 a notice of the enactment of the new law was sent to all civil service annuitants along with their annuity checks. This preliminary notice, however, did not indicate whether or not the recipient will be eligible for the benefits of the new law. The Commission emphasized that it will not know which annuitants are eligible for such benefits until it has made a check of records. This will not be completed for several months. After its completion all annuitants will be notified whether they are or are not eligible. Eligibles will be given ample opportunity to register before the July 1, 1961 effective date of the law. Actual registration will be set for some time between March 1 and May 31, 1961. The program is voluntary, but all eligibles will be requested to register to enroll or not to enroll.

The 1960 law is intended for people who retired, or whose survivor annuities began, before the July 1960 effective date of the earlier law, the Commission said. In general, the following individuals will be eligible for coverage under the Retired Employees Health Benefits Act:

- An employee who retired on an immediate annuity, after 12 years or more of service or for disability.
- A member of a family who received an immediate annuity as the survivor of such a retired employee or as the survivor of an employee who died after completing five or more years of service.

Eligibility for coverage is not restricted to annuitants under the Civil Service Retirement Act. It is also generally available to those receiving

annuities under other civilian retirement systems or under the Federal Employees Compensation Act.

The Government will contribute up to six dollars a month for a family enrollment, or three dollars a month for a self-only enrollment toward the cost of health benefits coverage in an existing nongovernmental plan which annuitants already have or may join. To qualify for the contribution, the annuitant must be enrolled in a nongovernmental plan which has been providing health benefits for at least one year and, if the plan is sold by an insurance company, the company must be licensed in all 50 states and the District of Columbia. Plans sponsored by Federal employee or retired employee organizations are exempt from this licensing requirement.

Annuitants will also have the opportunity to receive the same Government contribution by joining a uniform Government-wide plan for which the Commission will contract. Thus, annuitants can keep the insurance they may already have or expect to buy, or they may join the Government-wide plan. In either case, they will receive the Government contribution.

An annuitant who chooses to be covered by a nongovernmental plan will have the Government's contribution added to his monthly annuity check and pay his premium direct to his plan. An annuitant who joins the Government-wide plan will have his share of the cost deducted from his annuity check, and this deduction, together with the Government contribution, will be paid to the plan by the Commission.

The Commission said the new law will provide a measure of financial assistance to annuitants not covered by the Federal Employees Health Benefits Act of 1959. It permits eligible persons to obtain the Government contribution while retaining existing coverage or obtaining coverage under a qualified nongovernmental plan. Finally, it offers an opportunity for coverage under a uniform Government-wide plan, which is especially important for annuitants who, until now have been unable to obtain coverage because of age, disability, or other reasons.

Because the new law will not become effective until July 1, 1961, the Commission cautions that no annuitant should give up his present hospitalization and medical insurance because of it, or let it keep him from buying any insurance he was planning to obtain.

## Air Commerce Figures

Air commerce in the United States reached new all-time highs in all categories according to a study released by the FAA. The figures contained in the FAA publication "Air Commerce Traffic Pattern" for calendar year 1959, reveal substantial increases in scheduled air carrier departures, enplaned passengers and in the enplaned tons of mail and cargo carried in scheduled air carrier operations.

Domestic trunk and local service air carrier departures rose to 3,420,682 in 1959 from 3,176,102 in 1958, in striking contrast to the 1,861,199 departures in 1948. Passengers carried jumped from 13,060,372 in 1948, to 43,568,139 in 1958, and soared to 49,357,870 in 1959. Mail tonnages enplaned rose from 53,986.5 in 1948 to 150,788.3 in 1958, and reached an all-time peak of 164,216.2 in 1959. Enplaned cargo rose from 165,365.9 tons in 1948 to 431,562.3 in 1958, and in 1959 reached 501,713.6 tons.

The study carries percentages of the national total of enplaned passengers for each airport served by air carriers. In continental U. S. these airports are divided into four "Hub" groups. Twenty-three communities are listed as "Large Hubs" with 33,106,587 enplaning passengers or 67.1% of the U. S. total; 38 are "Medium Hubs" with 9,103,177 enplaning passengers or 18.4% of the U. S. total; and 93 are "Small Hubs" with 4,981,568 enplaning passengers or 10.1% of the U. S. total.

International traffic originated by U. S. carriers from stations outside the U. S. also show significant gains. Over the past six years, aircraft departures rose from 113,382 in 1954 to 135,066 in 1959, while passengers carried jumped from 1,648,168 to 2,553,560. Mail tonnages more than doubled from 5,107.4 to 10,354.3, and cargo carried increased from 22,240.9 to 42,894.5 tons.

The publication also carries figures on foreign and overseas traffic which leaves departure points within the 48 continental states for stops outside the area; territorial traffic from Puerto Rico and the Virgin Islands; the states of Alaska and Hawaii, plus figures on helicopter operations.

## Controller of the Year

Clyde I. Denham, a Federal Aviation Agency air traffic controller at Chicago's Midway Tower, was named "Controller of the year." The award, sponsored jointly by the Air Traffic Control Association and the Air Transport Association of America, representing the U. S. scheduled airlines, was made October 5, for Controller Denham's quick-thinking, capable response to a "Mayday" call from the pilot of a single-engine Beechcraft, lost in dense clouds over Lake Michigan last summer--14,000 feet up, and short of fuel.

A companion award to the "Facility of the Year" was accepted by Chief Controller James J. Boyle of the Air Route Traffic Control Center at Washington, D. C., for the 330-man facility's remarkable record of air safety and efficiency on the 8,500 miles of airways leading to the nation's capital.

Presentation of the bronze medallion awards, inaugurated in 1958 by the controllers' professional society with the encouragement and assistance of the Flight Safety Foundation, was made for the third consecutive year by David D. Thomas, FAA's Chief of the Bureau of Air Traffic Management, at the Air Traffic Control Association's awards banquet, final event of its three-day meeting and International ATC Conference, held in San Francisco, Calif.

Prior to the announcement of the winners of the air traffic control "Oscars," more than 800 Federal and military controllers and aviation officials, representing 25 nations, heard tributes from Charles Francis Adams, Chairman of the Board, Raytheon Company, Frederick Davis, Air Transport Association Vice President, and William G. Osmun, editor of Business and Commercial Aviation magazine, who served as toastmaster.

Speaking for Air Transport Association, co-sponsor of the awards, Frederick Davis said:

"No group of individuals is more vital to the daily safety and efficiency of civil and military flight operations than the men who represent the heart and core of the air traffic control system--the controllers."

Clyde Denham, a veteran air traffic controller, and himself a private pilot of light aircraft was cited "for outstanding air traffic control performance in an instance which resulted in the saving of two, and perhaps more, lives; for technical competence in recognizing the need for, and then utilizing, all equipments, all methods, and whatever outside assistance was at hand; for the initiative he displayed, together with the courage to employ it, in an atmosphere that was necessarily charged with

tension and anxiety; for reflecting great credit upon his facility, the Chicago Midway Airport Traffic Control Tower, the Federal Aviation Agency, and upon the profession of Air Traffic Control."

Captain Don Aagesen, the Trans World Airlines pilot who responded to Controller Denham's request for assistance last June 22 by tucking the lost private aircraft under the wing of his passenger-laden airliner and guiding it to a safe landing at Joliet Airport, was on hand at the controllers' banquet to receive a special citation for his superb airmanship and unhesitating cooperation with Air Traffic Control.

Scroll awards in the "Controller of the Year" and "Facility of the Year" judging went to Master Sergeant Cecil L.

Basham, Jr., USAF, who flew in from his present duty station on Okinawa for the occasion; and to the Love Field Tower, Dallas, Texas. Basham was cited for an FAA-military joint training program which he conceived and carried out while stationed with the 1905th AACS Squadron at McChord Air Force Base, Washington. Love Field Tower's award, accepted by Chief Controller Lou Enochs, was based on the controllers' achievements of safety and efficiency during a seven and one-half month period of extensive modification to tower and equipments.

In addition to the four major air traffic control awards, the following were awarded certificates of recognition for meritorious service:

William C. Lawson, Columbia Combined Station/Tower, Columbia, S. C.; Control Tower and GCA Unit, 1992 AACS Squadron, Chateauroux AFB, France; San Juan Air Route Traffic Control Center, Puerto Rico; John R. Roe and Wilmer W. Cope, Jr., San Jose Combined Tower/RATCC, Calif.; Howard W. Graham, Washington Air Route Traffic Control Center, D. C.; Jacksonville Air Route Traffic Control Center, Florida, and Wylie V. Moore, Love Field Tower, Dallas, Texas.



James J. Boyle (left) and Clyde I. Denham display plaques presented at the ATCA's awards banquet. Mr. Frederick Davis (right) representing the Air Transport Association, co-sponsor of the awards, spoke highly of air traffic controllers.

# Oakland ATCC Dedicated

The new Oakland Air Traffic Control Center, officially dedicated on Saturday, October 15, 1960, became the first of the new concept buildings to go into operation in the nation. The electronic cut-over had been accomplished without a hitch the previous Sunday at 2:00 a.m.

Located in the city of Fremont, California, 18 miles to the south, it replaces the former facility that had been housed at Metropolitan Oakland International Airport since 1937.

The five million dollar facility, first of 26 similar installations being constructed in the United States, will keep track of en route air traffic in a 125,000 square mile area. It will provide air safety for up to 2000 planes a day and require the services of some 400 specially trained controllers and electronic technicians.

The official program dedicating the Center to "greater safety in the skies," opened with the raising of a 50-star flag that had previously been flown over the Nation's Capitol. The Twelfth Naval District Band provided the music and the color guard.

The principal address was given by James T. Pyle, Deputy Administrator. Mr. Pyle cited the tremendous growth in air traffic and emphasized the importance of FAA's program to provide

better facilities and tools to more safely and more efficiently control such traffic. Mr. Pyle was high in his praise of all who had participated in the project including all branches of FAA and the local community leaders.

Other speakers included Walter P. Plett, Regional Manager, who welcomed the guests and visitors.

D.D. Thomas, Director of the Bureau of Air Traffic Management, Washington termed the new facility the best equipped to date, but promised even greater refinements in the days to come.

Allan E. Horning, Chief of the Facilities and Materiel Division for Region Four, reported for Joseph Tippets, Bureau Director, and spoke of the part their people played in installing and maintaining the equipment.

Fred H. Marks, Chief Controller at the Center, made contact with FAA aircraft N-43, flown by Elwyn Rowe and D.Z.W. Kowalewski, and issued instructions from the ceremony platform as it flew overhead. The entire two-way conversation officially dedicating the new Center was heard by all attending as a practical example of air traffic control.

Closing remarks were made by John Stevenson, Mayor of Fremont, who welcomed the personnel to the community.

Master of Ceremonies for the day was Ed Brady, popular NBC Radio personality in the Bay Area.

At a luncheon following the ceremonies and attended by all the honored guests, L. Ponton de Arce, Chief, Air Traffic Management, Region Four and the founding father of air traffic control, was the principal speaker. He discussed the history of air traffic control and the early days of the operations in Oakland which he started in 1937. He also mentioned that the first Air Traffic Control Center had been put in operation with a total expenditure of \$158.00. Quite a different story today.



Center's operations room, 120 feet long, 60 feet wide, 21 feet high. Balcony provides visitors with view without disrupting activities. (Photos by Art Vargas, Oakland Tribune).



FAA DC-3, being controlled from speaker's platform, flies over Oakland ATC Center during recent dedication ceremonies.

## Conflict of Interest

Although the Agency policy on conflict of interest is spelled out in Agency Practice 3-735.4, it appears from many of the questions asked that there is confusion in the minds of some people with respect to what a conflict of interest really is. A conflict of interest exists whenever an individual employee finds himself in a position where he must, or may appear to be, in a position to make a decision or take action on behalf of the Government which is inconsistent with his own personal interests. Such a situation can arise when it is necessary to take or recommend action which imposes an economic burden on a private company in which the employee has a financial interest. It may arise when the employee participates in an action or decision which gives one company an economic advantage over another if the employee has a financial interest in either. It may arise in situations where an employee has outside employment in addition to his government employment, whether in a voluntary enterprise or for pay, which creates conflicting demands on the employee's time or abilities, etc. There are obviously many differing sets of circumstances which can create either actual conflicts of interest or the appearance of conflict of interest. It is the purpose of the Agency policy to make clear that either actual or apparent conflicts of interest can not be permitted.

Included within the conflict of interest policy are a variety of matters, some of which are governed primarily by Agency considerations. It is important, however, that everybody concerned be aware of the fact that some types of activities are affected by statutory restrictions. Some of these statutory provisions impose criminal penalties for their violation. Some of the more significant kinds of activity which may become involved in these statutory requirements are:

● Influencing Official Transactions: Participate in or attempt to influence in any way, any official transaction, or negotiation relating thereto, or decision, which affects chiefly any private person or organization with whom he has any substantial economic interest at the time of such transaction or decision.

● Influencing Private Transactions: Act for the Government in the transaction of business with any private concern in whose contracts or profits he has an interest.

● Aviation Stock Financial Interests: Own securities of, or maintain a proprietary or financial interest in any civil aviation enterprise, except such as may arise from investment in publicly offered investment trusts not specializing in aviation securities, or such as may exist for a reasonable period during the settlement of an estate.

● Gratuities: Ask, accept, or receive any gifts or favors of more than in-

consequential value from any person with whom he has had or reasonably may expect to have official relations, or who is or may reasonably be expected to be affected by the performance of his official duties.

● Bribery: Ask, accept, or receive any bribe with intent to have his decision or action influenced on any matter which may be pending, or which may by law be brought before him in his official capacity.

It is important that all employees realize that this particular policy of the Agency places the burden for compliance primarily on the employee himself since it is not practical for the Agency to have knowledge of all private affairs of the thousands of employees on our rolls. Agency enforcement procedures must, of necessity, consist primarily of alerting employees to the Agency policies and practices in this matter and to the taking of corrective action whenever knowledge is received of actual or suspected conflicts. It is your responsibility, therefore, to keep yourself fully informed as to the Agency policies and, in the event circumstances arise which lead you to believe that you may be involved in some form of conflict, report the circumstances through your supervisor to the appropriate personnel office so that through your efforts or through the Agency's efforts, or both, a determination can be made as to whether or not a conflict actually exists and if it does, action taken to eliminate it.



Representing some 22 nations at the first International Air Traffic Control Conference, held at ATCA's Fifth Annual Convention in San Francisco October 3-5, were, (from left), Carlos Martinez, ATC instructor from Bogota, Colombia; J. Wachtel, Lod ATC, Israel; Nikolaos Gonos, Deputy Chief, Athens Airport Tower, Greece; D.D. Thomas, Director, BATM, FAA; Hans W. Thaux, Chief, Cologne Tower and President, German ATCA; Don Morton, Winnipeg Airport Tower and President, Canadian ATCA.