FAA HORIZONS

NOVEMBER 1964

OFFICIAL EMPLOYEE PUBLICATION OF THE FEDERAL AVIATION AGENCY

EDITORIAL:

"...It's Who You Know that Counts!"

Cynics, a generally sour and dyspeptic lot, have an endless stock of lacerating aphorisms honed to slash to shreds the stuff that dreams and ambitions are made of. To them life is a bitter game played with a stacked deck, shaved dice and rigged wheels. If they have a motto it might be: "It's not *what* you know but *who* you know that counts."

I'll go along with this tired old wheeze, but only with my own modification and interpretation. It *is* "what" you know, *plus* "who" you know that counts. The combination is merely another one of many sound formulas for creative leadership and productive organization.

In the FAA professional competence—the "what" you know—is taken for granted and top performance is the expected norm. After all, we are not only dealing with a demanding subject, air safety with all its ramifications, but with an exceptionally well informed and knowledgeable segment of the American public. The aviation community, it would seem, is equipped with precision, all-weather three dimension sham detectors that constantly sample our "what we know."

As this is being written I am entering my fifth week as Director of the Central Region. In this brief time I've had more than a few opportunities to note the great differences between being a Deputy and a Director. The view from the wheelhouse is sometimes awesome indeed; that is one of the reasons I consider myself twice blessed—I assumed directorship of a first-class Region from a first-class executive, John M. Beardslee, and I came to the job with the advantage of having worked as Deputy under the tutelage of Joseph H. Tippets, Director of the Western Region.

Edward C. Marsh, Director
Central Region

These men exemplify the "who" part of the slogan, not merely because of their position in the Agency but for what they represent as men entrusted with the management of vast enterprises. It is from men like these that we can all learn.

I am especially indebted to Joe Tippets and I don't hesitate to say he is a man I intend to emulate in my directorship of the Central Region. I've long admired his integrity and absolute honesty. His dedication to the Agency and the nation, with his willing enthusiasm to get on with the job regardless of personal inconvenience, is as well known as is his determination that the FAA will remain a great and efficient organization serving the people.

I will also cultivate Joe Tippets' tremendous understanding of people, the vital foundation on which all organizations are erected. He is concerned about his people's problems, their goals and their successes—I am just as concerned about the problems of each of the 6,390 people in the Central Region. If I had only one characteristic to name that would apply to all of our regional directors it would be this: deep concern for their people, their most vital resource.

It is valuable to know and observe people like Jack Beardslee and Joe Tippets, the "who" people who matter. These are the ones who do things and who leave a legacy of usefulness behind them.

From Joe Tippets I learned to be curious about everything surrounding the Agency, the people who make it tick and the aviation community it serves. Cynicism is not one of his traits, nor is it one of mine—I have only pity for those who in the words of Oscar Wilde ". . . know the price of everything and the value of nothing."

Frankly, I intend to draw heavily on the lessons I learned from Joe Tippets; this is inescapable, for I regard him as a great teacher. But, inevitably, things will change as circumstances dictate and as I grow into my job and gain greater insight into you, the "who" people who in reality are the Federal Aviation Agency.

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F E D E R A L A V I A T I O N A G E N C Y

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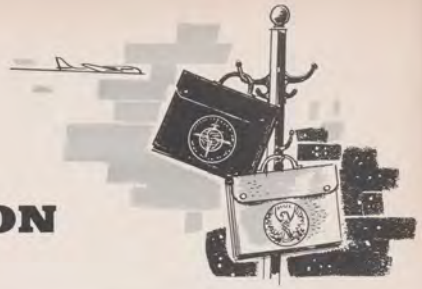
COVER:
Two Gilbertese guards, the entire British constabulary on Canton Island, Tabui Maungaunga (left) and Teube Tangko, display their marching prowess as an FAA Constellation departs the 6,000-foot runway. One of the guards makes the trek to FAA headquarters on the island each morning and night to raise or lower the British flag which flies alongside the U.S. colors.
FAA photo by George Miyachi.



AT CANTON THEY DOUBLE IN BRASS

The top man on a 12-square-mile Pacific atoll where airplanes have replaced ships is an FAAer who wears two hats.

J. Victor Cox, U. S. Administrator for Canton Island, is also Area Manager for the Federal Aviation Agency. Canton, one of the Gilbert Islands, was named in 1854 after the New Bedford (Mass.) whaling ship *Canton* which broke up on the island's coral reef, 190 miles below the equator.

Over the years, the Agency has played an important role in the increasing value of Canton Island, which is owned jointly by the U. S. and Great Britain. At present, FAA's Pacific Region is operating or administering, in addition to Island affairs, the airport and navigational aids, a power plant, two water systems—fresh water from distillation units for consumption, and salt water for sewage—a three-bed hospital (one doctor, one nurse, one ambulance), 32 family housing units and 30 rooms for bachelors, janitorial services, a laundry, a commissary and a restaurant.

During World War II, the island's population totaled 30,000. The present population is 260, including 80 Gilbertese. Shortly after the war ended, the Civil Aeronautics Administration sent personnel to Canton. In November 1946 the senior CAA employee was designated as field representative of the Department of the Interior. The FAA/CAA, representing the Department of Interior, has exercised administration of the island ever since.

Added to J. Victor Cox's titles is that of Deputy United States Marshal, Department of Justice. But with all of his titles, he is still outranked by his wife, Florence. She has been designated as the United States Commissioner of Canton and nearby Enderbury Island. But the Cox family is not the only one on Canton Island to provide more than one working member.

George Avery, who acts as Area Manager in Vic's absence, also is chief of the systems maintenance activity on Canton. His wife, Julia, is the chief nurse at the three-bed hospital.

Clyde Preece is supervisor of the machine shop. His extracurricular activity is raising bees, which he's been doing for the past several years. Clyde has been furnishing residents of the island free honey, as well as providing a continuing supply for the FAA-operated restaurant. His six-to-ten hives yield about 125 gallons of honey a year. Clyde's wife, Philomena, is the postmistress for Canton.

Kazumi Takeuchi is an electronic technician in systems maintenance. His wife, Mildred, has managed a small dry goods and notion store for the Parent-Teachers Association for the past six years at no salary. The store, whose profits go to support the school, grosses about a thousand dollars a month.

Everyone on Canton strives to do his part—on the job as well as in community affairs or in extracurricular activities. People like Harry Akiyama, a painter, take on other jobs after normal duty hours. Harry has volunteered to operate the movie projector three nights a week.

Jack Tagata puts in his regular tour as a laborer; after hours he cuts hair in his own barber chair on the *lanai* (porch) he built on his quarters.

Lay personnel, through a community council, provide church services to augment the occasional visit by a clergyman from Honolulu.

The history of Canton Island picks up almost 75 years after the whaling ship went aground. In 1928, Sir Charles Kingsford-Smith chose Canton as the emergency landing place between Hawaii and Fiji for his flight in the *Southern Cross*. Astronomers from both the United States and New Zealand used the island in 1937 to observe a solar eclipse. While friendliness existed between the two parties, each emplanted a flag asserting the sovereignty of its respective country. In the same year, two British officials landed with radio equipment, and the British have remained on Canton continuously since that date. Recently the United Kingdom named a Gilbertese native, Tabunawati Takoa, as the British District Commissioner of Canton.

On March 3, 1938, President Roosevelt placed the United States interests in Canton and Enderbury Islands under the jurisdiction of the Secretary of the Interior. (Enderbury is 40 miles north of Canton.) On April 1, 1938, the Secretary granted Pan American World Airways a license to use Canton as a scheduled stop for flights between Hawaii and Australia.

Although the question of title to Canton is not settled between the United States and the United Kingdom, Executive

J. Victor Cox, FAA Area Manager and U. S. Administrator for Canton Island, and Mrs. Cox (left), admire an artifact. (Below) Apiculturist Clyde Preece checks the honey yield from his bees. Like other FAAers on Canton, Preece has full-time job and a hobby. (Right) Aerial view of Canton Island, owned jointly by the U.S. and Great Britain.

Therese Bredehoft, school teacher and principal of island's 25-pupil school, has geography session in one of the classrooms. Grades are one through eight.

Agreements provide for the joint use and control of Canton, and for joint administration of uninhabited Enderbury.

Until mid-1939, a representative of the Department of the Interior administered the affairs of Canton, along with those of certain other equatorial islands. Later, a U. S. Coast Guard officer served as Acting Field Representative. In 1940 a Pan American station manager was designated as the Department's representative. With the outbreak of World War II, Pan American's service was discontinued, civilian residents were evacuated and U. S. armed forces occupied the island.

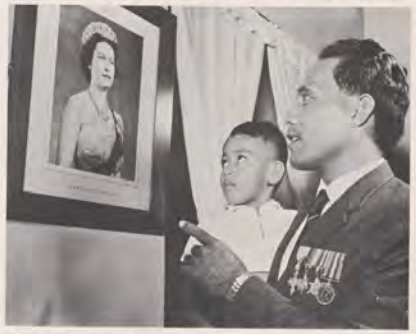
Canton Island was a navigational fix for three decades. It is now diminishing somewhat in utility, but not in importance.

The FAA already has withdrawn some of its aeronautical activities, and plans in the near future to transfer its role of host to another landlord.

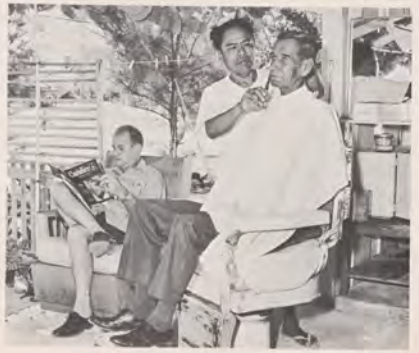
While the island has served its usefulness in aviation and seagoing circles, it will continue to be an aid to the U. S. Weather Bureau in obtaining readings of Pacific Ocean area forecasts. At the same time, it is taking on a new role in the scheme of expanding horizons. The National Aeronautics and Space Administration, through the Pacific Missile Range, has been improving its facilities on Canton Island, and the installation is playing an increasingly important role in orbital tracking of missiles and spacecraft. This began with Project Mercury and will continue with man's effort to explore space.

The jet runway will be available for emergency use, and the fine harbor in the lagoon will still be used for tankers supplying fuel for the power and utility plants, motor vehicles and transient aircraft.

The Agency is now in the process of withdrawing equipment and services no longer required by aircraft flying between Hawaii and the South Pacific. The planning that resulted in the establishment of a communications complex in American Samoa now permits discontinuance of some activities at Canton Island with no loss of communications or interruption of service to the flying public. ■



Gilbertese UK District Commissioner Tabunawati Takoa and son, Mukiolo, admire photo of Queen Elizabeth. (Below) Jack Tagata cuts hair in spare time.



HALABY ADDRESSES CONTROLLERS

FAA Administrator N. E. Halaby chats with radio and TV personality Arthur Godfrey, also a pilot, at the ninth annual meeting of the Air Traffic Control Association.

The FAA is moving ahead on an early retirement program for the Agency's traffic controllers, Administrator Halaby told controllers during the ninth annual meeting of the Air Traffic Control Association held Oct. 5 in Atlantic City.

During his talk, Mr. Halaby also made public the plans of Representative David Henderson, Chairman of the House Subcommittee on Manpower Utilization, to introduce legislation "which will recognize the air traffic controller's function in terms of retirement and/or change in duties."

Mr. Halaby said the Agency's effort "is to develop a plan that will provide for the basic economic welfare of our controllers and will, at the same time, recognize their many years of service devoted to aviation safety." His own thinking, he said, leans toward amending the Civil Service Retirement Act to authorize early retirement for persons who are themselves "engaged in, or who directly supervise others who are engaged in, active air traffic control duties." The Administrator said, "We have in mind controllers, coordinators, crew chiefs and watch supervisors."

Mr. Halaby said the Agency expects that eligibility for early retirement would be based on length of service or a combination of age and length of service.

Representative Henderson's plans were contained in a letter to the Administrator following a joint tour of the Washington Air Route Traffic Control Center by the two officials. After praising the work of the controllers, Congressman Henderson wrote, "There is one important area, as relates to air traffic controllers, which I feel needs immediate legislative attention, namely retirement." The Congressman said he planned to introduce "legislation which will recognize the air traffic controller's function in terms of retirement and/or change in duties just as soon as the 89th Congress convenes."

Tools for Tomorrow

Later in his remarks, Mr. Halaby turned to the controllers' "Tools for Tomorrow"—theme of the ninth annual meeting—and discussed briefly the air traffic control system of the future. He described this as a more effective, automated system which would demand an "even more professional controller." The Administrator noted that some controllers might regard this future with doubt, but the new forthcoming phase will be one that is "rich in opportunity and promise."

Mr. Halaby said he anticipated further Center consolidation but it would be done in the same "considerate and humane manner" that accompanied the Agency reduction of ARTCC's from a total of 29 to 21. Mr. Halaby said, "The fact is we are determined—out of pure self interest—to keep our trained personnel. The most valuable resource in the whole world is the individual—motivated and trained and skillfully performing his task." The FAA, he noted, had invested considerable time and money in securing a well-trained staff. We intend, the Administrator declared, "to hold on to that investment."

Mr. Halaby reported earlier that the newly formed Controllers' Procedures Committee had had a good beginning. He said committee members were acting on a total of 307 proposals for improving the system. These contributions, he said, came from the men who knew traffic controlling the best—the controllers themselves.

He also reported favorably on the working of the new System Error Plan. Facility Review Boards, he said, have been investigating specific controller environment weaknesses and recommending corrective action.

The Administrator closed his remarks by reading a special greeting to all members of the Air Traffic Control Association from President Lyndon B. Johnson. "As a frequent user of the Nation's Airways," the President said, "I am very mindful of the exacting demands of your profession, and of the vital services that air traffic controllers perform for the flying public. . . . I know that I speak for the thousands of our citizens whose lives are entrusted to your care each day, when I thank you for the careful vigil you keep, and wish you Godspeed in your deliberation." ■

Aviation Summit Meeting

"SHAREHOLDERS" CONVERGE ON WASHINGTON

Administrator N. E. Halaby and his staff presented a look at the current airspace system to some 150 of the nation's leaders in civil and military aviation during the National Aviation System Symposium held at Washington headquarters, Sept. 30 and Oct. 1.

Briefings covered FAA policies, regulatory actions and enforcement procedures; airport challenges, including congestion and terminal delays, scheduling, noise abatement, general aviation facilities and Federal aid to airports; the present status and the future of the air traffic control system. Also discussed were such technological developments as the SST, short haul transport, V/STOL, aircraft safety program, all-weather landing system, and aviation weather reporting system. Audience discussion followed each briefing period.

Included in the two-day meeting was the first live telecast from an active air route traffic control center. Beamed from the Washington ARTCC located at Leesburg, Va., 40 miles from the Nation's capital, the two-hour closed circuit telecast was viewed in the auditorium at 800 Independence Avenue.

The FAA telecast achieved a remarkable success in overcoming the technical difficulties associated with televising radar scopes and controller activities under actual operational conditions. Contact with aircraft in flight, including a military "scramble" from Seymour Johnson Air Force Base in North Carolina, was monitored. Live sound was piped into the auditorium while the aircraft were spotted and tracked on the radar scope. The program was projected onto a theater-sized screen.

Stars of the Leesburg show were Oscar Bakke, Eastern Region Director, and Chet Watson, Center Chief, who rivaled the Huntley-Brinkley newscast with their lively back-and-forth commentary. Administrator Najeeb E. Halaby moderated the entire program from the auditorium in Washington.

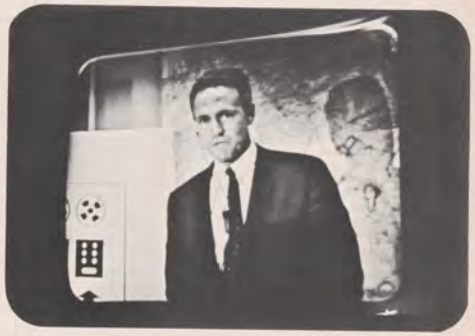
Produced by Jim Helliwell of the audio-visuals branch, Headquarters, the telecast is expected to greatly enlarge public appreciation of the air traffic controller's role in making safe and swift air transportation possible. The entire show was written by David Gelfan, of FAA's Information Services.

Several technical "near-mishaps" were overcome in producing the telecast. A broken cable on Mr. Bakke's headset was discovered and replaced seconds before the program went on the air. A failure in the radar microwave system covering the military scramble necessitated a conversion to standby, which was accomplished in time to maintain the picture. A power failure in the television microwave link carried by the telephone company at Leesburg blacked out the video briefly during the question and answer period at the end of the telecast, but Mr. Halaby continued to field questions to "Chet and Oscar" until the picture returned.

The Washington Center, which supplied the power and circuit adaptations for the telecast, was also presented with a security problem, in that the non-FAA camera crew required access to control areas. Center controllers were assigned to escort individual crew members.

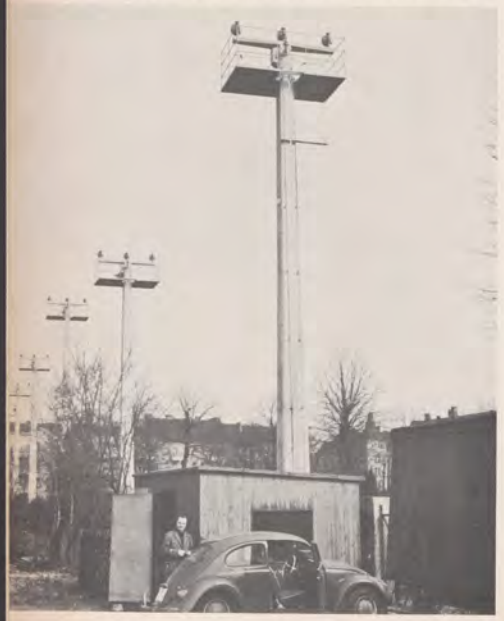
The telecast was supplemented with special film clips made at NAFEC, the New York ARTCC and LaGuardia Airport on recent experimental work, including remote strip printing, CUE, alphanumerics, weather presentation on radar, mosaics and SST.

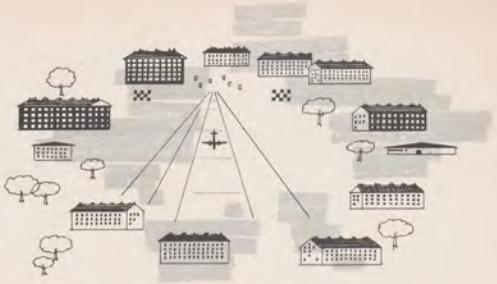
Information Services will produce a kinescope of the video tape and film clips for employee and public viewing. ■



Opposite page: EA Director Oscar Bakke (top) joined Washington ARTCC Chief Chet Watson (bottom) in closed circuit TV broadcast from Leesburg to 800 Independence Ave. Administrator Halaby acted as moderator. Above: Mr. Halaby and Deputy Administrator Lieut. Gen. Harold W. Grant, USAF, field questions from the floor during lively give-and-take periods following presentations. Below: Top figures in civilian and military aviation join high ranking Agency officials in a buffet in the employees cafeteria in Washington Headquarters.

Above: Leonard Heaton (right) and German engineer make final check using radio theodolites. Below: approach to runway 27L crosses cemetery. Towering above the scene are light bars of approach light system. Final bars are on roofs of apartment buildings surrounding airport.





He Lowered
the Minimums
to the Maximum at...

TEMPELHOF AIRPORT

Things have returned to normal at Berlin's Tempelhof Airport and Leonard E. Heaton, a 26-year-old FAA electronic engineer is back at his desk at Central Region headquarters in Kansas City. The man and the place are related.

Heaton, who joined the Agency in July 1960, is one of the principal reasons why Tempelhof's runway 27L is back in business handling traffic safely at minimums of 300 feet and one-half mile.

The story started some 16 years ago, when Leonard Heaton was ten and technicians were installing the latest in standard instrument landing systems at Tempelhof, the major Berlin terminal of the air lift that broke the back of the Russian blockade of the German city.

The steady march forward of aviation technology, with its increase in aircraft size, speed and numbers, plus the miraculous rebirth of Berlin gradually outmoded the instrument landing system and forced airport authorities to raise the minimums to 400 feet and one mile in July 1961.

German technicians of the Berlin Aeronautical Unit tried every trick in the book to keep the aging system abreast of the times but they were fighting a losing battle; the signals were not accurate enough to warrant lower limits. Drastic measures were indicated—the time for "fixing" was past.

Following an on-site inspection in the spring of 1963 by Nicholas J. Proferes, Chief, Ground Based Guidance Section, SRDS, installation of a Capture Effect System was recommended. This system had already proved itself at Knoxville, Tenn. and Duluth, Minn.—and young Heaton had helped put together the Duluth installation. It was a case of "have know-how, will travel."

In cooperation with the U. S. State Department, a reimbursable project was assigned to Berlin. By January 1964 Leonard Heaton, representing Installation and Materiel Service as engineer-in-charge, was at work at Tempelhof.

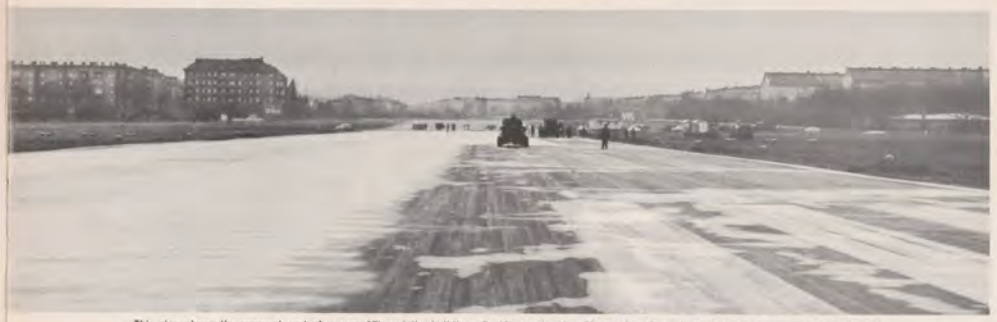
"Those German engineers and technicians are a pretty sharp bunch. Our engineering drawing symbols are not the same and I'm not much at German, but these guys caught on real quick," Heaton says.

A look at the geography and real estate in the vicinity of the runway 27L glide slope site will give an idea of the problems involved. The site is over 1,000 feet from the approach end of the runway and offset more than 400 feet to one side of the centerline. Buildings to the right and left, although not exactly on runway centerline, are well within the approach zone and constitute a definite hazard to any aircraft straying even slightly to either side.

Other buildings exactly on the centerline are so close to the approach end of the runway that the final light bars of the Approach Light System are mounted on the rooftops. The area from the end of the runway to the middle marker is irregular with most of it lying in a large cemetery, making working conditions difficult. The buildings and terrain were responsible for undesirable reflections which caused the glide slope to be less than acceptable at the lower minimums. This is why the capture effect system was installed.

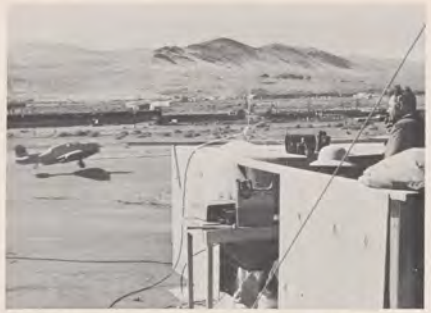
Using equipment shipped from the United States, Heaton and the German technicians installed the system, stamping out "bugs" as they developed. A preliminary commissioning check was flown in March 1964 and final commissioning checks were made in April.

The subsequent NOTAM placing the facility back in service as fully operational restored the minimums to 300 feet and one-half mile; lower minimums can't be authorized because of the obstructions in the approach zone. ■

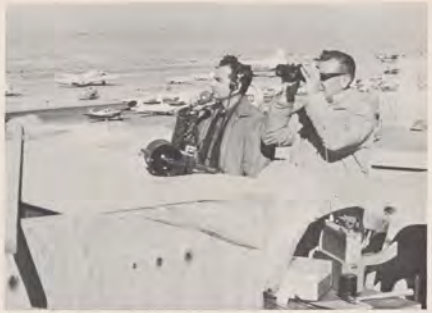


This view shows the approach end of runway 27L and the buildings flanking each side. Men and equipment are engaged in resurfacing the runway.

Above: typical post-war German apartment houses surrounding Tempelhof Airport. Localizer for runway 27L is in foreground. Below: technicians of the Berlin Aeronautical Unit install some of the monotoring equipment on the mast of the capture effect glide slope antenna. Rain-streaked roof of hut gives a clue to the kind of weather prevailing a large part of the year.



His leave cut short, Melvin H. Smith talks TBM into landing after "bombing" run.



Melvin H. Smith (left) and Andy J. Munsenreder man Elko tower during emergency.

Nevada Forest Fire Conquered by

AIR STRIKE FROM ELKO

Elko Municipal Airport's tiny flight service station found itself suddenly converted into an advance "combat" air control center when a runaway forest fire, set off by lightning, forked out in separate columns to lay waste to 350,000 acres in Elko County, Nev., late in August.

The Bureau of Land Management and the Forest Service threw more than 3,500 fire fighters into the battle which raged, sometimes out of control, for six days under a thick blanket of smoke. Shock troops in the very front line were a band of Shoban Indians, imported from Idaho because of their skill and tenacity in woods fire fighting.

Early in the battle it was quickly recognized that aircraft would be the crucial weapons. FSS Chief Raymond E. Abbott mobilized his nine-man force for a long drawn out seige. His foresight was justified.

The tempo of air traffic into Elko Municipal Airport increased. First on the scene were five old World War II Navy TBMs which were dispatched to spray the blaze with fire retardant. As the fire spread, men and planes converged on Elko in increasing numbers from many areas. Transport planes were diverted to Elko from Oregon, New Mexico, Utah and Alaska.

The Elko FSS operations count soared to 575 and kept increasing.

Elko officials termed the blaze the worst in Nevada's history. Nevada Governor Grant Sawyer declared the region a disaster area.

August 17, the day after the fire swept out of control, three FAA employees on annual leave received a message while on a flight to Oakland telling them to return for duty at Elko. They were Andy J. Munsenreder, chief of the Reno CS/T, and controllers Melvin H. (Pete) Smith and Lorin D. Hansen.

In a matter of hours, Elko, which has only an FSS, had a temporary tower rigged atop one of the airport hangars. Transceivers were brought to the tower from various facilities and vehicles by Elko maintenance men James L. Applebury, Raymond W. Hansen, Gerald A. Akers, Harry C. King and Kenneth E. Clark.

Air traffic continued to increase. During the first four hours, 130 operations were logged by the tower. At one point during that first afternoon, fire generated winds increased in velocity and threatened disaster. "Our tower was almost blown off the hangar," a controller said. Maintenance men hastily rounded up lumber and constructed a windbreak.

Later, the weather got even worse. Heavy winds with gusts up to 40 knots battered the makeshift tower, while air traffic continued heavy. While the gale roared, Munsenreder and Hansen worked methodically with radio and light gun, keeping traffic moving safely and efficiently.

Standing by at the temporary tower were Jim Applebury and Ray Hansen of the maintenance section. The plastic sheets and slabs of plywood that enclosed it had to be forcibly held in place in the high wind.

Relentlessly, the air battle against the fire continued. TBMs dropped a steady stream of 600-gallon loads of Bentonite on the blaze. As fast as they could be refueled and reloaded PBYs, F-75s and *Lodestars*, some carrying as much as 2,000 gallons, made numerous tree top sweeps over the fire area. Men and supplies for the "ground army" poured in on DC-3s, Martin 404s, *Electras* and *Constellations*.

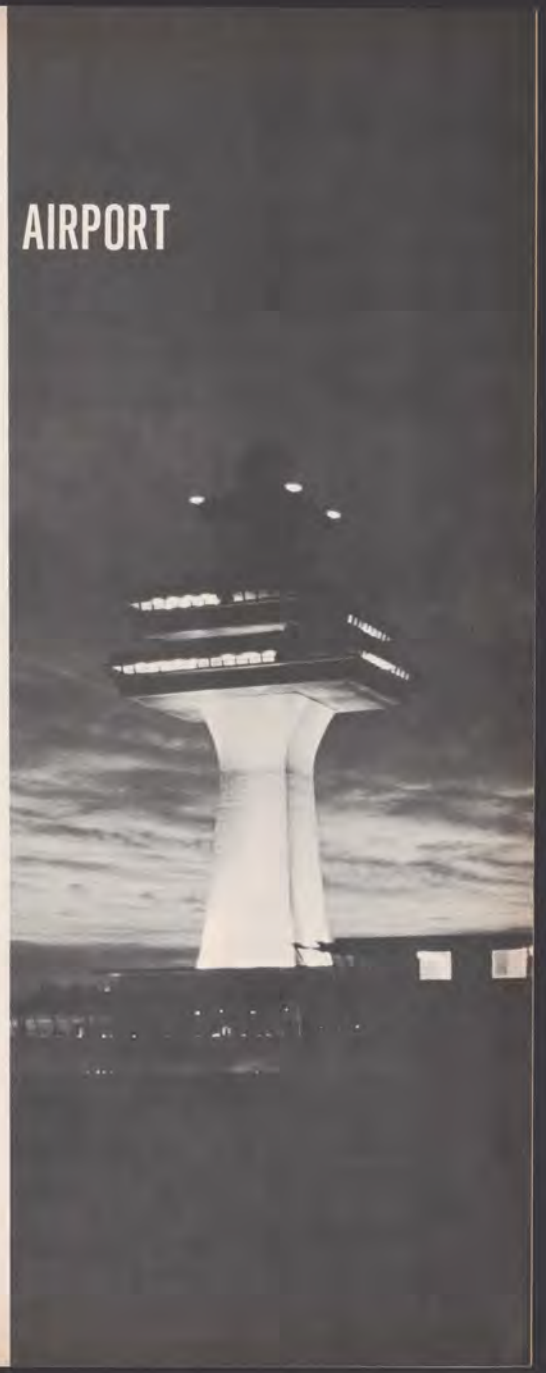
By the next evening, the fires were brought under control. The number of "bombings" dropped. The traffic count was lower, and by the following day it was possible to dismantle the temporary tower.

Wilford L. Hanson, supervisor of Humboldt National Forest, expressed his Agency's feelings when he said:

"The Humboldt National Forest would like to express its sincere appreciation to the Federal Aviation Agency for rapid and orderly handling of air traffic during our recent fire emergency. Yours was a vital, important role and assisted greatly in minimizing our losses." ■

A REPORT:

DULLES INTERNATIONAL AIRPORT



For an airport that was built for the future, Dulles International Airport is coming along strong in the present.

Since the 10,000-acre airport opened in November, 1962, passenger traffic and operations have shown a steady rise. In June, 1963—a little over seven months after Dulles opened—the airport handled 66,873 travelers. A year later in June, 1964, the number increased to 85,248, a climb of 27 per cent.

Aircraft operations have also moved steadily upward from 7,991 in June, 1963, to 12,436 in June, 1964, a gain of 56 per cent. This growth trend demonstrates the soundness of the decision by which President Eisenhower gave the go-ahead in 1958 to build a new major airport at Chantilly, Va., to serve Washington.

Calendar Year 1963 saw some impressive figures racked up at DIA: 666,559 passengers moved and 90,674 operations logged involving general aviation, air carrier and military aircraft. This growth pattern is reflected in the use figures for DIA for 1964, from January to August, which total 516,027 passengers and 85,656 operations in all categories. With four months remaining in the year the airport is assured that passengers and operations will exceed the 1963 performance. G. Ward Hobbs, Director of the Bureau of National Capital Airports, projects the passenger use on a fiscal year basis. In the seven months of FY '63 that the airport was in operation, 377,738 passengers used DIA. In the same period of FY '64, the number grew to 464,544 air travelers and for the full year FY '64 the total was 705,508 passengers.

Mr. Hobbs currently predicts DIA will continue to show a steady growth, reaching an estimated 1,708,000 passengers by FY '69.

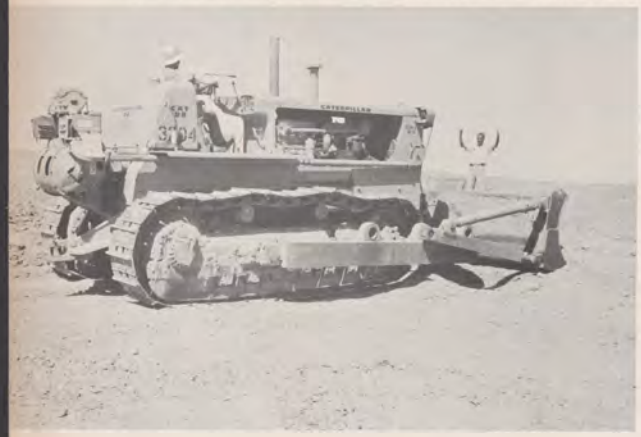
DIA airport revenues, from all sources, totaled $1,184,352 for the seven months operated in FY '63. For the full year of FY '64, they reached $2,560,265. BNCA officials are quick to admit that these revenues are well below the initial expenses, with operating expenses exceeding revenues by some $1,800,000 in FY '63 and $1,200,000 in FY '64. From the above it is apparent that the gap is being closed.

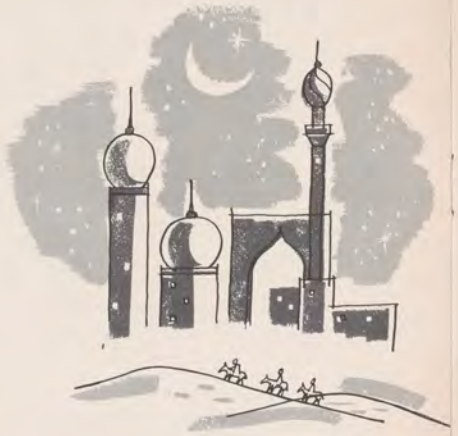
While the lag is of serious concern to the Agency the pattern is not at all unusual. The Port of New York Authority, for example, took over the airports in the New York area in 1947 and 1948 but it was only recently that they became fully self-supporting. In fact, DIA in its first year of operation almost equalled the passenger volume achieved by Kennedy International in its fourth year and by Chicago O'Hare in its third year of operation.

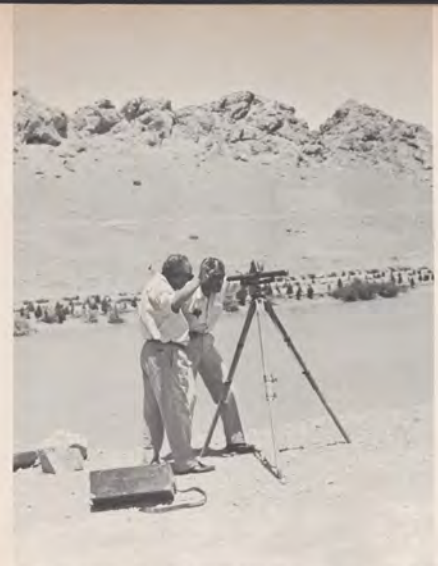
International passenger traffic has been encouraging with patronage this season (April through August) running 115 per cent ahead of the same period in 1963. Dulles now has four international air carriers—Air France, BOAC, Pan American and TWA. TWA currently has non-stop service from DIA to London daily, and Pan American began daily non-stop service to Europe on October 1, 1964—five flights a week to London and two to Paris.

Dulles International Airport is truly an airport of the future—but it is not doing so bad in the present. ■

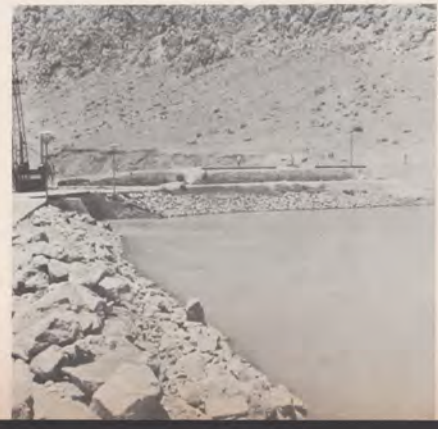
Afghan operator in CAAG's "Cat" is directed by Louis Stipkovich, construction inspector, Kandahar.







Above: Wahab Khan, director of the Kandahar Electric Company, left, discusses reservoir enlargement with Muskelqusha Lou as he sights through level. Top right: Kandahar's powerhouse whose turbines operate by water from the reservoir. Right: Background shows scant water supply before the Muskelqusha of Kandahar enlarged the reservoir. Bottom: There's enough water now to keep the lights on in Kandahar.



The Muskelqusha of Kandahar

The lights dimmed every evening in Kandahar, Afghanistan, with such regularity that oldtimers set their clocks, children closed their schoolbooks with sighs of relief and candles were lighted from necessity rather than romance.

But FAA's "people-to-people" program has relegated Kandahar's electricity shortage to the history books.

Kandahar, with mountains to the north and the sandy Registan Desert to the south, is the second largest city in Afghanistan. It is located in the center of an irrigated and highly cultivated plain where water is at a premium and dust storms reign.

Irrigation for the main crops of wheat and barley is channeled in for long distances through deep, underground tunnels (*karez*) which tap subsurface water, and by canals from the Tarnak River. This system also fills the small reservoir which feeds the city's hydroelectric plant. Until recently, the reservoir held just enough water to spin the two one-thousand watt generators for only 12 hours to supply daytime industrial needs.

When this scant amount was used, the city relied on one 500 kilowatt diesel-powered generator for night use which eked out a quarter of the power needed.

On a hot evening not too long ago, the lights dimmed one too many times for Wahab Khan, director of the Kandahar Electric Company. He vowed he'd do something about it and do it quickly.

The next morning, with water department officials, he called on his old friend Etamadi Khan, the city's airport manager. Etamadi knew of an American who could get some heavy earthmoving equipment—just the thing for digging a larger reservoir.

Together the group visited FAA's Civil Aviation Assistance Group (CAAG) and found a sympathetic ear in Louis Stipkovich, FAA construction inspector.

Lou was the right man to see—no doubt about it. He bears the imposing Persian title "Muskelqusha" which means "the person who can do the impossible," a handle pinned on him for his past exploits by His Royal Highness, Sultan Mahmud Ghazi, president of the Afghan Air Authority.

Lou Stipkovich combines Yankee ingenuity with a gregarious nature plus a desire to help the less fortunate whenever possible. It seems that Lou literally bulldozed the way to his Persian title last winter by using a tractor to drag five stranded trucks to safety during a rare flash flood.

The CAAG already had more work than it could handle in a normal work week. But requests like Wahab's were not uncommon and Muskelqusha Lou figured that the reservoir could be enlarged almost one-third without getting into a major engineering project. Besides, it was another challenge and everyone would benefit from it.

The CAAG was glad to help out as much as it could and furnished a Caterpillar D-8 bulldozer complete with Afghan operator. The United States Agency for International Development (AID) agreed to pay his salary and the Kandahar Electric Company furnished diesel oil, maintenance and some labor.

Lou Stipkovich contributed weekends and many of his after working hours surveying, staking out the work and supervising the project—no small task for one man.

Six weeks after the dust settled and the diesel din quieted down, tons of earth and rock had been moved and the reservoir was visibly larger, a tribute to the persistence of a small handful of men.

And thanks to International Aviation Affair's Kandahar CAAG, USAID, and Muskelqusha Lou Stipkovich, the lights no longer dim in Kandahar. ■

Tonopah's Flight Service Station (below) is a major "lifeline" to pilots. Photo (right) shows pilot's eye view of some of the rugged terrain which hems the airport.

TONOPAH–A HAVEN IN TOUGH TERRAIN

Tonopah, Nev., one of the smallest flight service stations in the nation, is also one of the "savingest."

Among the records of the Western Region Air Traffic Division, a bulging file testifies to Tonopah's aptitude for "saves."

One Tonopah specialist alone, Henry Elias, chalked up a record of more than 15 saves in a single year, bringing one desperate pilot to a safe landing on a nearby dry lake after he got caught in a blinding snowstorm. By coincidence, Elias himself was the subject of a "save" when, on his first cross-country flight, engine failure forced him to land on a dirt road in the mountains 40 miles north of Tonopah. But before going down, he checked crossbearings on Mina and Tonopah VOR's and called in a "May Day." Two hours later, he was picked up in a car sent by Tonopah FSS Chief Bill Lowe who had heard his call and position report.

Tonopah's geography lends itself to aircraft emergencies. Surrounding this colorful, historic mining town is some of the nation's most spectacular—and some of its dreariest—terrain. Tonopah's flight plan area includes Furnace Creek Airport in Death Valley—221 feet below sea level, and Long Valley Airport—7,192 feet above. It includes America's tallest mountain, Mt. Whitney—14,496 feet high—bleak deserts, wilderness areas, towering peaks, ghost towns and hundreds of square miles of wide open spaces.

Weather in the area has 57 varieties—every one capable of bringing a pilot to grief.

However, Tonopah's alert FSS specialists have been able to handle these unfavorable conditions to a great extent. Men like Edwin R. Murray, Tom Hendershott, Ben Martinez, Henry A. Elias, Walt Miller, Jim Gruhn and Mac McCluey know the country and its peculiarities and have a keen awareness of the station's vital role in local aviation.

In essence, their "saves" are pretty much alike. Usually, they involve pilots who become rattled and disoriented, or those who get caught in bad weather, and, finally, those who show a woeful lack of familiarity with basic air navigational aids and cockpit instruments.

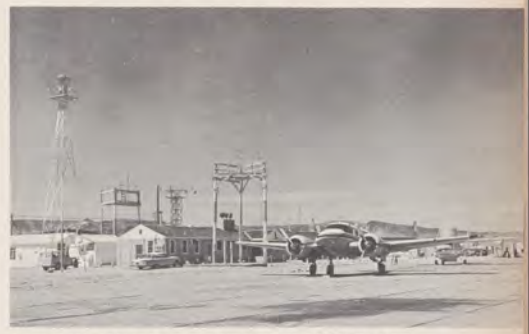
Pilots react pretty much alike to being saved. They're consistently grateful and generally come in to the FSS to personally thank their benefactors. In some cases, these thank-you's can be fairly emotional. One pilot, hopelessly lost until Tom Hendershott brought him safely down, rushed into the station and stammered: "Where is the guy with the beautiful voice?"

It is true, of course, that FSS personnel exercise a calming influence over airmen who have flown themselves into a corner. One pilot steadfastly carried on through the soupiest of soups for an hour and 25 minutes without stalling or spinning though his air speed indicator was inoperative. Afterward, he explained to Station Chief Lowe: "I saw no reason to panic. I knew I was in good hands when your station began talking to me—I had nothing to worry about."

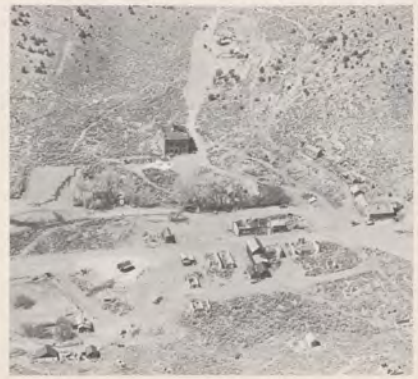
Lowe, a long-time FAA employee, began his career at Trona, Calif., after serving six years with the Coast Guard. His first assignment was at America's northernmost locale—Point Barrow, Alaska. Lowe recalls that upon disembarking from a plane at that Eskimo village, a man dashed past him and up the ramp to board the plane, shouting: "You're my relief—the shack's over there."

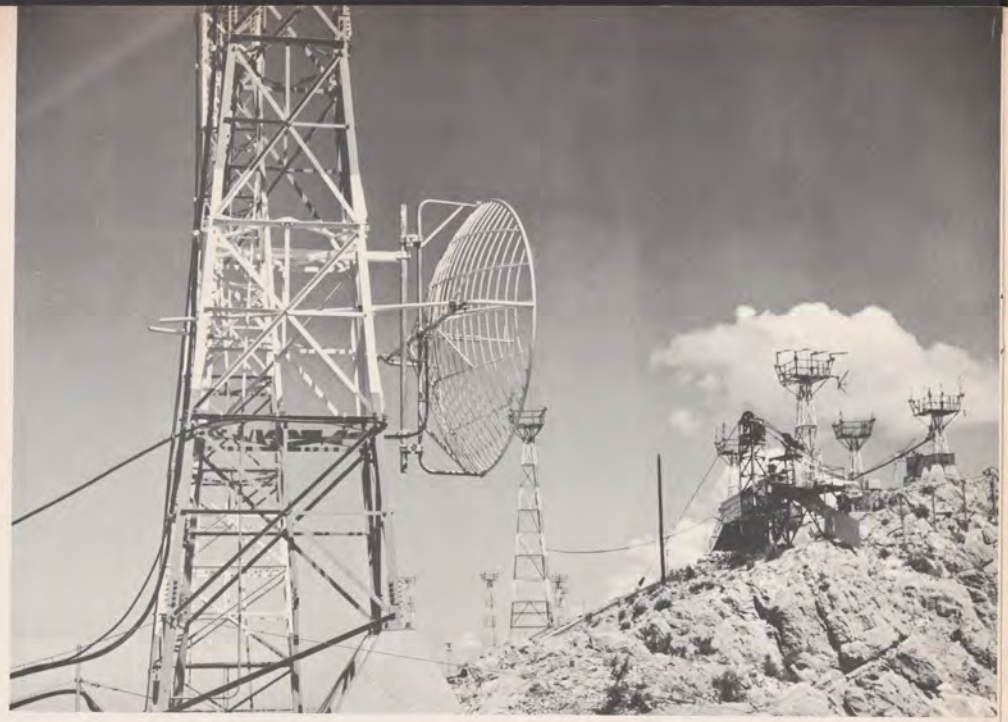
Since that unusual introduction, he has served at Homer and Anchorage, Alaska, Canton Island, Midway, Wendover, Utah, Fallon, Nev., and finally Tonopah. ■

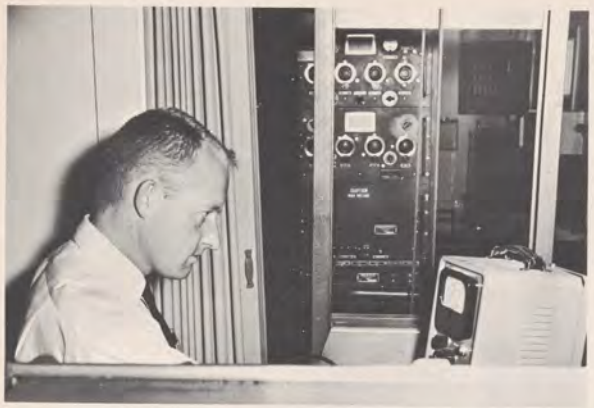
Jet crosses sky, desert and Tonopah FSS.—Don Downie Photo



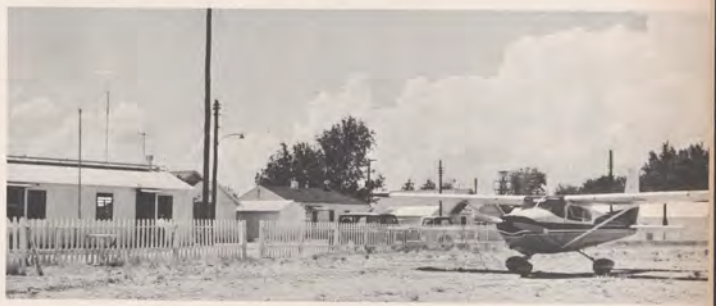
History unfolds with this view (below) of nearby ghost town of Belmont. Above, the Tonopah FSS serves as a backdrop to parked aircraft.—Don Downie Photo







Opposite page: Franklin Mountain provides skyscraping perch for this antenna array, part of the vital El Paso link. Above: SMS Chief Bobby K. Riley at transmitter during Guadalupe site check. Right: Salt Flat quarters at abandoned field. Below: Salt Flat VOR is familiar West Texas landmark and an important airways navaid.



You Can't Get There from Here...

Salt Flat Is at the End of Nowhere

It would take a large scale map of Texas, a magnifying glass and a lot of patience to locate Salt Flat. But there is nothing small about its importance to aerial navigation in the Southwest.

For at least a third of a century Salt Flat has been a vital link along Victor Airway 16 east of El Paso, in near-trackless Texas wasteland. And for just as long, FAAers have had mixed feelings about being assigned to this microscopic community beside U. S. Highway 180.

Today, four FAAers—three electronic maintenance technicians and one electro-mechanical maintenance technician—makeup the complement of SMS-209, Salt Flat. They live with their families on the government reservation there that includes only a cafe and post office.

A VOR and remote communications outlet are the principal facilities left at Salt Flat. The nearby airport and the beacon were abandoned this year and its flight service station was closed several years ago. Across the bleak, white saline plain, where Texas pioneers fought bloody battles for control of its salt, rises the state's highest peak, 8,751-foot Guadalupe Mountain. Atop the mountains near Guadalupe Pass are communications links and an Automatic Meteorology Observation Station (AMOS).

The Guadalupe location and the Hudspeth VOR, 50 miles away by dirt roads, are also maintained by the four Salt Flat technicians.

David O. Finnell, a 20-year veteran of the area and now a sector area supervisor, is one of the men who has fond memories of the two facilities. Finnell was with Airways Operations when he did one tour at Guadalupe and two at Salt Flat.

"I stayed on at Guadalupe four years," he recalls, "and was the senior man. With this seniority I had my choice of a bedroom and was the owner of the station dog."

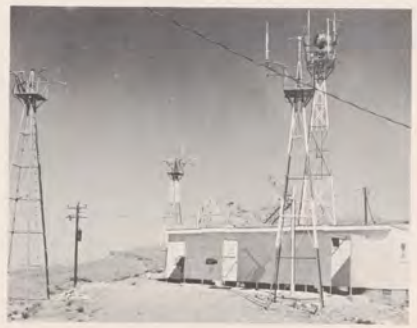
Supervisors at SMDO-2, El Paso, say men assigned to the remote area are better qualified for all around work and must be able to stand the isolation. More is expected of the technicians there—they are expected to cope with anything from doing their regular work to fixing an ailing well—because no other workers can be called upon for help.

Families, too, feel the isolation and all must be congenial and made of tougher stuff than ordinary mortals. School children, for example, must travel 48 miles round trip daily to classes at Dell City.

"But living here means as much as a $100 a month increase in savings," Sector Chief Bobby K. Riley says. He explained the absence of shopping and recreation facilities were real money savers.

Riley and three other technicians, EMTs Donald V. Stanford and James L. Casey and ELMT James A. Leeah, work closely with the El Paso personnel. Salt Flat VOR broadcasts voice communications from the El Paso FSS and is at the end of the communications network stretching by FM link from El Paso International Airport via Franklin Mountain and Guadalupe to the Salt Flat installation.

In spite of its isolation, work at Salt Flat and its remote facilities goes on without complaint. Whether it is adventure or devotion to duty that inspires them, Salt Flat technicians perform with top proficiency in maintaining this vital link in the nation's airways. ■



SWITCHING SYSTEM LINKS REMOTE ALASKAN AREAS

The most advanced electronic message switching system in the world was activated in September when Alaskan Regional Director James G. Rogers snipped a ceremonial ribbon putting the ES-3 system "on the line" at Merrill Field, Anchorage.

Attending the dedication ceremonies were airline representatives, state and city officials, and commanders of the military services. The new equipment provides almost instant contact between more than 100 air traffic communication facilities located in the most remote areas of Alaska, the Pacific Northwest and the rest of the world. The system can dispose of 450 incoming messages and 850 outgoing messages during peak hours over 25 point-to-point and multi-station circuits.

At the same time, the Region is decommissioning a relic of the past, a carrier wave (SW) intercept position at Kotzebue—the last CW equipment to be used anywhere in the Agency. Used to intercept weather information from reporting stations in Siberia, its location at Kotzebue—just across the Bering Strait from the USSR—was ideal for this purpose.

Morse Code transmissions from Russian stations were recorded on paper tape for subsequent transcription of the coded characters on teletypewriter circuits. This weather information was sent to the U. S. Weather Bureau and to other interested Government agencies. Transmissions were sent 16 times in each 24 hour period, each day of the year.

Newer equipment for obtaining this weather information has been installed. But communicators in the Region mourn the end of an era with the passing of the CW equipment.

Ralph D. Huffer, watch supervisor, IFSS, scans printers.

Miami Controller Saves Life of Neighbor's Child

Miami tower controller Robert S. Brooks demonstrated typical controller resourcefulness on a recent Sunday afternoon.

While at his home in South Miami, Brooks heard the screams of his neighbor, Mrs. Frank Pasquerilla. He rushed next door to find Mrs. Pasquerilla's daughter, 6-months-old Renee, slumped in her crib, her face blue and her tiny body knotted in convulsions.

Bob picked Renee up in his arms and began administering mouth-to-mouth resuscitation. When the child began to respond, Mrs. Pasquerilla and Brooks rushed Renee to South Miami Hospital while he continued to furnish life-giving breath en route. After three days in the hospital, Renee's name was placed on the satisfactory list.

Controller Brooks completed a course in life-saving techniques in 1957. Seven years later, this training paid big dividends. Today, little Renee is very much alive and healthy, thanks to Brooks' decisive action.

Agency Order Outlines Official Conduct Standards

"The highest possible standards of integrity and ethics in official conduct are to be promoted and maintained by all employees and representatives of the FAA." This Agency policy was established for a number of reasons:

To assure the integrity of Agency operations, to promote compliance with laws, policies and regulations, to avoid even the appearance of impropriety and to safeguard public confidence in the FAA.

The above policy is spelled out in OA 1000.7 of May 9, 1963. It prohibits employees or representatives from accepting fees, compensation, gifts, payment of expenses, or any other thing of monetary value. It also precludes involvement not compatible with the full and proper discharge of the responsibilities of an employee's position.

The Administrator has directed that all violations of this policy are to be promptly reported to the Director, Office of Compliance and Security.

Bobcat Leaves FAA Reservation For Texas College Campus Life

ELMT James A. Leeah handles quite an armful of bobcat.

Like many young people throughout the country, ELMT James A. Leeah's cat went to college this fall. The feline, a full-grown bobcat, became the mascot of the football team at Southwest Texas State College, San Marcos.

Leeah, who had the cat for the past two years at the FAA reservation, Salt Flat, Tex., couldn't find any volunteers to care for "Bobby" when he and his wife were away from home.

Gentle and playful, the cat accompanied the Leeahs and members of their family on shopping tours and other area trips. He shows his appreciation of any attention with a resounding purr.

Bobby's change from his isolated home at Salt Flat to the uproarious surroundings of football classics is not expected to change his disposition. According to Leeah, the cat shouldn't display wild tendencies because he was taken from his natural habitat before his eyes opened.

ICAO HOLDS MEETING IN SO

Southern Region was the scene recently of a very successful International Civil Aviation Organization (ICAO) meeting, and was attended by top officials of major American air carriers operating in Latin America, military representatives of the U. S. Southern Command in Panama, and FAA officials from the Washington and Southern Region offices.

This meeting had three primary goals: (1) to develop an up-to-date priority list of navigational needs in both South America and the Caribbean; (2) unification of U. S. interests, and (3) establishment of the necessary communication mechanics to further the "one Agency" concept.

It was agreed to hold these meetings regularly on a semi-annual basis. The next meeting will be held in the Panama Canal Zone on February 2-3, 1965.

LAST FEW HOURS OF PHOENIX CENTER CLOSING

(George W. Martin, supervisory electronic installation technician, who was in charge of the original installation of communications equipment for the Phoenix Center, was on hand when the center was commissioned and also when it was decommissioned. He wrote the following account of the Phoenix Center's last hours.)

By George W. Martin

Other centers have closed their doors, but there were unique features about Phoenix. No other center had such a short life—6 years, 4 months, 1 day and 22 hours. And Phoenix was the first center to have quarters specifically tailored and set up for the job to be done.

At 7:30 P.M. on August 20, 1964, the center was operating quietly.

At 8 P.M. the transfer started. Sector by sector, traffic on the boards passed to the new Albuquerque Center.

By 9 P.M., the control room was becoming more crowded. A number of friends and fellow workers had come for a last goodby—many had been on duty earlier but wanted a last look.

They stood in small groups, talking, recalling the night the place opened and discussing their destination.

They said, "Come to Denver (or Salt Lake or Seattle) and see me." Old hands congratulated young ones on progress made. Younger ones thanked old timers for the help and teaching they had been given. They talked of memorable events.

At the watch supervisor's desk, the Director of the Western Region exchanged greetings with the Director of the Southwest Region and the chief of the Albuquerque Center.

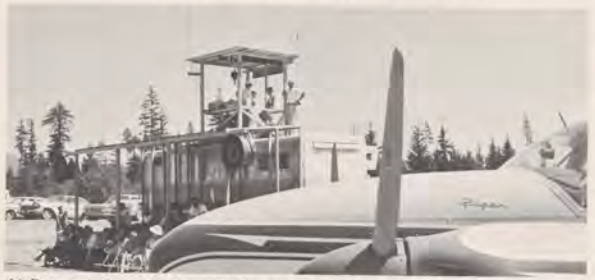
As 10 P.M. approached, the noise grew a bit. Then it was over. No whistles blew, no fireworks went off, no bells rang. It was 10:01 P.M. and the last aircraft had been handed over. Speakers quieted. Controllers slipped off headsets and stood and stretched a bit. The noise grew and a relaxed air crept into the room.

Then Regional Director Joseph H. Tippets called them together. He spoke quietly and meaningfully of the center, its job well done, its people, their problems, and how well they were making the move. He thanked them all for their work. There were a few more words by the Division Chief, the State Director of Aeronautics and the Facility Chief.

The Director concluded with a final word of goodby. There was a warm round of applause and slowly the group drifted out. Some headed for home. Others went to motels to be ready for an early start to Denver, Albuquerque or Seattle. Others took off with loaded trailers to get as far along as possible that night. A few had to check on last-minute packing by movers. A fair-sized group headed for a final farewell party at a nearby motel.

Lights went out. The last noises faded away. The Phoenix Center was gone.

TEMPORARY TOWER AT PROSPECT



At Prospect, Ore., FAA provided a temporary tower for airport dedication and Fly-In. Field was built largely through local contributions; tower, provided by Medford CS/T. Richard T. Smith, Medford facility chief and Gilbert J. Thiel, Medford controller, manned tower. Robert E. Barnum, SMS-430, provided technical support.

"Mr. Aviation of Oregon" Honored By State and Local Dignitaries

From left, Berwyn Coyner, chairman of the Redmond Airport Commission, "J.R." and Joseph H. Tippets, Director.

Dignitaries from across the state gathered in Redmond, Ore., recently to pay tribute to J. R. Roberts, "Mr. Aviation of Oregon." Known throughout the Northwest as "J. R.", Mr. Roberts has given more than 60 years of dedicated service to community projects and aviation in the Oregon city.

Regional Director Joseph H. Tippets was on hand to present an FAA award that recognized "J. R.'s" accomplishments in aviation. Roberts, who arrived in Redmond via stage coach, helped bring the air age to Redmond.

TWO FIDOS MOVE TO NAFEC

Two Flight Inspection District Offices —one at New York City and the other at Richmond, Va.—recently completed their relocation to NAFEC. Some 70 persons involved in the move have now been consolidated into one new district office under its new chief, E. F. Fitzpatrick.

The group was the second influx of FAA personnel to NAFEC. In midsummer, the Aircraft Services Facility was formed and over 60 FAA maintenance men at John F. Kennedy International Airport transferred to NAFEC.

FORMER PLANS OFFICER LAUDED

Karl E. Voelter, former Disaster Control Planning Officer for the Agency, who is now retired in Coral Gables, Fla., was honored by the International Flying Farmers at their annual national convention in Miami.

Voelter was awarded Honorary Life Membership in the IFF in recognition of "Outstanding Service to Members of International Flying Farmers." Voelter's was only the second such award granted by the IFF in 19 years.

Before becoming Disaster Control Officer, Voelter was General Aviation Advisor to the Administrator.

EQUAL OPPORTUNITY RULES OUTLINED IN ORDER

"The highest possible standards of democracy are to be maintained in all official acts with equality of treatment and employment opportunity for all."

This quotation, taken from Agency Order OA 1000.8A is FAA policy on implementing the President's equal employment-opportunity program.

The order directs that positive measures be taken to: promote and encourage equal opportunity for all qualified persons employed or seeking employment within the Federal Government; ensure contractor compliance with the nondiscrimination agreement in all Government contracts; expand and strengthen the efforts to promote full equality of employment opportunity.

The President also has directed that no use be made of the name, sponsorship, facilities, or activity of any Executive department or agency or for any employee recreational organization practicing discrimination.

Compliance with this policy is every single employee's responsibility. Agency-wide execution is the responsibility of the Office of Compliance and Security.

AMERICANS ALL

You and I have a positive obligation as public servants to foster and ensure equal opportunity for all qualified Americans employed or seeking employment with the FAA. We have a moral obligation which transcends the letter of our civil rights laws, a duty individually to live up to the high ideals of equality and justice for which America stands.

These are not new obligations, though many people seem to think of them as such. President Kennedy issued Executive Order 10925 on March 6, 1961, to emphasize the Government's responsibility and charge us with promoting equal opportunity in every Federal activity. The public service is a glass house and we must not fail to perfect our own outlook and practices if we are to strengthen our democracy. We have taken some small steps forward in this area, but we must move faster if our Agency is to keep pace with the vast majority of organizations in these United States.

It is obvious that a few of us are out of step with the progress being made. These few are tied to the past and remain uncommitted to our national purpose. There are those who are exactly where they were when President Kennedy issued his Executive Order. This is very unlike the progressive FAA image we set in most other areas—it is a posture we can no longer tolerate. I recall President Johnson, while Chairman of President Kennedy's Committee on Equal Employment Opportunity, saying to part of the Federal family, "But what really counts is the result—the proof of the pudding is in the eating. Do we practice what we preach?" The answer for us is simply that we can and must do better.

I expect soon to see many more reports of progress in this important area. I expect the FAA to set an All American pace for Americans All.

NAJEEB E. HALABY

Agency Is Cited by Air Guard in Tanker Emergency

An explosion and fire in a KC-97 tanker of Van Nuys Air National Guard, flying over Colorado, brought quick assistance from the FAA recently.

Air crew personnel promptly instituted emergency procedures and asked FAA for an emergency descent and direction to the nearest landing area.

Robert A. Corwin, a controller at the Denver Center, immediately cleared the airway for the tanker's descent, providing minimum safe en route altitude, field elevation, runway length, pertinent landing area, and facilities information direction and distances. Necessary radar vectors were provided and approach control and emergency vehicles were alerted at Grand Junction Airport.

"Prompt and efficient action of the FAA enabled the crew to devote full attention to the emergency and contributed immeasureably to our safe landing at Grand Junction," said Col. Raymond J. Kopecky, commander of the unit.

A Bit of Trickery is Involved As Controller Chalks up "First"

ATCS Spires, left with Lieut. Comdr. Robert Messina.

Seventy coordinators and controllers of the Los Angeles ARTCC were recently given jet familiarization flights in F9s and F4s from the Miramar Naval Air Station and El Toro Marine Corps Station. This was part of a cross-training program to acquaint pilots and controllers with one another's tasks.

Air traffic control specialist J. M. Spires, who had five years Navy tower experience, eased into an F9-8 piloted by Lieut. Comdr. Robert Messina.

Spires served as radio operator and part-time "pilot" as the turbojet thundered through its high, rocketing paces above the desert. Included too, were a number of stomach-revolving penetrations and GCA approaches at George Air Force Base and Miramar.

After landing, ATCS Spires was surprised to find a Navy photographer standing by to record this "first."

ATCS Spires, otherwise known as Mrs. Joyce M. Spires, found that she was the first air traffic controller of her sex to jet aloft from Miramar or any other naval air station, so far as records show.

PLANES FLOCK TO BIRMINGHAM

Birmingham Municipal Airport this fall was the scene of the largest static display of general aviation aircraft and associated aviation products ever presented in this area. Every important part of the modern general aviation aircraft was on display for the public.

This exposition was designed to bring together for the first time all types of business and private aircraft being manufactured so that the public could view and compare the latest features of all at one time.

One of the principal attractions at this exposition was a Southern Region flight inspection DC-3 "Flying Laboratory" which attracted some 10,000 visitors.

FSS PERSONNEL PLAY KEY RESCUE ROLE IN CRASH

A Hawthorne-Nevada Airlines DC-3 was on a flight from Burbank, Calif. to Hawthorne, Nev. with 32 passengers and a crew of three when one engine quit and the second caught fire.

Pilot Harold Hopkins notified the Tonopah FSS of the emergency and advised that he was diverting to Tonopah.

LeRoy J. McCluey, FSS specialist, suggested to the pilot that he look for a dry lake—Mud Lake—on his left, and consider an emergency landing there if necessary. The lake, 13 miles south of Tonopah Airport, provides an excellent landing area for large aircraft and is used as an emergency landing area for X-15 flights.

The pilot called a few minutes later, saying he had lost his left engine and was landing at Mud Lake.

McCluey immediately notified the Tonopah FSS Chief, William H. Lowe, who dispatched Henry Elias, air traffic specialist, to the station to assist McCluey. Lowe then called the Nye County sheriff and asked him to get a radio car to the accident scene to direct rescue operations. He then arranged for fire and ambulance crews to get to the scene, and called Stead Air Force Base, which dispatched a doctor and five medical technicians to the scene via helicopter. He also dispatched a bus from Tonopah to transport survivors.

The DC-3 cartwheeled as it came into the lake, skidded 200 yards and overturned. The impact ripped off the left wing and both engines, but there was no fire. Only two persons were seriously injured—the pilot, who was trapped in the cockpit, and the co-pilot.

Henry Elias flew immediately to the scene with Richard Blakemore, Tonopah Airport manager. Elias obtained an accurate check of all passengers and stationed five of them around the wreckage with fire extinguishers. Fuel was flowing from both tanks into the fuselage.

Elias and Blakemore than forced openings in the cockpit, where they found the pilot trapped between the back of his seat and the crushed-in overhead portion of the fuselage. His left arm was pinned under radio equipment. Using jacks and seat belts, they worked to relieve some of the pressure on the injured pilot. Elias and Blakemore continued to try to extricate the pilot while morphine was being administered by the doctor. Finally, they were able to remove him from the wreckage.

Only 14 of the passengers were hospitalized in Tonopah, 11 with minor injuries.

Western Region Director Tippets commended Tonopah FSS personnel for their quick and efficient action in the crash emergency.

Academy's Export Product: Knowledge

Turkish and Greek Air Force officers hit the books and the skyways this summer at the Aeronautical Center while taking a seven-week course in facilities flight inspection and procedures. From left: Robert S. Lee, Chief, Inspection and Procedures Branch; James F. Swope, instructor; Second Lieut. Taner Bastug, First Lieut. Aykut Ozel and Capt. Turan Yesilka, of Turkey; First Lieut. Constantine Tsirovasilis and Capt. Athanasies Karadementris, of Greece and John A. Lively, instructor. Training is joint effort by USAF Military Aid Program and the FAA.

FAA Pilot Captures Third Place In National Championship Event

"Steve" Crosby is shown being congratulated by Gene Kropf, Western Region public affairs officer, while Andy Munsenreder, Reno CS/T Chief waits turn.

Clarence E. (Steve) Crosby, FSS specialist at Bellingham, Wash., captured third place in the transcontinental trophy dash of the National Championship Air Races from Clearwater, Fla. to Reno, Nev. All participants were flying F-51 *Mustangs*.

Other FAA personnel played a vital part in the races by providing a number of services during the eight-day race.

Eugene S. Gull, supervising inspector of the Reno GADO, provided flight standards surveillance. A temporary flight service station supplemented flight assistance services available to pilots during increased activity at Reno airport. The station was staffed by specialists detailed from Sacramento and Marysville, Calif., and Lovelock, Nev.

All flight activities were monitored and coordinated by a group of FAA specialists headed by Frank T. Happy, area air traffic supervisor from San Francisco, assisted by Andy J. Munsenreder, chief of the Reno CS/T and area coordinator, and Frank Haigler, air traffic representative from Travis AFB.

DANNY'S LIKE US — ANXIOUS

Danny Kaye, who has carved out quite a name in show business, also is one of the nation's most avid pilots.

Kaye, who flies out of Van Nuys, Calif., recently took his instrument pilot written examination there.

After the test he called Dwight F. Petersen, FAA supervising inspector at Van Nuys, to ask: "How did I do?"

The examination section of Flight Standards advised Mr. Kaye that he received an excellent grade on his exam and wished him success in completing requirements for the instrument rating.

Kaye paid tribute to FAA controllers during one of his shows last season.

TRI-REGION MEET AT MT. McKINLEY NAT'L. PARK

The Alaskan Region conducted its first two-week Management Institute starting Aug. 23, amidst the grandeur of the rugged mountains of the Alaskan Range in Mt. McKinley National Park.

Representatives from the Western, Pacific and Alaskan Regions attended the Institute which was designed to increase the knowledge of "middle managers" in the techniques and skills of modern management. During the program a tape recording was presented of Gen. Grant discussing the Administrator's administrative philosophy.

Frank M. Di Paul, left, Chief, Training Branch, AL, explains "This I Believe" theme of Management Conference at Mt. McKinley National Park, Alaska. Looking on are Brig. Gen. Ralph G. Taylor Jr. and Victor J. Onachilla.

Instruction at the Institute emphasized personnel management, work management, and communications. Frank M. Di Paul, Chief, Training Branch, Alaskan Region, was Director of the Institute. He was assisted by Rex G. Lester and Dennis M. Stewart, Alaskan Region; Chester Stalker, Chief, Training Branch, Western Region, and Edwin Harris, Training Officer, Pacific Region.

Guest speakers were Dr. Allen R. Solem, Professor of Psychology, University of Minnesota; Dr. William H. Pemberton, Management Consultant and Lee Lewellan, Branch Manager, IBM, Alaska. Agency speakers included John Godbold, Deputy Assistant Administrator, Office of Personnel and Training, Washington; Victor J. Onachilla, Program Management Branch, Washington; Stanley J. Erickson, Chief, Management Analysis Division, Alaskan Region; Stanley F. Meese, Chief, Audit Division; Brig. Gen. Ralph G. Taylor Jr., Deputy Director, Alaskan Region and James G. Rogers, Director, Alaskan Region. Dr. S. I. Hayakawa, Professor of English at San Francisco State College and internationally noted semanticist, also addressed the Institute.

The Institute was originally scheduled for May but was delayed by the March 27 earthquake.

IM, AT Teamwork Averts Tragedy in Pacific Region

Quick action and cooperation between the air traffic and maintenance services in the Pacific Region averted an almost certain disaster a few weeks ago.

Wendel Bayne and Alfred Dickens, working the Lihue Flight Service Station (located on the northeast side of Kauai Island), picked up an almost unintelligible call for help from the pilot of a light aircraft unsure of his position. Since he was flying south of the island the intervening mountain range blocked the signals, preventing Bayne and Dickens from making orientation. The South Kauai omni which would have brought him in loud and clear was out of commission.

Luckily, maintenance technicians were testing it following installation of a new en route receiver, so a quick call had the VOR back on the air in nothing flat. Within a very few minutes the lost aircraft was located 30 miles south of Kauai flying *westward* on a course which would have missed the island completely had it not been intercepted. The pilot was given a proper heading and landed at Lihue 45 minutes behind his flight plan, but safe and sound and loud in his praise of the FAA.

An important factor in the rescue was a plotting and orientation board designed and built by specialist Ervin J. Dworzack of Lihue which minimizes the possibility of error in fixing an aircraft's position.

Below: Ervin J. Dworzack of the Lihue Station points with pride and happiness at the plotting and orientation board he designed and built which aided in rescue.

FAA Secretary in Washington Has Medical World Puzzled by Blood

A 21-year old secretary in the Air Traffic Service at Washington headquarters, Mrs. Linda Mackall, has the medical profession baffled.

Mother of one child and expecting another in December, she is one of only two persons in the world known to be without any of the RH factors that classify blood as positive or negative. Some unexplainable mutation in one of a pair of genes in her hereditary makeup is responsible.

Specialists and geneticists are looking to Linda for help in determining how RH factors are transmitted from generation to generation. Fortunately for science, she comes from a large family. The other woman without an RH factor, an Australian aborigine, had no kin and therefore contributed little to knowledge of the role of heredity in the RH factor.

Linda's parents, her paternal grandmother, three brothers and 19 aunts and uncles contributed blood to the project.

THEY CONQUERED SANDIA CREST

Three Albuquerque ARTCC radar controllers recently climbed the precipitous west face of 10,852-foot Sandia Crest in a group display of physical fitness. They are Raygen Pyle, Charles M. Howell and James A. Sawyer.

Sandia Crest, the FAA's highest RCAG antenna site and New Mexico's most popular tourist mecca, overlooks the center at its western base. Maintenance men and tourists choose to gain the summit via a long, circuitous drive up the gentle east slope.

These controllers, however, made the knee-bending, three-mile climb the hard way—as straight up as one can walk.

Other center men who have climbed the mountain's wall include Anthony V. Kowalchuk, radar controller; Richard A. C. Reid, crew chief; and E. W. Northnagel, coordinator (three times).

Forest Fire Fighters Aided by Wyoming Air Traffic Personnel

Officials of the Medicine Bow National Forest, Laramie, Wyo., had high praise for the FAA as a result of recent assistance given to the Forest Service during a serious fire.

W. E. Augsbach, forest supervisor, commended FAA for assistance given by tower and flight service station personnel at Casper during the firefighting.

At a time when eight aerial tankers and four other aircraft were operating out of Casper, the Forest Service repeater station on Laramie Peak went out, preventing aircraft from communicating with the tanker base at the airport.

"It was possible for planes to communicate with the FSS on FAA radio frequencies and the men at the station cheerfully relayed messages for four days," Augsbach said. "If they had not provided this fine service, we would have had to put a plane in the air midway between the fire and our tanker base to relay radio messages. This would have been quite expensive, since we were operating from dawn until dark."

Prompt relay of messages, Augsbach pointed out, made it possible for the Forest Service to control the blaze more rapidly.

Augsbach directed special praise at Robert Markwith, Casper tower chief, commending him for helping the Forest Service find lodging for 20 men and arranging for installation of additional telephone communications.

MONOXIDE HAZARD SCRUTINIZED

Progress in reducing the carbon monoxide hazard in light aircraft was made public at an FAA/Industry conference held recently at Atlantic City. This progress is the result of work being done at NAFEC and the field.

The meeting, chaired by Lyle E. Tarbell, FS-142, centered around the program headed by Patrick E. Russell, DS-44, to determine engineering and maintenance programs needed to reduce this hazard.

An interim report analyzing the records of engine exhaust system failures was given by Gerald E. Slusher, RD-742. Flight Standards representatives from several regions also reported on spot checks made for carbon monoxide in some planes last winter and stated that additional checks will be made this winter.

The conference ended with a tour of engine test stands at the center.

EDUCATION HOLDS ANSWER TO MANPOWER PROBLEM

A national shortage of skilled aviation personnel can be prevented if all government agencies and industry work together to motivate young people to seek aviation careers.

This was contained in the report of the Aviation Human Resources Study Board, released by FAA, Sept. 30, which stressed the need to interest young people in aviation careers through expanded aviation education programs.

The study board, appointed by Mr. Halaby, was headed by Dan A. Kimball, former Secretary of the Navy.

The U. S. has the potential, through its public and private school system, to meet aviation's manpower needs, the report stated.

FAA's data collection system, coupled with that of airlines and general aviation groups, is expected to provide the basis for better manpower planning in the aviation industry. Lack of reliable data in the past has hampered manpower planning by industry and training schools. Expansion of FAA's data collection system and creation of a central coordination system within FAA was recommended by the board.

The need for professional pilots will rise from 3,650 in 1965 to about 6,300 by 1980, the report noted. This represents the combined needs of airlines, business and commercial operators. Losses are expected to reach 3,300 per year from airlines and professional pilot groups by 1980. Bonuses and salary premiums based on education and experience at the time of hiring were recommended as a way of attracting more pilots under 35 years of age who are separated from the military service. This would bring starting salaries more nearly in line with military pay.

Publication of the manpower study completes the work of the Aviation Human Resources Study Board. Other members of the board, in addition to Mr. Kimball, were: General Emmett O'Donnell Jr., USAF, retired; Albert J. Hayes, president of the International Association of Machinists; D. R. Petty, senior vice president-flight operations for United Air Lines; Louis W. Davis, president, Flying Clubs International; Virgil M. Rogers, on leave as Dean of Syracuse University School of Education; and Vice Admiral Robert B. Pirie, USN, retired, and Chester C. Spurgeon, FAA executive secretary.

PROGRAM REVIEW CONFERENCE

Regional Directors, Managers and other Agency officials spent the week of September 28 in round-table discussions—literally, as can be seen from the above photograph made in the Administrator's conference room in Washington. Major topics were policies and goals of the Agency in relation to safety, FAA regulations, labor-management relations, airspace, airports and related subjects. One day was devoted to Project FOCUS. Regional plans were presented and debated, as was the application of FOCUS concepts outside the 48 contiguous states. Visiting officials also attended the National Aviation System Symposium, sponsored by Mr. Halaby for the many individuals and groups who are national aviation system "shareholders."

ON THE SCOPE

AIRPLANE SHOP ON WHEELS

William F. Shuldt, maintenance inspector at the Albuquerque GADO, enjoys inspecting amateur-built aircraft. He has visited many work shops, but none quite like the one he "squeezed" into when he checked the BG-12B sailplane being built by Navy Chief T. N. MacKay.

The chief had converted his house trailer extension into a workshop for the two-year project of building the plane from rough kit form. His wife and two daughters didn't mind the living room turned factory—they were too busy with the tedious job of sanding ribs and formers.

Attached to the Naval Weapons Evaluation Facility at nearby Kirtland Air Force Base, the chief has stripped down a second trailer which he uses for a hangar. His mobile hangar houses the completed sailplane sections and will be moved to the airport soon.

TRANSFERS

• *Landen S. Levy,* PC pilot specialist since 1960, from FIDO, Japan, to Chief, FIDO, Manila. • *Joseph R. Price,* electronics technician, Oklahoma City, to FIDO, Japan. • *Charles Schuck,* special assistant to the Director, FS, and former Chief of General Aviation Maintenance Branch in Washington, to Asst. Chief, FS Division, Pacific. Schuck was first FAA employee assigned to the Air War College, Maxwell AFB, Ala. • *Rex. M. McQueen,* to Defense Readiness Officer for Pacific, from Pacific Air Forces Air Traffic Representative, after 17 years in air traffic in Kansas City, Tokyo and Honolulu. • *Lester R. Griffey,* to Pago Pago, Samoa, as Chief, SMDO-4, from instructing in radar at FAA Academy, Oklahoma City. • *Jack R. Richards* has reported to the Pacific Region, where he is assigned as Chief, Honolulu ARTCC. Richards has been with the Agency for 17 years.

RETIREMENTS

• *Clarence C. Holmberg,* station manager, Talkeetna, Alaska, on Sept. 25, after 19 years' service in Alaska. • *Emerson Carpenter,* Aug. 19, after 25 years with CAA/FAA, from his position as supervising inspector, SW GADO-5, Houston, Texas. • *Walter G. McMillan,* fabricating and design specialist, on Sept. 30, after 24 years' service, from Overhaul and Machine Shop, I&M, Pacific. • *William W. Tait,* materiel specialist, Aug. 28, after 7½ years with Installation and Materiel Division, Fairbanks, Alaska. • *Arthur E. Jenks,* for disability, after 25 years service, Aug. 3, while serving as special assistant to Director, Research and Development, Washington. • *Earl Isbell,* Sept. 30, after 22 years' service, in Ft. Worth, where he was construction representative with I&M Division. • *Primitivo Salvador,* PC teletype repairman, after 31 years' service, Pacific. • *Moon Sung Chung,* electronics maintenance technician, Pacific, after 22 years. • *Willis M. Cowles,* electronics maintenance technician, SM, at Alaska headquarters, Sept. 1, after 22 years service. • *Chester S. Fredriksen,* construction engineer, after 13 years Alaskan service.

CRUSADER SAVER WINS AWARD

Air Traffic Control Specialist Curtis W. Jurs, assigned to the tower at Charleston, S. C., Municipal Airport, was recently cited for his high degree of professional skill and ingenuity. He directed a Marine pilot, Lieutenant W. G. Boeck, and his million-dollar F8 *Crusader* jet fighter to a safe landing at Charleston after the aircraft developed turbine trouble.

Lt. Boeck's aircraft began to act up during an operational test flight. While flying at 46,000 feet in the Charleston vicinity, he realized that turbine failure was imminent and that he would have to eject unless he could land the aircraft immediately. He radioed a MAY DAY call which was picked up by controller Jurs. Locating the crippled aircraft on his radarscope, Jurs immediately relayed emergency instructions to the pilot. Within four and a half minutes of the distress call, he guided the aircraft to a safe landing at Charleston.

For his outstanding professional performance in providing effective assistance, directing this flight to a safe landing, and preventing the possible loss of life and ultimate destruction of a valuable military aircraft, controller Jurs was presented an Award of Merit Citation by Lieut. Col. Baylor P. Gibson Jr., commanding officer of the Marine Fighter Squadron 333, on behalf of the Air Traffic Control Association.

Jurs has been with the FAA since 1957 and assigned to Southern Region's Charleston tower since 1960.

Curtis W. Jurs (left), is thanked by Lieut. Col. Baylor P. Gibson for the emergency assist he gave Lieut. Boeck.

AES HONORS RADAR MAN

Clarence B. Krech, radar technician at the Minneapolis ARTCC, recently received national recognition in Los Angeles as the 1964 recipient of the Airways Engineering Society's Joseph B. Harriss Memorial Award for Outstanding Service.

An engraved plaque denoting this honor was presented to Mr. Krech by Chicago Hub Manager Paul Cannom in Chicago, Sept. 9.

Krech had earlier received the Central Region award as the professional technician of the year, which put him in competition with other regional winners for the national award.

Among his other major contributions, Krech placed into operation and established maintenance procedures for an experimental digital radar system of extremely complex technical design. Through his efforts, the logic circuits were analyzed and improved to result in better operation of the random access plan position indicator symbology, enabling Air Traffic Service to commence operational evaluation.

AFTER HOURS

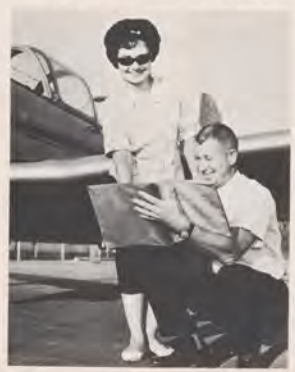
THIS ONE'S FOR THE MANTEL

Thomas J. Gilmartin, NAFEC engineer, won a trophy for landing the largest Marlin caught by a resident of Atlantic County, N. J., in the annual Marlin Tournament.

Gilmartin hooked a 68½-pounder on a 50-pound test mono-filament line and a Penn 60 reel and landed it after a 15-minute struggle.

JUDY HAS HER WINGS NOW

Charles H. Noble, instructor, reviews instructions with Mrs. Judith L. Plechus, medical records clerk in SW's Aviation Medical Division, after her solo flight. Both are members of the Dallas Navy Flying Club, a group of FAA and Navy personnel organized to teach flying and to keep pilots current. The club, organized in late 1963, has 25 members and uses a T-34 and an L-19. Noble, general supply supervisor in the Administrative Services Division, has 3,000 hours of flying in various types of aircraft.



YOUNG TAKES 1st IN EAA RACE

Everet W. Young, controller at the Denver Center, took first place in a race at the Experimental Aircraft Association meet in the Middle West this fall.

Young, who has built three planes since he took up flying 12 years ago, built his winner in his spare time over a three-year period with the help of his wife, Maxine. Irish linen treated with banana oil and lacquer was used in covering most of the plane.

"Irish linen is terribly expensive," Maxine said, "but we didn't waste any. I used the scraps to make doilies."

GOLF LINKS ARE HER DOMAIN

N. T. Berry, Chief of SMS-202, Carlsbad, is doing more than supervising FAA work in the area—he is telling friends about his daughter, Barbara. The 17-year-old high school senior bagged the New Mexico Woman Amateur Golf Championship in a recent four-day tournament.

Miss Barry has been playing golf for three years. She defeated the defending champion one up in the 36-hole final match.

TAYLOR MAKES WINNING A HABIT

On weekdays, Thomas Keen Taylor installs electronic equipment in FAA aircraft—"flying laboratories"—at NAFEC. On weekends, it's a different story. His idea of a hobby is to burn up the East Coast waterways in his 100-mph speed boat. At the recent National Sweepstakes Regatta at Red Bank, N. J., Taylor copped first place in the 280 cubic inch hydroplane race. In the photo Taylor holds first place trophy. Dick Sooy, builder of the boat, stands in back.

Although this is his first year in boat racing, Taylor has finished in the money several times in a dozen races so far. His boat, 17 feet long, 7½ feet wide, weighing about 1,050 pounds, is powered by a '57 Chevvy 265 cubic inch motor.

Taylor, a native of Atlantic City, joined the Aircraft Services Facility, FS-570, last July.

HIS "MUSTANG" IS THOROUGHBRED

Dr. Richard G. Snyder, who heads CARI's Physical Anthropology Section under the Protection and Survival Branch, is shown beside his F-51 *Mustang,* which he flew to fourth place in the National Air Race from Clearwater, Fla. to Reno, Nev. in September. Snyder has owned the plane for several years but has never before raced it. Second of the eight entries to take off from Florida, he flew at 35,000 feet to top Hurricane Dora and made his only landing at Oklahoma City.

PERSONNEL PIPELINE

YOUR JOB AND THE CLASSIFIER

The Federal Classification system—job classification—is a means of achieving what every employee wants—*fairness*.

It provides a system for grouping duties and responsibilities into positions, and positions into classes so that they can be compared objectively.

A lot of wasted motion and fractured feelings could be avoided if position classification were better understood—for what it is, and what it is not.

Among other things, it is a system for insuring that employees are paid according to the job they do and the responsibilities they carry. It is not a system for getting you that pay raise you need to meet the payments on the new car.

Some of the reasons for objective comparisons of positions include budget organizing, developing qualification requirements and staffing. The primary use, the one which is of most concern to the individual, is to determine pay.

Few people would argue that all jobs should get the same pay. Some jobs require highly technical skills while others are comparatively routine. Some require a high degree of concentration, greater personal responsibility, and the making of far-reaching decisions. Most would agree that the greater the responsibility, the more complex the duties, the more comprehensive the managerial requirements, and the higher the level, the higher the pay should be.

But classification is not a pay system. Classification sets levels which are used to determine pay. The administration of a pay plan is independent of the classification process. Pay ranges, within-grade step increases, quality increases and advance in-hiring rates are all part of the pay system. But they are not part of the position classification. Confusion of classification and pay system administration lies at the very root of the general misunderstanding of the classification system.

Basic to the classification system is the principle that only the position is classified—not the individual. Certain consistent factors are identified which occur in many positions. For Classification Act positions, these factors include nature and variey of work; nature of supervision received; nature of available guidelines for performance of work; originality required; purposes and nature of person-to-person work relationship; nature and scope of recommendations, decisions, commitments and conclusions; nature and extent of supervision exercised over work of other employees and qualifications required.

For wage board jobs, five factors apply. These are experience and training, responsibility, mental application, physical demand and working conditions. The comparative value of these factors is used in determining the grade level.

With a great degree of accuracy and validity, the grade of any position can be established in the abstract. These decisions, usually, are not very controversial. But when you associate the position with an employee—perhaps a subordinate, or someone you consider your peer—you run into problems. This usually happens when you, or a well-liked subordinate fails to get a raise—or when someone else does! This reaction occurs because the thinking has been, not in terms of the position, but in terms of who is available, or who is to be placed in the position.

Three very human weaknesses engender dissatisfaction with the classification system.

First, many employees feel that pay is seldom related to the job. Some just don't sit down and decide what the pay level should be on the basis of objective evaluation factors and production requirements. Usually, employees measure pay in relation to off-the-job experiences. In addition, the pay becomes inadequate when it fails to keep up with the increased standards of living. Most not only want to keep up with the Jones's—they want to get ahead of them! Too, dissatisfaction comes about, not because the position has been reduced or even kept at the same level, but because someone else has been raised to the same level.

Second, as needs change, families grow, personal responsibilities increase, and tastes become more sophisticated, pressure is brought to bear to "upgrade" the present position. This is sometimes done without recognizing the limits of the present assignment and without looking for a higher level position. Even when the limits of present positions are recognized and you look around and fail to find a higher grade position, you can still find reasons why you should be paid more.

Third, raises are sometimes sought on the basis of having become an "expert" in the job when you have really only reached full performance of your assignment after a long training period. You gain experience and are able to function with greater independence. What was difficult to do when you started now becomes routine. Where you used to ask questions and have your work reviewed, you now have "independent responsibility." You can act on your own. Seldom is there any relinquishing of authority by the boss. He still claims the same responsibility for the work. Under such situations the job hasn't changed.

The Federal Salary Reform Act of 1962 and the Federal Employee Pay Act of 1964 have helped offset these tendencies by providing new basic pay rates and higher increments between steps. Quality increases permit additional pay recognition where the employee's work is worthy of additional pay.

The Classification Act is a systematic plan for placing jobs in levels according to established measuring devices, but it will be only as good as people make it. If the Act and the standards are used to establish realistic and consistent levels for pay, you will have a good system. If you try to "beat the system" to get around these principles and to solve individual pay problems by classification, it will not be a good system.

It behooves each employee, supervisor, mechanic or manager to make the plan work. It is not only a law of the land, but an effective management tool.

Senator Holds Winning Pair

Senator Edmund S. Muskie, Maine, Chairman of the Senate sub-committee on air and water pollution, matches up a pair of winners when he displays a panel of Christmas Seals along with a copy of FAA HORIZONS. He's in favor of both issues.

TECH TALK

THE RADAR BRIGHT DISPLAY THAT MADE GOOD

In November 1963, when engineers at NAFEC put the RBDE-5 (Radar Bright Display Equipment using scan conversion) through its paces for potential terminal use, it emerged somewhat the worse for the scrutiny.

Its deficiencies included a lack of control of target size and video contrast in the lower scale ranges, six to 10 miles, where it was most needed; lack of sharp targets and poor focus control; extremely difficult gain control adjustment, especially in tracking targets through precipitation; and various other drawbacks. In all, a dreary checklist of ailments that rendered the RBDE-5 unfit for terminal facility use.

Remedial action was indicated. William J. Dunn and his engineers, Vincent J. Lasewicz, Thomas G. Shack and Gerard Spanier, all of the Advanced Engineering Section, ATC Systems Branch, SRDS, were given the job of refining RBDE-5 for terminal use.

They were quick to discover that a number of deficiencies were simply due to poor or improper alignments of sensitive electronic components.

They also learned that there was little or no information available from the manufacturer on storage tube characteristics, making it more difficult to recognize potentials and limitations of the display tube. Also, motor-driven potentiometers used in adjusting video levels were operationally unsatisfactory, a situation which meant finding a substitute method.

With the assistance of William B. Taylor of the FAA Academy, Dunn and his crew found ways to correct the deficiencies and improve the equipment. They developed an entirely new alignment procedure, with subsequent improvements in video contrast, video intensity, target focus, writeup of video following an erasure, circular polarization and storage build-up.

They also produced significant information on storage tube characteristics to provide improved read and write amplifiers. Motor-driven potentiometers were replaced with entirely different types of controls for video gain and target trail.

These and other changes resulted in a highly satisfactory demonstration in June. Initial modification has already been done on the ARTS equipment recently installed in the Atlanta tower. A technical data package with details is now in the hands of the IMS Depot at Oklahoma City, where modification kits will be fabricated. These will be used to modify more than 400 RBDE-5's now in use at the various centers throughout the country.

CONTROLLERS DEPEND ON COMMUNICATION RELIABILITY

Controllers at air route traffic control centers (ARTCCs) are dependent more than ever on highly reliable air/ground, interfacility, and intrafacility communications to control air traffic safely and quickly.

As each ARTCC assumes control over larger areas and depends on increased numbers of remote communications facilities, communications failures tend to become more and more critical.

The Agency is engaged in a program aimed at ensuring reliable communications at reasonable cost. Some investigations and efforts in this respect are:

- Geographical routing diversification of leased-line circuits between facilities;
- Duplication (redundancy) for certain critical circuits;
- Installation of a circuit testing device at remote controlled air/ground facilities (RCAG's) to facilitate checking leased-line circuits between the ARTCC and RCAG.

Since the communications of an ARTCC are an integrated complex of equipment and circuits leased from various telephone companies and FAA owned and maintained equipment and circuits, the Agency must obtain the cooperation of the telephone companies to achieve its goal. In general, the circuits serving RCAG facilities are leased from telephone companies. Many of these are more than 100 miles in length, and made up of metallic lines, coaxial cable, radio link or a combination of these. The largest in the United States, American Telephone and Telegraph, has agreed to supply the FAA with geographical diversification within the limits of their plant capability, to provide circuit testing devices at RCAG facilities as a service improvement program, and to restore circuits according to an Agency furnished priority list to provide rapid restoration of essential services in event of catastrophic failure. It is anticipated that other telephone companies will provide similar services and arrangements.

New construction and additional leased services are anticipated to provide better circuit diversification between the ARTCC and entry to the telephone companies backbone network. In a number of cases this has already been done and for the remainder the regions are obtaining cost estimates for leased services and construction cost for each individual ARTCC.

When the new circuit test devices have been installed it will be possible to check a particular RCAG circuit from an ARTCC in a matter of seconds. It is now necessary to send a technician to the RCAG site, to check circuits. These sites are generally located in isolated areas. The test devices, which are highly reliable, tone actuated and transistorized, are expected to provide rapid restoration of failed circuits, and reduce the amount of man-hours required to isolate failures between the RCAG equipment and telephone company circuits.

They have been field evaluated, and found suitable for application to RCAG circuits.

It has been determined that no further diversification or redundancy of circuits or equipment, either by the FAA or the telephone company, within the ARTCC or RCAG proper is considered necessary to provide reliable communications.

Duane L. Johnson, RD-713, points to improved target on modified RBDE-5 at NAFEC.

YOUR HEALTH

IT'S INHALING THAT'S BAD

Smoking and health, the Report of the Advisory Committee to the Surgeon General of the Public Health Service, caused a sensation when it appeared last January. The members of the committee knew what they were talking about. They were respected authorities in the fields of biology and medicine who were nominated by interested public and voluntary health agencies and the Tobacco Industry Research Center to make this study.

Their findings were clear, explicit, comprehensive and shocking, and left no doubt that smoking—cigarette smoking in particular—poses a serious threat to health.

In unanimous and unequivocal words they stated that:

• Cigarette smoking is associated with a 70 per cent increase in the death rate among men in certain age groups and, to a lesser degree, women also.

• It is causally related to lung cancer and the average smoker runs 9-10 times more risk of developing cancer than non-smokers, while the risk is 20 times greater for heavy cigarette smokers.

• Cigarette smoking is the most important cause of chronic bronchitis and increases the risk of death, not only from this disease but also from emphysema.

• Cigarette smokers have higher coronary disease death rates than non-smokers; and cigarette smoking is associated with other cardiovascular diseases.

Despite this bad news a great many people continue to smoke while acknowledging the dangers. They're convinced its bad for them but they're still puffing away and occasionally worrying about it. For these there is a ray of hope.

Doctors at Columbia University believe that it is *inhaled* smoke that damages the lungs and they have devised a technique for handling the situation. It's smoking without inhaling and here is their advice on the subject:

1. Take a puff. 2. Don't swallow. 3. Hold the smoke in your mouth with your lips closed. 4. Breathe some air in through your nose. 5. Let the air and smoke out through your nostrils.

The Columbia medics say that any smoker can learn in a few tries, and they recommend it if—you want to make sure cigarettes don't damage your lungs, shorten your life, give you chronic bronchitis or lung cancer, or add to your chances of dying from heart disease and lung disorders such as emphysema.

Give it a try. You might like it.

...AND SAFETY

ARE YOU A SAFE HUNTER OR JUST A HUNTER?

The secret to safe gun handling is really no secret at all. Ask any expert hunter or target shooter. Chances are that the first thing he'll tell you is that safe gun handling procedures are actually the cheapest kind of life insurance available. Then he'll probably add, "Just use good old common sense." There are, of course, other rules.

You can start by treating every gun as though it were loaded.

• **Open the action.** Look in. Be certain there is no unfired shell or cartridge in the chamber or magazine.

• **Check the magazine.** Empty the magazine of all ammunition. With the finger outside the trigger guard and the muzzle pointed in a safe direction—away from your body, your friends, dogs and autos—operate the action several times to be sure no ammunition remains in the magazine. Look in the chamber again before you squeeze the trigger.

• **Keep the action open** while examining any gun and when handing it from one person to another or when placing it in a vehicle.

• **Before you load your gun.** Operate the action to be sure the trigger mechanism is functioning properly. Set the safety in the "ON" position and try to pull the trigger. Remove pressure on the trigger. Now release the safety. If the striker falls when the safety is released, your gun needs repairing. This is not a do-it-yourself job; take it to a gunsmith. He'll be sure the trigger pull is not less than three pounds.

• **After you have finished hunting for the day.** Unload your gun carefully. Clean it thoroughly, even though it may not have been fired. Oil and dry it. Examine it for broken or worn parts.

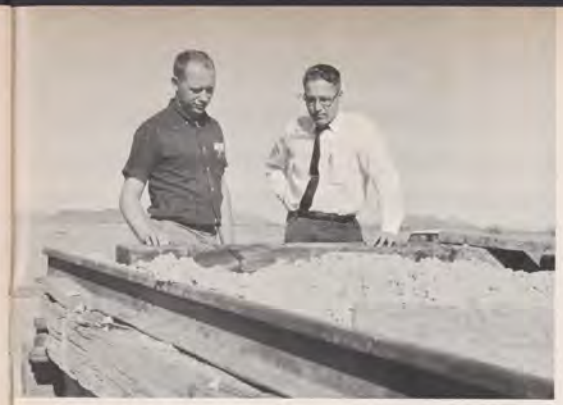
• **Store guns and ammunition safely.** Guns should be placed where small children and inexperienced adults cannot get them. Always unload your gun completely before bringing it indoors. When hunting or at target practice and you wish to put your gun aside, remove all ammunition from chamber and magazine and leave the action open. If you can, lock the gun in the trunk of your auto.

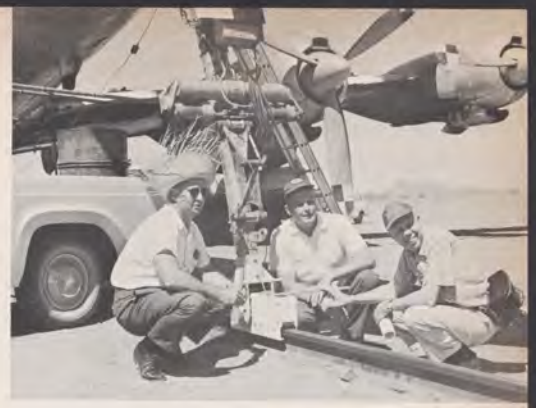
• **Ammunition should be kept** in the cartons you bought it in. These cartons are labeled with the caliber, bullet weight, shot size, powder charge and other valuable information. If you make this a habit, it is unlikely you will ever run the danger of using the wrong ammunition.

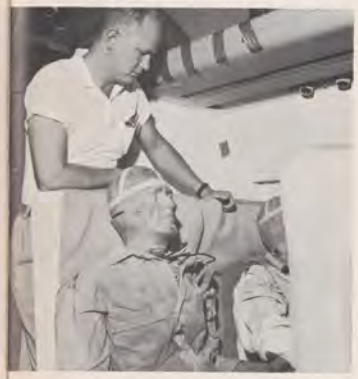
• **Ammunition should be stored** in a cool, dry place, securely locked and away from your gun storage area. It should not be subjected to extreme heat or moisture. Heat will cause a change in the burning rate of the powder charge, possibly resulting in inaccuracy, damage to the firearm and injury to the shooter. Moisture frequently affects the priming compound and causes rifle and pistol ammunition to corrode. Corroded or damaged cartridges should be destroyed. Shotgun shells which have been wet enough to cause malformation should be destroyed.

• **Learn what game actually looks like.** You can do this by preseason visits to the hunting country or by a visit to the zoo. Many hunters hunt for years without seeing game because they do not know what to look for.

If possible, travel with an experienced hunter until you have learned the basic methods and woods lore necessary to hunt safely and successfully. Nobody is a born hunter.

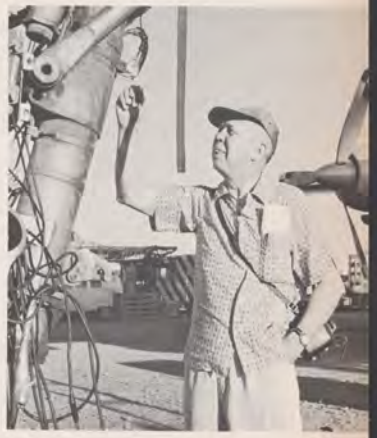


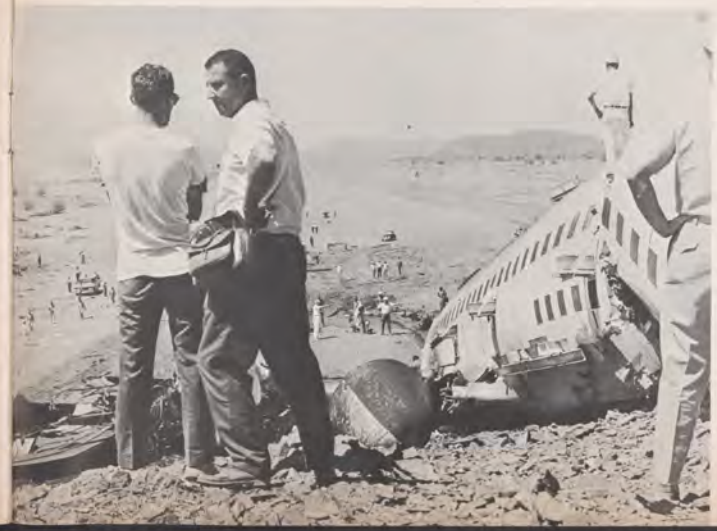


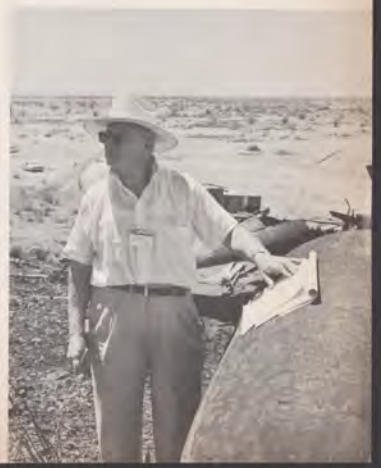


FROM CHAOS, KNOWLEDGE

The Agency's test **Super Constellation** took less than 30 seconds to streak down its last mile before slamming into natural and man-made barriers at 115 miles an hour. This dramatic display of a planned take-off crash took place on a rocky slope 20 miles north of Phoenix, Ariz., in a scientific test to gather data on passenger survival in landing and take-off accidents. FAA personnel working behind the scenes, from upper left, clockwise: Donald W. Voyls, project manager and William Bingham, Boeing Aircraft Corp. • George P. Bates Jr., Isaac H. Hoover, test program manager; and Harold D. Hoekstra, DS-40. • Hoekstra checks instruments on landing gear. • John Vitol, FS-120 charts wreckage scatter • Bates stands near wreckage, tracing "spill" pattern of dyed, gelled water used to simulate fuel. • Herbert C. Spicer, assistant program manager, takes a last look at one of the anthropomorphic dummies spaced strategically throughout the plane. FAA engineers and scientists loaded the aircraft with instruments which recorded impact and accurately measured the crash.







FAAers ON THE JOB

William A. Stephens

"Steve" Stephens has probably made more "blind landings" than any pilot in the country —1,200 in the last three years. As supervisor of Project Unit No. 2, Aircraft Services, NAFEC, Stephens does all flying on the development of the automatic landing system. Pilots from all over the world have tried out the system at NAFEC with him monitoring the controls. Stephens also heads a test pilot team working on other flight projects. A pilot since 1933, he flew with airlines in this country and in Latin America before starting with the Agency in 1960. Since then, he has become internationally known among those in civil and military aviation who are active in the all-weather program.

George M. Rostron

George M. Rostron is a man of letters—on and off the job. An illustrator assigned to Administrative Services Division at Southwest Region headquarters, he is usually waist-high in a welter of graphs, displays, signs, pamphlet covers and even murals—all products of his versatile talent. The other letters—SPEBSQSA —are a jumbled alphabet of another sort but just as dear to George's heart. They stand for the Society for the Preservation and Encouragement of Barbershop Quartet Singing in America. He sings bass in the Fort Worth chapter. George has been with the FAA 18 months, having transferred from Carswell AFB.