FAA HORIZONS

FEBRUARY 1965

OFFICIAL EMPLOYEE PUBLICATION OF THE FEDERAL AVIATION AGENCY

When A Flood Strikes...

EDITORIAL:

A View from Abroad

The world still spins at its old rate, a fraction more than 1,000 miles an hour, and it still has a waistline of 24,902 miles, but the airplane and telecommunications—both American inventions—have compressed time and distance to a point where they no longer present a barrier to international commerce or understanding.

We, in the Federal Aviation Agency, and especially those of us who are part of the Europe, Africa, Middle East operation have occupied a unique vantage point from which to participate in world aviation development and to observe the contributions made by Americans to the art and science of flying and its related fields.

American aircraft, air navigation aids and telecommunications equipment are accepted world-wide as the standard of excellence. American-made aircraft figure prominently in the inventories of Free World air carriers and the venerable DC-3 is still in active service on both sides of the Iron Curtain. The world aviation community looks to the United States to lead the way in supersonic air travel, while at the same time buying our standard, off-the-shelf aircraft, aircraft components, telecommunications equipment and air navigation aids in steadily increasing quantities.

Moreover, aviation people the world over flock to the United States to study in our factories, our trade schools, schools of higher learning and the FAA Aeronautical Center at Oklahoma City, Okla. Last year, more than 300 men from 54 countries visited or enrolled in formal courses or on-the-job training programs at the Center. It seems evident to me that America's position in the world of aviation is preeminent.

As departing head of the Office of the Assistant Administrator, Europe, Africa, Middle East (EU), *(Mr. Prill leaves the Agency this month. See page 18.)* I have been privileged to occupy what I consider the "best seat in the house" to view America's influence in world aviation. One of the most convenient yardsticks to measure this influence has been American aircraft, aircraft component and aircraft related materials exports. These totaled some $1.3 billion in 1964, a level which has remained fairly constant for the last several years. Deliveries of helicopters, however, showed a significant increase —29 per cent over last year. This is a healthy slice of United States aerospace business whose annual sales continued at a $20 billion level.

This is big business but I'd like to call attention to American enterprise on a more modest level, one in which EU personnel played a major role. It occurred last summer when two groups of European pilots participated in an 18-state, 6,700-mile tour of the United States in 15 rented Piper *Cherokees*. They were impressed with the planes, the abundance of navaids and the ". . . simplicity of flying in the United States"—and they said so in their local newspapers when they returned to Europe. This coming summer, additional private pilot groups will make comparable air tours of the United States.

Similarly, the lesson is not lost on the millions of passengers worldwide who travel in American-made planes. They are aware that their swift, safe passage bears the stamp: "Made in the U. S. A."

I think all of us in the FAA can be justifiably proud of our role in keeping the United States "Number 1" in world aviation.

Guy T. Prill

George C. Prill
Assistant Administrator
Europe, Africa and Middle East

Responsible for FAA activities in Europe, Africa, and the Middle East, including Iceland and the Azores, Mr. Prill's organization operates with personnel based in New York City, London, Paris, Brazzaville, Frankfurt and Beirut. He has served as U.S. civil member of the NATO Committee for European Airspace Coordination (CEAC), He also worked closely with all United States and foreign aviation authorities and the International Civil Aviation Organization.

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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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CONTENTS

COVER:
Air rescue operations for flood-stricken northern Californians were handled by the FAA from an old Navy tower put into operation at Arcata Airport to direct emergency airlifts.
(Photo by Eureka Newspapers, Inc.)

FAA AIDS FLOOD AREAS

By Clifford Cernick
Western Region

For Northern California, it was a bleak, water-logged Christmas.

Floodwaters, unleashed by more than a week of drenching rains and thawing weather, isolated an area larger than the State of Rhode Island. Entire villages were washed away. Rail and highway arteries were severed. At least 16 major bridges were wiped out. The Northwestern Pacific Railroad's right-of-way for more than 100 miles was washed out or damaged. More than 7,000 men, women and children were left homeless; at least 40 lost their lives. Governor Edmund G. Brown termed the devastation "a major American disaster." It was the worst flood in West Coast history.

For FAA, the flood emergency presented a special challenge. All help for the inundated area had to come by air. Land links were impassable, and some would be for a matter of months. The massive relief and rescue operation that swung into motion was dependent almost entirely on aircraft. In many areas, food and medicine had to be air dropped. Survivors clinging to rooftops had to be evacuated by helicopter, some of them to hospitals.

Region Responds to Emergency.

At Western Region Headquarters in Los Angeles, no time was lost in responding to the emergency. Field facilities had kept Headquarters in constant touch with the situation as it developed. A typical early report came from Ralph L. Fitch, acting chief of the Ukiah Flight Service Station (FSS), who advised that the coastal area from Ukiah to Arcata had been experiencing continuous rainfall for almost a week, bringing the Russian River and other streams close to flood stage.

As each new report grew more ominous, FAA prepared to set in motion its plan to offer the fullest possible support to relief and rescue operations, working closely with military and civil defense officials at every step.

It was clear at the outset that airports in the Arcata-Eureka vicinity, situated in the heart of the flood area, would become nerve centers for rescue, supply and evacuation.

On the day before Christmas, a six-man air traffic control team was dispatched to Arcata Airport from the Seattle Air Route Traffic Control Center, the Portland Tower, and the Seattle-Tacoma Tower to initiate control and tower service from the Arcata FSS. Fortunately, the old Navy tower cab

Left: An Air Force helicopter was used to rescue a family from the rooftops as the floodwater of the Molalla River surrounded the house. Above: Cargo aircraft and helicopters from all military branches filled the sky and crowded the ramps of the Arcata Airport as essential food and medicine was airlifted to the areas in Northern California.

Emergency air traffic control communications for the flood disaster area were reviewed by Western Region Director Joseph H. Tippets (left) and Air Force officers.

was available for this purpose. The team, headed by Charles R. Porterfield, air defense officer at the Seattle ARTCC, had the tower in full operation on Christmas Day—just as heavy traffic began to funnel into the area. This group was later augmented by three additional men from Seattle.

Military *C-119s, C-121s, C-130s, C-124s* and helicopters began to move in and out of Arcata Airport with precious cargoes of evacuees, food, medicine, and equipment. During one period, the airport was being utilized by Army, Navy, Air Force, Coast Guard and civilian air traffic. Cargo planes brought in emergency generators, jeeps, cots, blankets and cattle feed.

Where the field formerly had been able to accept about five aircraft per hour, the acceptance rate with FAA tower and RAPCON operation jumped to as many as 20 per hour, all with increased safety despite the usually hazardous mixture of rotary and fixed-wing traffic and adverse weather. In a typical two-day period, during the height of the flood, the Arcata Tower accommodated more than 500 instrument flight rule (IFR) and visual flight rule (VFR) operations.

Working closely with the nine air traffic personnel from Seattle and Portland was the regular complement of the Arcata Flight Service Station, consisting of eight journeymen under Chief Lawrence H. Payne. Systems Maintenance activity was continued on a stepped-up schedule by Stanley S. Williams, chief of the Arcata Section, and five technicians. Two additional systems maintenance technicians were brought in from McClellan Air Force Base.

Three towers were placed in operation by FAA in the flood area. These were at Humboldt County airports at Arcata, Murray and Rohnerville. Radar approach control (RAPCON) service at Arcata also was initiated. Additional communication facilities were installed as required by the intensified operation.

Joseph H. Tippets, Western Region director, and members of his staff, worked closely with the Air Force Communication Service, Sixth Army, and Civil Defense officials in planning all details of support activity and augmenting facilities in the Arcata area. Equipment and personnel, including a mobile RAPCON for Arcata, and towers for Murray and Rohnerville, were made available and airlifted in by the Air Force and Army.

Director Tippets flew to Arcata for an on-the-spot check of FAA activity there, along with Allen E. Horning, chief of the Installation and Materiel Division; John H. Hilton, chief of the Air Traffic Division; and Hervey E. Aldrich, chief of the Systems Maintenance Division.

During the visit, Director Tippets paid warm tribute to FAA personnel who had given up their Christmas and New Year holidays to assist in the emergency.

"The assistance FAA has rendered here has very forcefully demonstrated again the Agency's ability to respond rapidly and efficiently to emergency situations," he said. "It also reflects our ability to work closely with other agencies and the military under very difficult conditions to provide the utmost assistance to disaster victims."

Despite long, weary hours of work under crowded conditions, FAA personnel at Arcata responded to the emergency with a spirit of real dedication, service and helpfulness.

"The attitude of these men was inspiring," said Charles R. Porterfield, who supervised the air traffic control operation. "You couldn't give them enough work. They wanted to help in any way they could. I couldn't get them to take a day off. One man worked a six-day stretch of 14 hours a day until I made him take a day off. The next morning he was back at the tower insisting he wanted to go back to work."

One of the controllers summed up his feelings in this way: "On Christmas Day, I saw a little girl come in to the Arcata terminal with her mom and dad. They had just been brought in by a rescue helicopter. The kid's clothes were wet and she was clutching a little doll. Her mother told me, 'You know, that's all that's left of her Christmas.' When I see things like that, I'm really thankful I can be here to help out in some way." ■

(USAF and Eureka Newspaper, Inc. photos.)

VIP Lauds FAAers During California Floods —

Harry S. White, president, Pacific Air Lines, Inc., San Francisco International Airport, San Francisco, sent the following laudatory telegram to Administrator N. E. Halaby. It stated:

"The emergency operation of air traffic control at Eureka, Calif., is great. Scheduled transportation moving on a near schedule basis. Please thank all parties concerned. Harry S. White, president, Pacific Air Lines."

BOLINDER:

Pioneer Aviation Experimenter

One of the Agency's most versatile and enterprising employees is Lester A. Bolinder, a technician with the Wendover, Utah, Systems Maintenance Section.

Recently, Bolinder was the subject of a full-page article in a Salt Lake City newspaper. The article was titled: "Les Bolinder Has A Way With Things." It would be hard to argue with this in view of Bolinder's unique career, which spans more than half a century and encompasses innumerable occupations and specialties.

In 1911, when only 12, Bolinder helped conduct early experiments in aerodynamics, plant controls, motors and airplane construction.

"Wilford E. Palmer was building a plane in a barn at Grantsville, Utah," Bolinder recalls. "I had to supply air streams from hand-operated bellows to test air flow over the wings."

That plane, he remembers, flew 20 feet off the ground for about 500 yards.

"It possibly could have flown higher and farther, but nobody knew how to fly and the pilot was afraid to try it," he said.

In 1915, Bolinder hauled U. S. mail and freight for $75 a month. Later, he took a job operating a steam hoist at an ore mill.

In 1918, he learned to fly at Salt Lake City airport and later bought his own plane, one of the old Eaglerock biplanes.

In 1923, Bolinder started a passenger-freight line in Utah, using Model-T Fords.

When President Hoover signed the U. S. Mail Service Act in 1928, he was employed by the Government to plot air routes and establish landing strips and emergency landing fields. He flew over Western Utah and Eastern Nevada dropping five-pound sacks of flour to mark likely locations for these fields. Later, using a bulldozer and grader, he built airstrips at more than a dozen locations which became welcome sights to many a future aviator. He subsequently designed and built an over-the-snow vehicle.

More recently, during weekends and vacations, Bolinder constructed a modern home, several cabins, a heavy equipment workshop, a welding shop, automatic electric generator sheds and various storage buildings.

The Bolinders own more than 1,200 acres of land in Utah, some of which is cattle range. His "push-button" home is filled with electrical gadgets installed by the ever-active Bolinder. He still flies a plane and logs some 36,000 miles a year.

With retirement approaching, Bolinder is looking forward to continued activity. He hopes to develop his mountain ranch and on it construct a lake stocked with trout. ■

Bolinder flew the U. S. Mail in a Boeing 40-B. Photo was made Aug. 8, 1930.

This is what the well-dressed aviator wore in the early 1920 flying era.

Another Bolinger invention—a propeller-driven over-the-snow vehicle.

Paul Musso, Riverton, N. J., owner and pilot of the amateur-built aircraft "Churchie La Femme" took almost a year to construct this trim 85 horsepower single-seater.

Eastern Region's Supervising Inspector Ben B. Rock, Engineering and Manufacturing District Office, Teterboro, N. J., flies and maintains his prize-winning "Daisy."

BALING WIRE, STRING AND GLUE

. . . a thing of the past

Amateur aircraft builders Daedalus and his son, Icarus, according to Greek mythology, escaped from their island prison by wearing a pair of homemade wings each had built from feathers and wax. Without benefit of Federal Air Regulations governing the construction of amateur-built flying machines, Daedalus had the foresight to advise his boy to maintain an assigned low altitude because of the technique used in wing construction. Had high-flying Icarus heeded the advice of his dad, the first experimental aircraft inspector, the sun wouldn't have melted the wax which caused him to auger into the drink.

As with Daedalus, flying safety is a chief concern of FAA and this includes inspecting those sleek jobs that haven't yet been flown that come up for airworthiness certification in the experimental classification.

A good example of this phase of the Agency's activities occurs at Eastern Region's Engineering and Manufacturing District Office (EMDO) in Teterboro, N. J. In addition to many other activities, that office provides guidance, assistance and surveillance inspection to more than 100 amateur-builders who produce everything from slow-flying two-lungers to slick, speedy racers.

According to Supervising Inspector Ben B. Rock, Teterboro EMDO, an amateur-built aircraft is one which has been made and put together by a person or a group on a non-business, non-profit, non-production basis. In other words, the project must be for educational or recreational purposes only. As a rule of thumb, inspectors look to see that at least 50 per cent of the aircraft has been home-built.

"Aircraft completely assembled," said Rock, "from prefabricated components or kits bought commercially are not considered as being within the meaning of amateur-built. This means they wouldn't be eligible for certification under this purpose."

Not only is the Agency concerned with the safety of the amateur-builder but also it protects persons and property not involved in the experimental operation. FAA assists the tyro aeronaut in every way possible, such as working closely with chapters of the Experimental Aircraft Association (EAA) and, in many cases, lending a helping hand to individual builders. Many of Teterboro's EMDO personnel attend EAA chapter meetings and take active parts in showing movies and holding discussions relating to all phases of amateur-built aircraft.

Relatively few builders are aircraft mechanics. Some are aeronautical engineers and some are former military, commercial and private pilots. Still others work as automobile mechanics, salesmen, school teachers, radio technicians, controllers, businessmen and . . . well, you name it. Anyone can be bitten by the bug.

Regardless of what their professions are, the amateur aircraft builders contribute extensively to the advancement of general aviation. The builder is an aviation enthusiast constructing his "dream" aircraft, living for the day when he will fly it as a hobby. He works with pleasure because he's doing what he truly enjoys. His finished aircraft, a product of hard labor, time and expense, may take from six months to four years to complete.

Amateur aircraft building has blossomed throughout the nation among thousands of flying enthusiasts. Safety regulations and careful inspection, rigidly monitored by FAA from conception through actual flight, has assured America's air-minded citizens a place in the sky. ■

Pigeon carries a small radio beacon.

FOR THE BIRDS

An aide readies homing pigeon for a bird tracking mission.

Pigeons aren't very smart but some of them go to college—like the 30 "homers" currently in residence in lofts near Harvard University's division of engineering and applied physics.

The pigeons aren't there to learn, it's the other way around—Charles Walcott, an assistant professor of applied biology at Harvard, is trying to find out how the birds manage to fly unerringly to their roosts after being released far from home. He suspects the pigeons know something about navigation that might be useful to the species that is obliged to fly without feathers—man.

Interest in what goes on inside the brain of pigeons is not new, Professor Walcott explains. His part of the inquiry is now about a year old and he expects it to continue for another year. Early in the game he and his assistants abandoned the idea of trying to follow a flock of pigeons and decided to concentrate on the flight behavior of a single bird.

It was at this point that the FAA became involved—not controlling the pigeon's flight but in providing custom-made air traffic advice to Professor Walcott as he loitered above air fields in his plane or flew erratic patterns just as mixed up as his pigeons.

Seeing a single pigeon from the air is hard enough, but to follow it for any prolonged period is impossible. The birds fly at tree-top level at 30 to 40 miles an hour; with a tail wind, an average homing speed of 60 miles an hour is not unusual. Walcott and Martin Michener, his assistant, devised a system to follow individual pigeons in a Cessna 180—they equipped their pigeons with tiny, single-transistor, crystal-controlled oscillators that together with batteries, antenna and harness weighs less than an ounce. With a power output of a few millionths of a watt, and using a very sensitive receiver, they can track the birds from distances as far as ten miles.

Everything was proceeding along normal, if somewhat ingenious, scientific lines of studious inquiry into what makes *Columba livia* scurry back to its home cote when it was learned, quite quickly, that pigeons do not always make a beeline home—they often tend to dally, sometimes for a day or more, before winging back to their regular roost. This didn't worry the pigeons to any noticeable degree but it did have an effect on Professor Walcott, his crew and the FAA which controls air traffic in and around Boston.

Walcott finally succeeded in explaining what he was doing tooling around, apparently aimlessly, along busy airways, over and in the vicinity of airports and immediately obtained the fullest cooperation of the controllers who seemed to take personal interest in the project.

In a letter to Administrator Halaby thanking the controllers for their cooperation Professor Walcott said: "On all occasions it (the pigeon) seemed to show a complete disregard for air traffic control procedures; it is just as likely to sit in the middle of a busy airport as on a remote barn, and no matter where it does sit, we have to circle several thousand feet overhead to keep an accurate measure of the bird's position.

"We have always received the greatest courtesy and assistance from control tower personnel at Grenier, N. H.; Worcester, Mass.; Logan Airport, Boston, Mass.; New Bedford, Mass.; Windsor Locks, Conn.; Hartford, Conn.; and Bedford, Mass."

Professor Walcott is doing research under a contract with the Office of Naval Research./*Frank J. Clifford.* ■

Above: Blueprints are as easy for Miss Healy to read as headlines in the morning paper. Below: Before the FAA building was finished she was a master at laying tile. Right: Watching the flag go up the day FAA moved-in.

FAA's Miss Healy

Mary Elizabeth Healy, a beguiling five-feet of jet-propelled femininity who bears the ponderous title of deputy manager of the Office of Headquarters Operations (HQ), is FAA's highest ranking woman executive. It is no mere flight of rhetoric when her boss Jack B. Hogan refers to her as his "not-so-secret weapon."

Miss Healy came to the Agency in 1946 as a budget analyst and quickly moved into Special Services which meant, for the most part, arranging office space, seeing that furniture was moved, telephones installed, mail delivered and the mimeograph machines repaired.

Today, with the help of her guidance and determination, the mimeograph operation is a full-fledged printing plant and FAA has a first-class photo lab that is equipped to make motion pictures, photographic displays and exhibits. The FAA library has been upgraded to the highest professional level. Instead of dealing with single offices, she helps manage the entire headquarters building, a logical development in that she helped raise it from a blueprint, and in so doing won the FAA Distinguished Service Award, the Agency's second highest achievement honor.

From start to finish Miss Healy was the central contact with the General Services Administration and a battery of contractors in the evolution of 800 Independence Avenue. GSA was so impressed with her research into modern interiors that they followed it up with extensive studies of their own. Many innovations in the FAA and other new Government buildings are a result of her initiative.

Tireless herself, Miss Healy has a way of inspiring loyalty in those who work for her and they do so cheerfully and without regard for time. An amusing sidelight to her talent for getting things done is that contractors warned their men never to give her a completion date for a job because she'd hold them to it. Nevertheless they did—and she did. Her complete inability to accept the idea that anything is impossible led to some titanic battles of will while all this was going on. But when Miss Healy looks at the building she only remembers the pleasant things, and to quote her, "That's the way it was most of the time." And she means it./*Catherine P. Strickland.* ■

ON THE WATCH . . . ARCTIC TO AZORES

High over the North Atlantic, an airliner cruises through the winter night en route to Europe. Passengers rest comfortably in the cabin, while up front pilots check instruments and monitor progress. The flight will be guided safely across the ocean by a series of electronic navigation aids in Iceland, Greenland, Labrador and Newfoundland.

Farther to the north an Air Force interceptor shrieks down through blowing snow, guided to a safe landing on a wind-swept runway by an unseen but omnipresent Instrument Landing System-Precision Approach Radar (ILS-PAR).

Both the airliner and the fighter, only two of many routine flights in this starkly isolated area, depend on a variety of navigation and landing aids plus communication networks. These facilities must operate accurately on prescribed frequencies and strength. To make sure they do is the responsibility of the district flight inspection office (FIO) at the Agency's National Aviation Facilities Experimental Center (NAFEC), Atlantic City.

This office flight inspects navigation aids strung across the North Atlantic, facilities in the Azores and Bermuda and parts of Canada, including the Distant Early Warning (DEW) Line. It also handles the Washington and the New York Air Route Traffic Control Center areas. This combined area extends north from the Virginia-North Carolina border to mid-New York State, and from West Virginia and central Pennsylvania eastward to the coast.

This FIO at NAFEC was established last September by consolidating offices at Richmond, Va., and at John F. Kennedy International Airport. The new office, headed by Edwin F. Fitzpatrick, comes under the Aircraft Management Branch of the Flight Standards Division in the Eastern Region.

Fitzpatrick's staff of 67 includes 40 pilots, four navigators and 14 airborne electronic technicians. The latter monitor instruments in the "airborne laboratories" and record the operation of electronic aids. Navigators, required on overseas flights, double as airborne technicians.

The NAFEC FIO operates two DC-4s on its overseas operations and four DC-3s for its domestic area. Together these planes log some 9,000 hours annually, of which about 3,200 are flown overseas. The pilots each average 600 flight hours a year.

More than 675 navigation aids, both overseas and domestic, are flight checked by 24 Flight Inspection Offices (FIO). Some navaids require monthly inspections, others are on two-month schedules and some less often. But like window washing the Empire State Building, the work never ends. When the inspection cycle is completed it's time to start all over again.

Besides the scheduled periodic inspections, it occasionally becomes necessary to flight check a particular facility or a series of navaids in one locality after a shut down for maintenance or following an airplane accident. In these instances, the FIO plane operating closest to the area is diverted to the scene.

In addition to making flight inspections, FIOs check instrument flight procedures. All new standard instrument approach patterns and other procedures used in routing and handling traffic are first flown by a FIO plane to determine if such maneuvers are safe and the routes are clear of obstructions and navigation hazards. Flight inspection offices also operate consultant services, formulating airport approach patterns on request.

The easiest way to become better acquainted with the work of a FIO is to participate in a typical overseas flight. Such flights are usually made every six days, and are of one to two weeks duration. Before departure innoculations must be brought up to date and passports obtained to visit and inspect facilities in foreign lands. Reporting at the FIO quarters in the FAA hangar at NAFEC, an arctic flight itinerary is already planned. FIO maintains close and continuous liaison with the sites whether they are operated by foreign governments or the military. Lt. Col. Ernest A. Via, USAF, assigned to the FIO in Atlantic City, coordinates arrangements with the Air Force.

Special clothing, such as parkas, jackets, gloves, pants, mukluk boots, sunglasses, and head nets are taken on the arctic flights. Arctic survival sleds aboard the plane contain equipment and supplies to sustain the crew if a forced landing is necessary. All crew members receive a ditching survival course given by the Coast Guard at Floyd Bennett Field, Brooklyn, and the USAF arctic survival school at Goose Bay, Labrador. At "Goose," crew indoctrination includes living off the country for three days.

Maintenance for the NAFEC-based FIO aircraft is provided by the Aircraft Services Facility. A flight mechanic from the unit performs maintenance and service on all FIO flights and at en route stops. Besides the flight mechanic, the typical overseas plane crew includes a pilot, co-pilot, navigator, an airborne technician and additional crew members as the mission requires.

A 12-hour flight from Atlantic City brings the FIO crew to the northern-most airport in this hemisphere, the last outpost on top of the world: Thule, Greenland.

En route a string of navigation aids are inspected, and preparations are constantly being made to handle more coming up. Equipment calibration occupies a good deal of time.

En route to Thule, the navigator determines a number of position fixes with his sextant. After hours of flight, and as soon as the Thule VHF omnidirectional radio range (VOR) or tactical air navigation system (TACAN) come into range, the navaids are checked on the inbound flight. Instrument readings are inked automatically on a recorder, and all information is filed for analysis.

If the weather is clear on arrival at Thule, the ILS is checked immediately, as the inspection flight requires good weather to complete the evaluation. Unlike radar equipment, radio aids can only be checked during visual flight rule (VFR) weather.

During the flight check the plane makes a series of ten different types of flight patterns. Basically, they are a series of approaches, some made deliberately too low for terrain clearance, others too high for phasing checks. Some are critical from the point of airspeed and altitude and require precision instrument flying. If the weather is not VFR, the flight is shifted to another facility.

To check VOR, TACAN, ILS and PAR, a ground crew equipped with a theodolite operates at pre-determined sites. Resembling a surveyor's instrument, the theodolite pinpoints the plane over the site during various maneuvers being flown from all points of the compass. A special light on the side of the plane, plus the use of the landing lights, enables the plane to be tracked during periods of darkness. Electronic technicians and navigators from the FIO generally operate the theodolites, often plowing through snow and frigid air to set up their equipment.

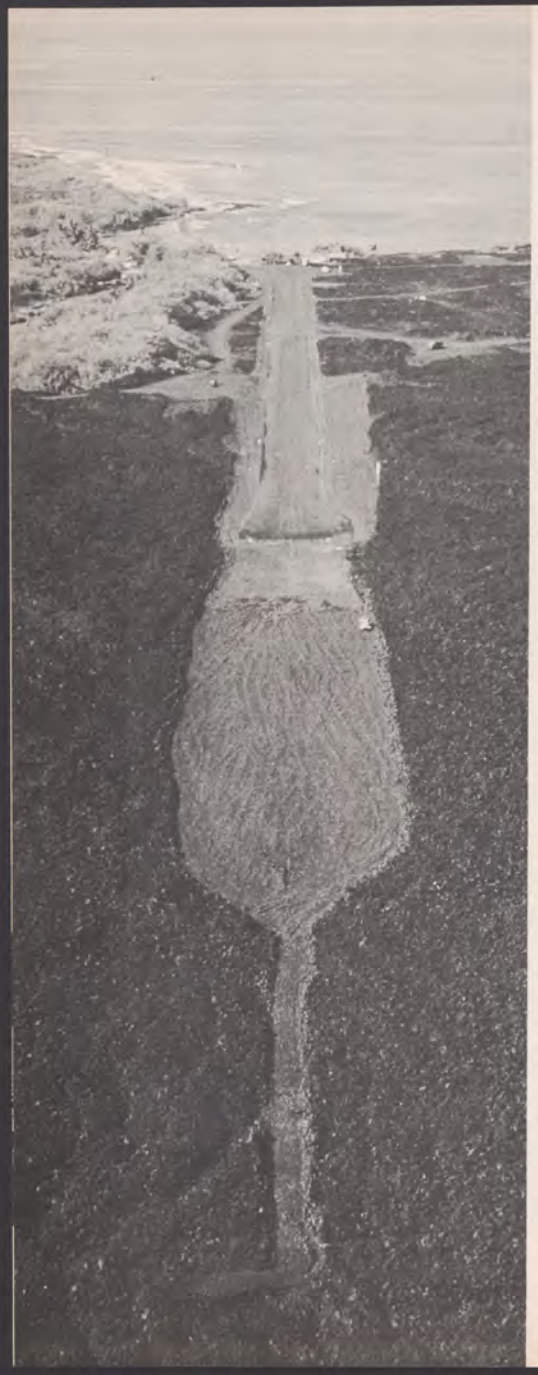
Flight inspection of a VOR or TACAN station requires from two-and-a-half to eight hours. In a remote place like Thule or Sondrestrom, its southern neighbor in Greenland, excessive air traffic is no problem. Inspecting facilities at a busy hub in large metropolitan areas however, requires a greater effort to sandwich the job in between other traffic.

Returning from the frozen North the crew follows no prescribed route. It may report to Iceland or return via Bermuda, Newfoundland or the Azores. The itinerary depends on the job to be done. When navigation aids are inspected or when the next maintenance check is required, the FIO crew—fully equipped is ready to go anywhere. But, when the plane finally returns to NAFEC, the crew, although weary, and somewhat frozen, has contributed to safer aviation in the far reaches of the globe—from the Arctic to the Azores. ■

Almost surrounded by a horseshoe ring of mountains, the airstrip at Sondrestrom, Greenland, on the rim of the Arctic Circle, underscores the need for absolutely accurate, dependable aerial navigation aids.

On a flight inspection of navaids, Edwin F. Fitzpatrick (left), chats with technician Joseph Reddin. Pilot is Ardivina Carella.

Destination: Arctic Circle. DC-4 crewmen, from left, are: Richard L. Beverly, Robert E. Keyser, Mark Newcomb, Alex Friedman, Joseph W. Reddin and Michael McFarlen.



PACIFIC REGION SPANS WORLD'S LARGEST OCEAN

FAAers in the Pacific Region, like Texans, use the unique size of the region as the opener for a string of oddities and statistics which give the area even more distinction than its size.

Starting with the fact that the Pacific Region spans an area larger than the total land masses of the world, a veteran of the area will quickly follow through with a list of outstanding natural phenomena and unusual cultural features not found anywhere else in the world.

A few facts used to top the stories of Texans and Alaskans are:

Pacific Region Headquarters is located on an island in a state made up of islands, and its personnel are scattered all over the Pacific Ocean on no less than a dozen islands. It provides traffic control for those islands plus a dozen more.

Eight foreign countries depend on the Pacific Region for advisory service on navigational aids and airports.

The Region's employees are located both north and south of the Equator and east and west of the International Date Line.

Their proximity to the International Date Line gives FAA employees on Wake Island the opportunity to celebrate the New Year's Eve twice each year. After a big night on Wake Dec. 31, they can depart Wake on a 9 a.m. flight on Jan. 1 which arrives in Honolulu at 8 p.m. on Dec. 31, just in time for another New Year's Eve celebration. (No information is available to indicate that anyone has had the stamina to survive two celebrations.)

Hawaii's Maui Island airstrip is located in the middle of a cane field. Other FAA facilities are situated near pineapple plantations, on coral reefs and near volcanos.

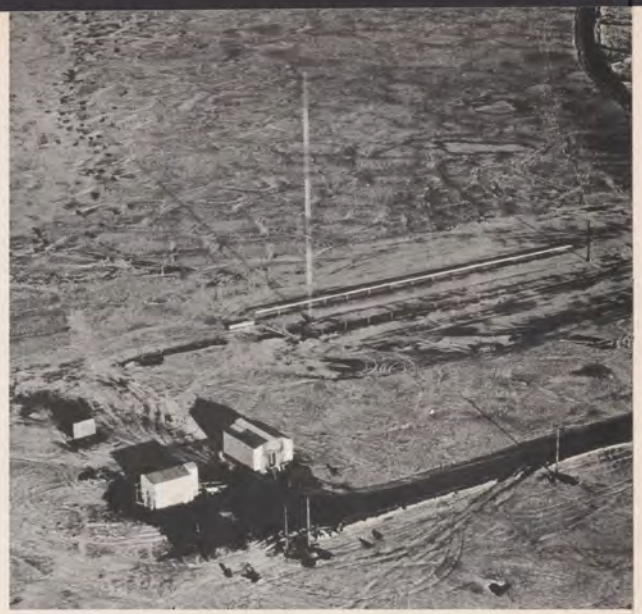
The Pacific also has a Christmas and an Easter every day of the year (both islands, of course).

Among the first people to see the rising sun on any given date are Pacific Region employees on Wake Island.

While the sun never sets on FAA facilities, it is possible, within the Pacific Region alone, for two employees to be one third of the way around the world from each other. (San Francisco and Manila)

The home state of Pacific Region Headquarters, Hawaii, abounds in aviation oddities which natives love to discuss during hangar flying sessions. Hawaii contains:

- a control tower which controls traffic on conventional runways as well as on parallel water landing lanes.
- an airport located on land shared by four government agencies; the State of Hawaii, the U. S. Air Force, the U. S. Army and the U. S. Navy. (Both of the above are located at Honolulu International Airport on the Island of Oahu.)
- a landing strip in the middle of Pearl Harbor with an aircraft carrier-like landing area running from water to water. This is Navy's Ford Island, which depends on Honolulu Tower for control of Instrument Flight Rule traffic. A similar field, Kaneohe Marine Air Station, has one end of the runway in a bay and one in an ocean.
- a string of unusual locations for aviation facilities which includes a pineapple plantation, a leper colony, a cane field, an extinct volcano and a lava bed. These are: the state-owned airport and FAA VOR, surrounded by pineapple trees, on the privately owned island of Lanai; the airport on Molokai in a settlement for those afflicted with Hansen's disease (leper colony); the Kaanapali Airport on Maui Island, located in a sugar cane field, where the Pacific Region for the first time controlled traffic on a private airport (during the recent Canadian Cup Golf Tournament) from a temporary tower built by a sugar company atop borrowed utility poles; FAA's installation in the extinct volcano crater, Diamond Head; and "Jackson Strip" at Kiholo, an airstrip (on opposite page) 12 miles from Kona built on the 1859 lava flow from Mauna Loa, the only active volcano in the United States.
- an airport located five miles from the wettest spot on earth. (Hanalei Sky Park near Mt. Waialeale on Kauai, westernmost island of the Hawaiian group.)
- the first airfield bombed by U. S. forces during World War II. (Burns Field, near Port Allen, which was deliberately destroyed by U. S. forces on December 8, 1941, to keep the Japanese from using it.)
- a point from which a pilot can watch sunbathers on an ocean beach off one wing tip while skiers on a snow-capped peak are visible off the other. (Over the Island of Hawaii.)
- the highest and the lowest airports in the Pacific. (U. S. Army's Bradshaw, 6000 feet above sea level, and 'Lono Harbor, Island of Molokai, which is only five feet above the surrounding water even at the high spots. ■



Left: The new FAA high frequency air-to-ground radio facility has a 140-foot tower. Above: Lloyd E. Patrick heads team of air traffic controllers at Point Barrow. Upper right: Gurden E. Pendergraft (left) assists Werner B. Andreasen attach claws before he inspects the tower. Middle right: Equipment and supplies were barged in during the summer. Lower right: FAAers reside at a camp along the Pacific.

POINT BARROW . . . VITAL RADIO LINK

Lumberjack Paul Bunyan's mythical stride was nothing compared with the one taken by the Federal Aviation Agency in its ever expanding role of giving service and safety to the air traveler.

At America's northern-most community, Point Barrow, Alaska, the Agency went on-the-air recently with a new high-frequency air-to-ground radio facility. The power was turned on December 1964, and its potent signal extended almost to the North Pole.

Point Barrow Radio, which nestles on the icy fringe of the Arctic Ocean, is a key location in FAA's air traffic control system. A few miles to the south, emphasizing the importance of radio navigation to air safety, stands a monument to Will Rogers and Wiley Post who crashed there in 1935.

Today, commercial air carriers flying the polar route between Europe and the Orient can tune in this welcome contact with the snow-covered wilderness below. Weather advisory service, traffic control clearances and company messages are a few of the many services provided by four hardy FAAers who man the station.

Pulling eight-hour shifts, seven days a week, are Lloyd E. Patrick, senior air traffic control specialist, and Gurden E. Pendergraft and Joseph F. Johnson, both air traffic control specialists. Keeping the equipment humming is the job of Werner B. Andreasen, electronic maintenance technician. On occasion Andreasen climbs to the top of the Granger antenna standing 140 feet high to check cabling and the obstruction light.

Although commercial air carriers have been flying the "top-of-the-world" route since 1957, it is just since late last year that FAA has been providing communication in the polar region. Wien Alaska Airline operators used to handle all communications in the area on a contract basis with air carriers and the Agency. Scandinavian Airline DC7s pioneered flying this route to Tokyo and made the communications arrangements with Wien.

Aircraft from Europe are controlled by the Agency from a point 1,080 nautical miles northeast of Barter Island (also known as Kaktovik, 300 miles east of Point Barrow) in the Arctic desolation until they reach the end of the Pacific Oceanic Control, 1,800 miles east of Tokyo. Shemya Radio—at the western tip of the Aleutian chain—is on the Orient end of the run. Overall, the distance controlled is 4,550 miles.

Aircraft flying in Alaska come under the control of Fairbanks and Anchorage air traffic control centers. The big jets refuel at Anchorage International Airport for the eight hour flight west to Tokyo, or the 11 hour flight to Europe.

Air carriers flying the polar route are Air France, Japan, KLM, Lufthansa and Scandinavian Airlines. Northwest Orient Airlines is the only scheduled carrier flying to Tokyo from the United States, using Anchorage as a refueling stop. Flying contract missions for the armed services, between the United States and the East, are Flying Tiger Airlines, Pan American, Slick and Trans World.

The Point Barrow station with its towering new antenna is the first installation of its type to be built in Alaska. A second is planned for Cold Bay, near Shemya, this year.

The polar route, with its modern electronic navigational signposts, weather reporting and communication services, has become one of the major air routes of the world. The Arctic region has been made navigable and safer as a result of the pioneer efforts of airmen who probed its vastness in aircraft and developed its communications. ■

Nord 262 in flight. This French-built turboprop will become a familiar sight in U. S. sky this summer. A high-wing, 27-passenger, twin-engine aircraft, Lake Central Airlines has purchased a fleet of eight as initial replacements for their 24-passenger DC-3s. Plane cruises at 226 miles per hour as compared to DC-3's 170. Selection of the Nord climaxed a five-year search by the company to find a transport suitable for its short-haul, high-density routes. Right: Nord fuselage assembly area. Plane marked No. 9 is actually Lake Central's No. 1. Below: Air carrier specialists from FAA's Central Region at the Nord factory, from- left: Marian (Bud) Shaw, Mordecai X. Crouse, Leonard Korenek, William R. Miller and Joseph Block. Above left: K. D. Mackenzie, chief of the Central Region's Air Carrier Branch (seated) and Mordecai X. Crouse admire a scale model of the new Nord 262.

INTRODUCING THE NORD 262

When an American air carrier buys foreign equipment, it's something of a switch. The practice of past decades has been for foreign airlines to buy American equipment. However, when Indianapolis-based Lake Central Airlines needed replacements for its DC-3 fleet, they found an answer in the French *Nord 262* and ordered eight. The *Nord* is a 27-passenger, high-wing transport, powered with twin Turbomeca Bastan VI B3 jet prop engines, and ideal for Lake Central's short-haul routes which cover what the company refers to as "Mainstreet USA."

Basic type certificate for the new airplane will be issued by the FAA in Paris under a reciprocal agreement between the United States and France as members of the International Civil Aviation Organization (ICAO). However, the job of issuing the all-important operating certificate falls within the aegis of the Central Region—the Indianapolis Air Carrier District Office, to be exact.

Leonard Korenek, local operations specialist, and Robert E. Schindler of the Region's Air Carrier Branch, acting as an Operations Board will subject the *Nord* to a lot of careful scrutiny before approving it for passenger carrying on the Lake Central system.

They will fly it over every mile of the company's route structure; into and out of every airport on the line, not once but many times, and under every sort of operating condition. This FAA board will also determine the number of hours of flight training Lake Central pilots should have on the *Nord* to qualify them as Captain or First Officer, and when refresher training should be taken.

The FAA certificates aircraft in the interest of public safety. Also standards are established by which the aircraft, its engines, instruments and other components are maintained for as long as the plane is in service. With the *Nord,* a four-man review board, Joseph Block and William Miller, from the Indianapolis Air Carrier District Office; Marian (Bud) Shaw and Mordecai X. Crouse, from the Central Region's Air Carrier Maintenance Section, Kansas City, will set up the program and fix the times for inspection and overhauls. Shaw has been designated chairman.

Shaw, Crouse, Block, Miller and Korenek spent several weeks at the factory just outside Paris last fall and became familiar with the *Nord's* operating characteristics. They report that one of the problems encountered concerns the translation of the technical manuals that will accompany the aircraft from France to America. Frequently a word that has been translated into English turns out to have an entirely different meaning from the original French.

In bringing the *Nord* to Indianapolis, precedents will be established in FAA's Central Region. It is the first time that Lake Central has invested in brand new airplanes (usually they buy from other airlines); it is Nord Aviation's first sale to an American carrier; and, not the least important, the Region's first experience in certification of a foreign aircraft for airline operation.

The airline expects deliveries of the *Nord 262* to begin in April and be ready for the flying public by mid-June. ■

N. E. Halaby Announces Key Personnel Changes

Two top-level Agency executives received reassignment orders early in January moving them to key assignments on opposite sides of the world, and a third was selected to be deputy director of the Western Region.

Administrator N. E. Halaby named Phillip M. Swatek as director of the Pacific Region and Raymond B. Maloy as assistant administrator, Europe, Africa, Middle East.

Lee E. Warren, director of Air Traffic Service in Washington since June 1963, was appointed deputy director of the nine-state Western Region.

Swatek, who had been deputy director of the Southwest Region since April 1964, succeeds Robert I. Gale, Pacific Region director for the past three years. Gale has been reassigned to Central Region Headquarters in Kansas City, Mo., to head the Air Traffic Division.

Maloy, assistant administrator for International Aviation Affairs since September 1963, takes over from George C. Prill who resigned to enter private business.

Prill, a former director of FAA's Flight Standards Service, has been head of the Agency's overseas office since it was formed on Sept. 1, 1963. A native of New York City, he has been with the FAA since August 1960.

Swatek entered Federal service in May 1961, when he was appointed director of the Office of Information Services. He served in this post until April 1964, when he was named deputy director of the Southwest Region.

Prior to joining FAA, Swatek was chief of the Washington bureau of the *Cincinnati Enquirer*, where he worked for 10 years.

Born in Chicago, June 4, 1923, Swatek was graduated from the University of Illinois in October 1947. He was a Navy pilot in World War II, receiving his wings at Corpus Christi, Tex. He holds a single and multi-engine commercial pilot license and is instrument-rated.

Maloy served as director of the International Aviation Service and predecessor organizations from 1957 to 1963. He started his government career in 1939 as an aeronautical engineer with the Civil Aeronautics Administration in Kansas City, Mo. From 1945 to 1955 he was chief of the Engineering Flight Test Branch. In 1955 he was assigned to Paris as chief of Aircraft Engineering in the former CAA International Office.

Maloy is an Associate Fellow of the American Institute of Aeronautics and Astronautics, and is also an Associate Fellow of the Royal Aeronautical Society. He has served as chairman or member of numerous Unied States delegations to international conferences since 1944, and has been cited as Distinguished Alumnus of his alma mater, the University of Michigan.

Warren has been in air traffic control since 1935. Following wartime service in the Air Transport Command as a ferry pilot, he was appointed chief of the Air Traffic Control Division in what is now the FAA's Southwest Region.

A native of Burnham, Mo., Warren has been an active pilot since 1939 and holds a current airline transport license.

In making the announcement concerning Swatek, Maloy and Warren, Mr. Halaby also announced the reassignment of George W. Kriske to Washington from Central Region Headquarters. Kriske's new job is head of the evaluation function in Air Traffic Service.

Mr. Kriske joined the Civil Aeronautics Administration in 1937 and served in a wide variety of jobs from chief of an Air Route Traffic Control Center to his most recent assignment, in 1957, as chief of Central Region's Air Traffic Division.

Other major assignments included Air Defense Liaison Officer at Grandview AFB, Mo., and Strategic Air Command Liaison Officer, Offutt, AFB, Neb.

Phillip M. Swatek

Raymond B. Maloy

Lee E. Warren

Quick Thinking Radar Controller Aids Lost Pilot to Safe Landing

The Indianapolis Air Route Traffic Control Center and an American Airlines DC-6 captain teamed up recently to guide a distressed pilot to a safe landing at Greater Cincinnati Airport.

The pilot, James R. Dudley of Lagrange Park, Ill., flying a single-engine Piper *Comanche*, became lost on top of an overcast flying from Cleveland to Chicago. He radioed the center for radar assistance when it became obvious that he could not remain VFR much longer because of fuel shortage.

An attempt was made to vector the plane to Louisville, Ky., but this wasn't practical due to a change in the weather.

Not discouraged by the unusual situation radar controller Robert A. Cramer explained the circumstances to the American Airlines captain, W. W. Davenport of Washington, D.C., who was en route from Washington, D. C., to Cincinnati. The captain volunteered to guide the light aircraft down through the overcast for a landing at Cincinnati.

From his radar scope, Controller Cramer guided the two aircraft to a rendezvous where both pilots discussed the situation on the radio. Dudley told Davenport he only had 27 hours of instrument training and was not sure he could keep up with the larger DC-6 during the letdown operation. Davenport practiced formation flying with the *Comanche* "on top" to demonstrate how it could be done. When Dudley felt sufficiently proficient, Cramer cleared both flights to descend through the overcast and gave them radar guidance to the airport.

Capt. Davenport kept the light craft in sight all the way down, giving Dudley reassuring instructions on the descent and airspeeds to hold. Both aircraft broke out of "the soup" at about 8,000 feet. Dudley, with a few more minutes actual instrument time to his credit, continued on to a safe landing at Greater Cincinnati Airport.

TRAINEE BECOMES TRAINER

Walter L. Traglio, watch supervisor at Oregon's Portland Tower and also a Naval Air reservist, switched jobs recently when he reported for two weeks of annual active duty at Sands Point Naval Air Station. Traglio was assigned to the station's control tower.

Rather than being instructed, Traglio ended up instructing both active duty and reserve personnel on the latest air traffic procedures.

FEDERAL AVIATION REGULATIONS ARE RECODIFIED

FARs (left stack) dwindled in size when they were recodified and simplified by the General Counsel's Office. James B. Minor (seated) who directed the project makes the comparison of the old and the new for General Counsel Nathaniel H. Goodrich (right). Also on the project were: from left, Mary E. Krug, Mrs. Dorothy W. Clark, Richard W. Danforth, Charles E. Anderson, Stanley J. Green, Charles W. Runnette, Fred J. Emery and Yvonne E. Conrad.

Aviation regulations governing the nation's pilots, airlines, manufacturers and other users have been reduced by approximately 60 per cent by the Federal Aviation Agency in a major rules simplification program that has compressed the number of regulations from 125 to 55.

Compact and easier to understand and use, the new Federal Aviation Regulations (FARs) result from a program, technically known as recodification, which was begun in 1961 and completed in December 1964. The new rules are written in simplified English.

N. E. Halaby, FAA Administrator, stated that completion of the program signifies a new era in the regulatory field.

The FAA reorganized and streamlined the regulations to eliminate duplicate, obsolete and unnecessary provisions of multiple regulatory systems inherited by the FAA from the Civil Aeronautics Board (CAB) and the Civil Aeronautics Administration (CAA). The FARs consolidate and simplify the former Civil Air Regulations (CARs), Civil Aeronautics Manuals (CAMs) and Regulations of the Administrator. Substance and legal meaning of the FARs generally remain unchanged.

The first part of the new FARs, "Definitions and Abbreviations," was issued on May 15, 1962. It contains approximately 100 aviation terms used by FAA and the aviation industry in contrast to the more than 450 terms defined in approximately 1200 places in former FARs.

The last major rule to be recodified, FAR Part 121, covers certification and operations of domestic, flag and supplemental air carriers and commercial operators of large aircraft. It is a consolidation of CAR Parts 40, 41 and 42 and will become effective on April 1, 1965. The FAR airworthiness series consolidating CAR Parts 1 through 14 will become effective on February 1, 1965. All other FARs are now in effect. Former regulations remain in effect until superseded by the FARs.

Special Service Awards Won by Twelve at NAFEC

Special Service awards were presented to 12 employees attached to the Simulation Facilities Branch at the National Aviation Facilities Experimental Center.

Receiving awards were: Richard D. Algeo; Frank L. Miller; John F. Hayden; Howard Morris; Charles H. Ross Jr.; Auburn M. Harrigan; Robert A. Pujda; Howard C. Hill; Joseph F. Crowe; Richard J. Wood; Edward F. O'Brien and Fiorian Mayko.

The group was cited for outstanding work in up-dating simulators by modifications, without affecting current programs.

The simulators, which resemble Link trainers, show up on laboratory radar scopes as airplanes and enable air traffic problems at any airport to be duplicated and solved at NAFEC.

Child's Life Is Saved with Help Of Baker Flight Service Station

When a life's at stake, minutes—even seconds count.

This was brought home forcefully to the staff at the Baker Flight Service Station, Baker, Ore., which played a dramatic role in saving a little girl's life recently.

Two-year-old Kathy Stokesberry, who lives 165 miles north of Baker at isolated White Horse Ranch, swallowed a type of fly poison.

After initial first aid was given, James Maness, operator of the ranch, placed the girl in his plane and headed for Caldwell, Idaho, the nearest locality.

Through the Baker Flight Service Station, Maness was able to arrange for a doctor and ambulance to be at the Caldwell Airport when the plane arrived.

The child received emergency treatment at the airport before being rushed to a hospital by the waiting ambulance. She has since fully recovered.

Henry Gabriel, chief of the Baker FSS, said radio contact from the remote area and prompt alerting of emergency aid would not have been possible if it were not for FAA communication facilities in the area.

Gabriel commended FSS Specialist Herbert V. Renz for his alertness and quick action in the emergency.

King Is Pinned

Edward A. King, Central Region general aviation operation inspector (right), is the first FAA inspector to receive type rating in the Lear Jet executive aircraft. Lear Jet Corporation President William P. Lear Jr., decorates him with a special gold "checkout" badge.

MOISANT TOWER CHIEF IMPRESSES ART LOVERS AT A TURN OF THE WHEEL

Arthur (Buddy) Koon and his wife Audree look over some of the many ceramic objets d'art at "Koon Hollow" in their home at Jefferson Parish, La. Several pieces were made of clay from the bottom of the Mississippi River.

With the potter's wheel spinning, Buddy skillfully manipulates the clay into shapes that Audree designs.

An Oriental candy dish decorated with a Chinese face in the delicate lines of the Oriental artist, topped with a lid shaped as a coolie hat, was displayed at a recent art show in New Orleans' famous Pirate's Alley. The dish was labeled as a sample from the "Koon Dynasty."

Entered as a joke, the Koon Dynasty piece had an explanation inscribed on an attached card. It was the work of Moisant Tower Chief Arthur (Buddy) Koon and his wife Audree. However, the dish was so realistic of early Chinese period art that it was generally accepted as genuine.

This was another triumph for the Koons—Buddy and Audree—who have won more than 25 awards since they started their hobby. Koon began this intriguing work with clay four years before when a friend asked him if he could make a potter's wheel.

His wheel and its subsequent testing were so successful that the tower chief decided to channel his creative and artistic ability into ceramics making.

Now the Koon team works smoothly—he shapes the clay and Audree designs appropriate decorations, glazes and fires the pieces. Their clay used to come from the Mississippi River bottom and from the banks of the local bayou, but now they buy most of it from out-of-state sources.

"Koon Hollow"—the name of the Koon home—is a busy but comfortable place. Despite its location in the midst of a sprawling suburban area mail addressed to "Koon Hollow, Jefferson Parish, La.", will reach its destination. The Koon Hollow trademark is inscribed on the underside of each piece of their work.

Koon, tower chief and ceramics craftsman, feels his work and his hobby have many similarities. As tower chief he has molded a smooth-working balanced unit; as a ceramics craftsman he strives for balanced and symmetrical units. These qualities have made him a successful tower chief and master craftsman, too.

Center Boosts Mothers

The Aeronautical Center's vote for employee "Mother of the Year" is Mrs. Helen E. Maxwell of the National Aircraft Accident Investigation School who was recently awarded a quality within grade increase by Marion F. Roscoe, NAAIS dean, in the presence of her son, USAF Lt. Leon C. Maxwell.

AIR DEFENSE COMMAND COMMENDS FAA TECHNICIANS

FAA's electronic technicians at Mt. Laguna Air Force Station, Calif., were honored recently by the Air Defense Command (ADC) for their outstanding performance. Maj. Harlie B. Johnson, commander of the 751st Radar Squadron at Mt. Laguna, praised the Agency for its "excellent support."

Major Johnson sent the commendatory letter to FAA following the award to the 28th Air Division of ADC's Microwave Power Tube Award.

He gave credit to the Agency's "outstanding professional ability" as factors in winning the award.

The honor was for outstanding maintenance and operation of microwave power tubes during Fiscal Year 1964.

New FAA Tower Commissioned in the Virgin Islands

St. Thomas' Harry S. Truman Airport and the Virgin Islands area now have air traffic control service following commissioning of a new tower by the Southern Region in January.

All aircraft flying within the 5-mile airport traffic area and those landing and taking off from Truman Airport will be controlled from this tower seven days a week from 6:00 a.m., to 10:00 p.m. The new tower is manned by Southern Region employees under J. Paul Scott, chief controller.

The new tower will contribute to the safe and efficient handling of local air commerce. It is a vital part of FAA's program to constantly improve and provide safer airways.

California U. Researchers Laud San Diego Flight Service Staff

Personnel of the San Diego Flight Service Station received praise from the Applied Oceanography Group of the University of California at San Diego.

Edward D. McAlister, director of the group, recently wrote the Administrator to express appreciation for assistance given by the FSS and other FAA personnel in the area.

McAlister stated: "The group is operating a Douglas DC-3 *Skytrain* in a research program being conducted for the Office of Naval Research. The work is done at night over the ocean at distances from 50 to 150 miles offshore and in the Southern California area.

"Because of the classified nature of the equipment aboard the aircraft, it is necessary to have constant knowledge of its location. We have made extensive use of the San Diego FSS over the past two years to maintain constant contact with our airplane.

"On one occasion, the aircraft was working some distance offshore and was unable to complete its required report. Immediately, the personnel at the FSS noted that the report was late and started a procedure which already had been agreed upon between us. Fortunately, there was no emergency and we contacted the aircraft through other units in the area. However, the alert did serve to emphasize the value of the service being provided by the San Diego FSS."

McAlister added that FAA service permitted the group to conduct experiments which would be difficult to make if such service did not exist.

POINTS WITH PRIDE

Panama Director of Civil Aviation, Maj. Juan Mas, locates himself in this photo of the air traffic control class of '57. He toured the Aero Center last December with visitors from 18 nations.

HALABY EXPLAINS BUILDING DESIGN PHILOSOPHY

Architect I. M. Pei, designer of the Agency's new standard control tower, chats with Mr. Halaby at design forum. Cutaway shows interior of tower. Mr. Pei has been commissioned to design the John F. Kennedy Memorial Library.

"Life in the Federal Government need not be colorless or frustrating," declared Administrator Halaby during panel discussions on creativity in Federal design sponsored by the Department of Agriculture Graduate School, Washington, D.C.

The audience, which filled most of the 580 seats in the auditorium, was composed mainly of architects, artists, building trades and architectural reporters and government officials concerned with Federal building construction and design.

Mr. Halaby explaining his design philosophy said, "To me the airplane is the most beautiful design that can be conceived—in its safety, its symmetry, economy and optimum shape and performance—it seems to me that any agency associated with the airplane should try to achieve similar clean lines."

Mr. Halaby spoke of the concentrated and successful effort of the FAA to break the old tradition of grey and green in government building decorating. "And since the price of paint was the same, it didn't cost any more to use attractive colors," he said.

Noting that the FAA was spread around Washington in some 13 locations, ranging from a refurbished hospital to World War I "tempos", before moving into its present quarters, Mr. Halaby explained how scientific space management in the new building resulted in a gain of 500 additional work spaces. This eliminated earlier plans to share part of an adjacent building and saved the Agency more than $100,000 a year.

Using color slides, Mr. Halaby took the audience on a tour of the FAA Headquarters building. He discussed the "center core" concept that moves the executives away from the windows and toward the center of the building.

"The workers are then located near windows and with air conditioning and fluorescent lighting the work atmosphere is more efficient," he explained.

Mr. Halaby also displayed a before-and-after color and facade treatment of a drab hangar at Los Angeles that FAA transformed into one of the most handsome in the area, and several views of Dulles International Airport demonstrating how the building was designed primarily with the traveler in mind.

At the conclusion of his presentation Mr. Halaby was joined on the podium by architect I. M. Pei, designer of the Agency's new airport control tower.

Other panel members were: John B. Cabot, chief architect, National Park Service; Anita J. Moller, chief interior designer, Foreign Buildings Operations, Department of State and S. Dillon Ripley, secretary, Smithsonian Institution, who acted as moderator.

BLOWOUT AT 40,000 NO SWEAT FOR COOL CREW

The airman's old story that starts ". . . and there I was at 10,000 feet, upside down and staring out the open cockpit . . ." is heard many times at hangar flying sessions. But Bruce Barto, controller at the Jacksonville Air Route Traffic Control Center, can easily top that.

Not only was Bruce at 40,000 feet but, to liven things up, one side of the cockpit exploded and he found himself sitting in a several-hundred-mile-an-hour slip stream—and at night, too.

Bruce also is a weekend warrior with the Florida Air National Guard and a former reporter for the *Jacksonville Journal*. Once a newspaper man, always a newspaper man—so Bruce's personal account of the incident follows:

"Captain Paul F. Hutchins was in the left hand seat and I was flying copilot. We were at 40,000 feet in a TF-102, acting as target for another fighter aircraft. The night was clear and all was well when, without warning, there was a terrible roar and we were buffeted about violently in the cockpit. My first thought was that the engine had blown apart, but actually, the left hand wind screen had exploded.

"I looked across at Paul and screamed, Are you all right? He did not answer. I could see that he was fumbling with his oxygen mask, and turned my attention to the aircraft which had fallen off on one wing. In the shock of the first wind blast, both of us had relinquished control momentarily. After leveling the wings in a nose-down attitude, I looked again at Paul and was horrified to see him slumped against the straps, his oxygen mask dangling loosely beside his face.

"Instinctively I grabbed the mask with my left hand and slammed it against his face, remembering that a man without oxygen at 40,000 feet has about 8 to 15 seconds of consciousness left, and that serious brain damage begins soon thereafter. After a few seconds on 100 per cent oxygen, Paul regained consciousness and was completely coherent.

"By this time, we had dropped to about 25,000 feet and although still a little befuddled, we were beginning to gain control of the situation.

"Paul lowered his seat out of the wind blast and we slowed the plane down to a point where we could re-establish contact with the other aircraft, flown by Major Joseph Glickstein, a Jacksonville attorney.

"After declaring an emergency, we initiated a second descent which took us to 2,500 feet. (We thought we were higher. Our altimeter reading was 6,500 feet but it was in error.)

"Joe Glickstein notified Ground Control Radar at Jacksonville of our difficulty and suggested we switch to Jacksonville Approach Control at Imeson Airport. He also told us that we were too low, which enabled us to discover our altimeter error and gain back some of our altitude. We then proceeded to Jacksonville and established radio contact with Approach Control which gave us headings to fly. This helped immeasurably because both of us had glass fragments in our eyes and were having trouble seeing.

"So with Radar Approach guiding us, and Glickstein keeping us informed on altitude, we were brought to a point southwest of Imeson where I could establish visual contact with the runway.

"Now came the problem. Paul, in the left hand seat could not see ahead at all, and I had never landed the TF from the right hand seat. So we decided that he would handle the power settings and I would do the flying.

"This we did. Thanks to Paul's ability to sense power requirements even before I could ask for them, and to lots of luck, we got our one-eyed beast back onto the ground."

Lt. Col. Leon A. Moore, commander of the 125th Fighter Group (AD) to which Barto and Hutchins are assigned, said the two did a great job of saving the airplane and landing it safely.

The two pilots were taken to the local U. S. Naval Hospital where they were treated for facial cuts and then released.

SO's Bruce Barto also is a captain and pilot in the ANG.

Eastern Region Builds Tower For Ohio Farm Science Review

The Ohio State Farm Science Review, held late last year, brought about the construction of a temporary FAA control tower at the Don Scott Airport, Ohio State University, northwest of Columbus. Known as Buckeye Tower, it provided air and ground supervision for travelers coming by air to attend the review.

The tower was on-the-air from 8:00 a.m. until 6:00 p.m. daily for three days, plus another six-hour operating period from noon until 6:00 p.m. the following day.

During the 36-hour period a total of 1,220 take-offs and landings was made. This is busy traffic even for a modern tower with up-to-date equipment, but Eastern Region's canvas and wood structure atop a trailer truck handled operations with a high degree of efficiency.

George Young, chief, Systems Maintenance Service, and his staff at Columbus, constructed the tower which was manned by two teams of air traffic control specialists from Columbus Tower. One group was supervised by Lowell J. Mick with the assistance of Emanual L. Lackner and Paul Zimmerman, both controllers. Jack E. Reed headed the other team, assisted by controllers Robert Curtis and Carlton Francis.

FAA TEAM BRIEFS PILOTS

A Los Angeles briefing team has completed orientation of 30 instrument instructor pilots from Hawthorne, Santa Monica and Torrance airports on terminal instrument operation procedures in the Los Angeles basin.

The briefing was conducted at the Los Angeles International Airport Tower under the supervision of Alfred B. Bush, tower chief.

A group of 29 Western Air Lines dispatchers also was briefed on FAA operations and given a conducted tour of the facility.

INTERNATIONAL AEROSPACE EXPOSITION AT DULLES PROPOSED FOR 1966

A proposal for an International Aerospace and Science Exposition—which would spotlight the progress of American industry in the aviation, space and electronics fields—has been announced by N. E. Halaby, Administrator of the FAA.

Dulles International Airport, near Washington, D. C., would be the site of the proposed 10-day exposition to be held in June 1966.

"Purpose of the exposition would be to stimulate exports of American-made aviation products," Halaby said. "We intend to show the world that this nation is still the leader in aviation and aerospace science and technology," he added.

"Our intention," Halaby continued, "is to make the exposition a permanent event like the Farnborough and Paris air shows. These expositions have proved highly successful, and it's about time America's aerospace industry had a similar showcase for its products."

Industry interest in the exposition has been increasing rapidly, the FAA Administrator said, and might warrant sponsorship of the project by the United States Government. In this event, he added, we would expect the exposition to be self-liquidating so that the Government might recover all or most of its investment.

Dulles Airport would be the ideal location for the exposition, Halaby noted, because of its modern jet-age facilities and its proximity to the nation's capital. A portion of the airport's 10,000 acres already has been set aside for such commercial ventures, he pointed out.

Dulles Airport is operated by FAA for the Federal Government. It is located in Chantilly, Va., a 40-minute bus ride from downtown Washington.

Halaby is the chairman of a special interagency task force which has been studying the possibility of establishing a permanent International Aerospace and Science Exposition in support of President Johnson's Trade Expansion Program. Other members of the task force include representatives from the Department of Commerce, Civil Aeronautics Board, Department of State, National Aeronautics and Space Administration, Department of Defense, and the Office of the National Export Expansion Coordinator.

The task force is scheduled to submit its findings and recommendations to the Cabinet Committee on Export Expansion soon, Halaby said. He noted that Congressional action probably would be required if the Administration decided to back the exposition.

C-123 DELIVERS VITAL CARGO IN ALASKA

"Anything, anywhere, anytime," would be an appropriate slogan for the Air Support Branch of the Flight Standards Division in the Alaskan Region.

On a typical mission flown last December in the Agency's C-123, a 10,000 gallon capacity tank was transported to Puntilla Lake, 125 miles northwest of Anchorage. The tank was needed to store fuel to run generators which provide power for the Puntilla Lake high frequency beacon.

The only place to land the C-123 was on the lake, where 18 inches of ice was needed to support the weight of the aircraft. Jack T. Jefford, chief of the Air Support Branch, checked it the day before in a light aircraft. The ice measured 23 inches. The flight in the C-123 was made in minus 50° F. temperature.

The C-123 is the only aircraft of its type in use by the Agency. It is powered by two R-2800 engines with extra power supplied by wing-tip mounted jet engines. FAA crew members are: Jefford, pilot; Richard B. Pastro, co-pilot; and Frederick E. Klouda, flight engineer.

Logistic support missions are flown in Alaska to supply FAA stations which can not be supplied commercially.

Heavy equipment, including graders, vehicles, tractors, household furniture, families and pets, make up typical cargos for Jefford and his crew.

Ice 23-inches thick on Lake Puntilla makes a suitable runway for a C-123 Provider as it makes a critical delivery of air cargo in Alaska. Flown by FAA pilots, the airplane is used to transport essential supplies wherever needed.

Nation's First Combined DME/ILS Is Commissioned at JFK Airport

Pilot approval of the nation's first combined distance measuring equipment/instrument landing system (DME/ILS) now operating at the John F. Kennedy International Airport was indicated by preliminary reports from the Eastern Region.

Mounted in a trailer for mobility during the initial stages, the DME operates at the glide slope on the ILS serving runway 4-R. It operates only when that particular ILS is on the air and provides additional guidance information to pilots on instrument approach.

The facility is one of seven DME/ILS combinations to be evaluated at locations throughout the country in an Agency program aimed at greater safety in busy terminal areas.

Kennedy was selected for the pilot installation because of the number of DME equipped aircraft landing there.

This equipment differs from a tactical air navigation (TACAN) facility, in that it provides distance information only. It is designed for use at facilities where there is no requirement for TACAN.

Technical problems encountered in the preliminary tune-up stages resulted in approximately 70 modifications before the system was accepted.

The trailers used for housing electronic equipment, devised by Eastern Region's engineers, have brought considerable savings. In this particular case, the alternative would have been an extension to the existing glide slope building to provide space for the DME equipment.

FORMER PARATROOPER STILL LIKES HIGH PLACES

High places are not new to Walter Christiansen, but the former paratrooper would find a parachute cumbersome in his present job as an FAA electrical lineman.

Leave it to Walter (Chris) Christiansen to tell you some "tall tales"—he is the tall tower specialist of the Systems Maintenance Division in the Eastern Region.

Working atop 300-foot towers during snow storms, adjusting radar microwave link reflectors may not be a vocation many could handle, but Chris, an electrical lineman, does his job with less effort than the average person expends climbing a flight of steps.

Born 28 years ago in Birkenhead, Cheshire, England, this athletic young man was schooled at the "Grange" and Birkenhead Technical College. He was a member of the British Reserve Parachute Regiment and made 63 jumps. In 1957 he lived and worked in Canada. While employed by the Hydro-Electric Power Company of Ontario, he became accustomed to working on tall structures anywhere from Niagara Falls to the Arctic Circle.

About 11 hours after entering the United States in 1959, Chris joined the U. S. Army, serving two of three years of active duty in Panama. After discharge from the Army, Chris worked for Con Edison in New York City. Since joining the FAA in 1962, he has scaled over 100 of EA's tallest towers including the 340-foot tower at Breksville, Ohio, and the 320-footer at Nantucket, Mass. Mt. Everest would hold no fears for Walter—during his two years with FAA, EA's high tower specialist has climbed the equivalent of Mt. Everest more than seven times.

His job requires strength, agility, resourcefulness and knowledge of the operation and electrical characteristics of the radar system.

Jet Slices Ribbon on Atlanta's New Fourth Runway

Deplaning after the flying ribbon-cutting ceremony are Regional Director Arvin O. Basnight and Atlanta Mayor Ivan Allen. In background are, from left, Bruce Chambers and Leonard B. Haggard with Paul Pate, Delta.

After more than two and a half years of planning and record-breaking construction, an aviation dream was realized at Atlanta's busy municipal airport—the dedication of the new $18 million east-west parallel instrument runway.

On December 2, a sleek FAA turboprop jet *Electra* touched down on Atlanta's new parallel runway, sliced through a 150-foot long red ribbon, and officially opened the new 8,000-foot-long instrument runway.

Constructed in record-breaking time, from ground breaking to dedication in only seven months (April 23-December 2, 1964), this newest addition gives Atlanta Airport four runways—three fully instrumented.

Pointing up the great need for this new runway at Atlanta is the 116 per cent increase in airline passengers in three years—almost 5 million during the first nine months of 1964. During the same period, annual aircraft flight operations increased by 39,232 for a total of 240,858, or an 18.5 per cent gain. This new runway will increase Atlanta Airport's capacity by 60 to 70 per cent and will vastly reduce delays.

Cost of this new runway has been underwritten jointly by the city of Atlanta, seven user airlines, and the Federal Aviation Agency through its Federal-aid Airport Program (FAAP).

Lake Tahoe's FAA Designed Tower Incorporates Latest Electronics

The Agency's newest airport traffic control tower in the West was commissioned recently at Lake Tahoe Airport, at the south end of Lake Tahoe near the California-Nevada border.

The new tower is the first in the nation to be designed and constructed entirely by FAA. Previously, tower structures were designed and constructed by the airport sponsor with the Agency participating in the financing.

Tahoe Tower is unique in that it was custom designed for its locality. It provides the latest in electronic and communications aids to assist in controlling the greatly increased air traffic at this popular resort and recreational area.

Among the features incorporated in Tahoe Tower is the pentagonal cab which provides an unobstructed view of the airport area from all sides. Positioning of windows reduces glare and reflection to a minimum. The tower is in operation seven days a week, 16 hours a day.

Tahoe Tower Chief Robert L. Markwith was formerly tower chief at Casper, Wyo. Controllers at Tahoe are Russell H. Bracken, Elwin J. Newberry, Gordon E. Rhodes and Donald Bowles.

Electronic maintenance for the tower is done by the Reno Systems Maintenance Sector, supervised by E. G. Johnson.

"The new tower is another aviation milestone and a significant contribution to aviation safety in the Tahoe area. All those associated with this project are to be complimented for the speed and efficiency with which it was brought to reality," said Joseph H. Tippets, director, Western Region.

FIRE DETECTORS STUDIED

A conference attended by representatives of 25 manufacturers of fire detection and extinguishing systems was held recently at the National Aviation Facilities Experimental Center (NAFEC), Atlantic City, N. J., to discuss fire protection problems and future project planning. The meeting was headed by Charles M. Middlesworth, Aircraft Branch.

Three engineers, also attached to the Aircraft Branch, delivered papers. Eugene P. Klueg, FAA project manager of the turbo-fan fire tests at the Naval Air Turbine Test Station, Trenton, N. J., gave a report of the tests he is conducting; Daniel E. Sommers summarized a history of fire programs undertaken at NAFEC; and Julius Gassman discussed new methods of improving fire warning systems on present and future aircraft.

Alaskan Maintenance Chief Cited For Services During Earthquake

William I. Conyers, electronics maintenance chief at the Anchorage International Flight Service Station, Merrill Field, Alaska, received the Meritorious Service Award for service he performed during the earthquake last March. Director James G. Rogers presented the award, the second highest awarded to Agency employees.

It comprises a bronze medal, a rosette to be worn in a coat lapel and a certificate. The certificate, signed by FAA Administrator N. E. Halaby, reads: "Immediately following the earthquake in Alaska on March 27, 1964, Mr. Conyers gave exceptionally outstanding leadership in administrating the restoration of communication services. This restoration enabled the Agency to carry out its mission during a period of catastrophic crisis of major proportions. Mr. Conyer's leadership was exemplified not only by the highest level of technical competence and judgment exercised, but also by the management ability which was to take people in a period of great emotional stress and knit an effective recovery team."

Richard C. Young, chief of the Systems Maintenance Division in the regional headquarters, recalls that at the time of the earthquake Conyers was at home recovering from a severe cold and a sore throat. "It didn't take much figuring for Bill to anticipate the damages to the communications complex at Merrill Field," said Young.

"Determinating that his home was intact and his family safe, he raised the garage door which had fallen on his car, and drove to Merrill Field.

The rapid 'snapback' of Agency communications in the Anchorage area was the result of Bill's round-the-clock supervisory effort and technical know-how."

William I. Conyers (left) receives the Meritorious Service Award from Alaskan Region Director James G. Rogers.

V/STOL BEING STUDIED FOR CIVILIAN AIR ROLE

A VC-2B **Caribou**, on loan from the Army, is pulled off the Dulles helipad after a takeoff run of less than 500 feet in V/STOL tests being conducted by the Agency's Aircraft Development Service. The landing roll is even shorter.

A variety of odd-looking aircraft developed for the military to lift troops and cargo in and out of tight places might lead the way to greatly expanded inter-urban and commuter-type air travel.

An eight-member government task force headed by Administrator N. E. Halaby met last month in Washington to launch a study of interurban air transportation and the use of a civil version of the military V/STOL (Vertical/Short Takeoff and Landing) aircraft as part of the national transportation system.

V/STOL planes are now used exclusively by the military but aviation experts believe such aircraft can fill a vital need in the area of high-density, short-range, air transportation.

These planes would operate from close-in metropolitan airports, which normally would be unable to accommodate conventional transports because of limited space and short runways, or from special sites at larger outlying airports.

The Agency has been investigating operations of this type since January 1964. It recently demonstrated the feasibility of operating a STOL type plane from the heliport at Dulles International Airport (DIA). The aircraft, a Canadian-built *Caribou*, was loaned by the U. S. Army. It can carry 32 passengers or two and one-half tons of cargo and operate from small fields.

The test group, led by Robert B. Meyersburg, chief, Aircraft Division, Aircraft Development Service, includes Army Capt. Donald R. Hendrickson, assigned to the FAA, and Mrs. Joan B. Barriage, all aeronautical engineers.

In the DIA tests a series of successful takeoffs and landings were made from the 550-foot long helicopter landing area. The tests were part of a larger study being conducted by the Agency to determine the government's role in adapting V/STOL to commercial aviation. The tests also demonstrated the feasibility of integrating V/STOL with other aircraft in the overall air traffic control flight pattern procedures, and instrument operations.

The objectives of the V/STOL task force will be to define the national program from the standpoint of development needs, priorities and timing; identify military V/STOL vehicles under development or study which appear appropriate for further civil development and use; recommend means of coordinating and implementing the research and development programs of civil and military agencies to insure that the goals of each are considered by the other; and establish a realistic development timetable to insure that technical progress is incorporated into usable systems and vehicles.

At the January meeting Mr. Halaby presented several FAA studies on V/STOL aircraft and system requirements.

Personnel, Training Conference Held in Atlanta

An Agency-wide group of personnel and training officers broke with custom and held a three-day meeting in Atlanta instead of Washington.

The agenda was devoted to subjects of natural interest to the participants—personnel management, career planning, automation, Project FOCUS and jobs in general.

The program also included several distinguished speakers, Dr. Noah Langdale, president of Georgia State College; L. G. Andolsek, vice-chairman of the U.S. Civil Service Commission (CSC), and the CSC Atlanta Regional Director, Hammond B. Smith.

COMPLIANCE IS SERVING YOUR GOVERNMENT WELL

Breathes there the man,
with soul so dead,
Who never to himself hath said,
This is my own, my native land!

Who can forget the immortal words from Sir Walter Scott's *The Lay of the Last Minstrel?*

But how many employees can remember the oath they took upon entering into Government service?

"I do solmenly swear (or affirm) that I will well and faithfully discharge the duties of the office on which I am about to enter, so help me God."

Basic Ingredient of Government

Flag waving? Not at all.

Just a reminder that compliance with that oath, and all it implies is a basic ingredient of representative Government and its handmaiden—civil service.

The United States is a nation of laws where the vast majority of citizens comply with rules that have been established for the benefit and protection of all.

A natural outgrowth of this respect for law is the belief that the basis of effective government is public confidence. That confidence is endangered when ethical standards falter or appear to weaken.

The transaction of public business involves public trust and confidence. Those in the Federal service, consequently have a greater obligation than the average citizen to take positive steps to make sure that their official conduct is beyond reproach, and that the appearance of impropriety is carefully avoided.

FAA Informs Its Employees

Compliance is just plain common sense. Simply, it means abiding by the rules, living up to obligations and developing a consciousness of what is right —not only for the individual's sake but for his family, his agency, and his Government.

The Federal Aviation Agency does much to inform its employees of the rules and regulations governing official conduct. It creates awareness and provides an ethical environment.

The employee, in turn, must help himself and the Agency in maintaining this ethical environment.

He should assume the initiative, and promptly seek counsel and assistance on any problems, doubts or misgivings concerning official conduct. It is on the FAAer that the obligation and decision of conduct rests.

Birmingham Dedicates New $1.5 Million Tower

Towering 102-feet above the ground, Birmingham's new air traffic control tower offers an unobstructed view.

Birmingham dedicated its new $1.5 million air traffic control tower early this winter.

Rising 102 feet above the ground, the new control tower is located on the west end of the terminal building and offers an unobstructed view of the entire municipal airport complex.

The new tower, which cost approximately $485,000, is equipped with $1 million in FAA communications and electronic air traffic control equipment.

Official operations began on Dec. 1, 1964; the tower is designed to handle the expected expansion of aviation activity at Birmingham for the next ten years.

National, state, local government and aviation dignitaries participated in the colorful activities which featured speeches, flyovers, and the untying of a giant red bow, 40-feet-wide, which had been wrapped around the glass and concrete structure.

The impressive ceremonies and open house also attracted throngs of interested citizens who gathered to witness the dedication and for a guided tour through the airport's newest facility.

Survivor Credits His Seat Belt For Saving Life in Auto Mishap

It took a Southwest Region employee six months to mend his injuries suffered in a trailer-car pile-up on a Texas highway last spring.

From the near-fatal accident the employee learned two things: accidents can happen on a limited access superhighway and seat belts can save a life.

Returning in his light automobile to Fort Worth from El Paso, the SW Region employee collided with a trailer being pulled by a Texas Highway Department dump truck on Interstate Highway 20. The impact was so great it hurled the car's engine 30 feet from the wreck scene.

Crediting his seat belt as his life saver, he refused to sign the sales contract for a replacement car until belts were installed.

Late Mayor LaGuardia Is Honored At Airport Unveiling Ceremonies

The Eastern Region's Director, Oscar Bakke, joined some 200 other Government officials, community leaders, and aviation industry executives recently at LaGuardia Airport to honor its founder, the former Mayor of New York, Fiorello H. LaGuardia. Among them were his widow, Mrs. Marie LaGuardia, and the present mayor, Hon. Robert F. Wagner.

The meeting marked the official unveiling of an eight-foot marble sculpture of the "Little Flower" who conceived and directed the building of the original airport some 25 years ago.

From handling a limited number of airline schedules in 1937 when it opened the airport is now one of the busiest in the United States, employing some 4,000 people with a payroll more than $33 million annually.

In 1970, it is expected that LaGuardia, now in the final stages of a redevelopment program, will employ about 11,000 people and that the payroll will reach $106 million a year.

In his remarks, Bakke traced the growth of aviation in the New York area and lauded the late mayor for his foresight in constructing the airport now bearing his name and for planning Idlewild International Airport (now the John F. Kennedy International Airport). Bakke emphasized the need for continued airport planning and constant surveillance on the part of the public to protect New York's air transportation facilities.

Participating in the ceremonies were members of the Port of New York Authority which operates both airports.

ON THE SCOPE

RETIREMENTS

● *Andrew (Andy) Pellish,* Washington National Airport fire-fighter, after 33 years of Federal service on Dec. 4. ● *Henry J. Messing,* electronics maintenance technician at Annette, Alaska, on Nov. 6, after 36 years Federal service, 32 years with FAA and its predecessor agency. ● *John C. (Jerry) Melville,* after 39 years and 10 months service in systems maintenance and *Claude C. Barrett,* with 35 years of Federal service. Both retired from the Western Region. ● *Harland S. Moss,* chief, management staff, flight standards, Pacific Region, on Dec. 31, after 30 years, nine months Federal service.

ANCHORAGE HONORS VIRGIL KNIGHT

Virgil E. Knight, special projects and planning coordinator for the Alaskan Region, was awarded a certificate of appreciation by Anchorage's City Council.

The certificate presented by Anchorage's Mayor Elmer Rasmuson, read:

"In Appreciation. This Certificate of Community Service is presented to Virgil Knight, chairman, Construction Advisory Committee, in appreciation for loyal and meritorious service to the City of Anchorage. This token of admiration and gratitude is presented on behalf of its citizens. Presented by the Anchorage City Council this 8th day of December, 1964."

Knight has been active on various city boards for many years. He has served on the Committee to Study Utility Rates in 1948; the Board of Examiners and Appeals from 1952-1956 and again from 1959-1962. He was appointed chairman of the Construction Advisory Committee in February 1963.

STEPHENS ENDS 40-YEAR CAREER

. A career that started 40 years ago in Elko, Nev., when Frederick H. Stephens joined the Lighthouse Service as a radio operator ended with his retirement in Washington, D. C., in mid-December.

His last job was assistant to the chief of the Technical Assistance Division, Office of International Aviation Affairs.

In his four decades in aviation Fred Stephens became a recognized authority with a world-wide reputation as a planner, developer and administrator of transportation and aviation facilities. He often represented the United States in numerous overseas assignments.

Among his most notable achievements was development of aviation organizations and facilities tailored to fit the actual current abilities and growth potential of underdeveloped countries.

Presenting him with the Meritorious Service Award at his retirement, Administrator Halaby called attention to Mr. Stephens' "outstanding contributions to improved aviation communication techniques and procedures throughout the world."

Following four years in the U. S. Army Air Corps in World War II, where he rose to the rank of colonel, Stephens returned to the CAA in 1946 and was assigned to Hawaii.

In 1950 he joined the reorganized CAA international program and was assigned to London. Two years later he returned to the United States and in 1954 he was named chief, Civil Aviation Assistance Group in Taipei, Formosa.

Mr. Stephens also served as Chief, CAAG, in Tokyo and later was requested by the U. S. Embassy, Djakarta, Indonesia, to supervise development of a civil aviation system in that country.

'ROUND AND 'ROUND HE GOES

When air traffic control specialist Carl V. Arnold, a radar controller at the Albuquerque ARTCC, completes his watch "providing for the safe, orderly and expeditious movement of air traffic" he steps into his other role—"providing for the smooth and exciting movement" of high-speed, modified race cars around a three-eighths-mile dirt oval.

For the past year Arnold has been an active official in the non-profit New Mexico Motor Racing Association which sanctions Sunday racing at Albuquerque's Speedway Park. Races held almost every week attract 35-40 cars driven by non-professional local enthusiasts.

As a NMMRA official, Arnold keeps the weekly program current, writes a weekly feature on the drivers of the week and acts as public relations man for the organization.

HE'LL LECTURE ON AMERICANISM

The rocking chair was the farthest thing from Raymond A. Funk's mind when he retired Dec. 31 after 27 years of Federal service.

An FAA construction management engineer in Chicago, Funk, who came from pioneer stock, intends to criss-cross the country lecturing to school children on Americanism and patriotism.

His family has played an active part in American history since the Civil War when his grandfather managed to get accepted as a drummer boy with the Pennsylvania Volunteers.

AFTER HOURS

CONTROLLER DONS CHIEF'S GARB

It's not easy to "out-Indian" an Indian in his native New Mexico, but red-haired Donald V. Fowler, radar controller at the Albuquerque ARTCC, is doing it.

Despite his red hair, Fowler doubles as an Indian chief in local events and recently took first prize for costume in the 1964 New Mexico State Fair parade and second at the fair, itself.

Fowler usually works with a "sidekick"—his 11-year-old daughter, Donna. Riding her palomino, she has been helping to lasso performance prizes in horse show competitions for the last three years.

The father-daughter team previously won prizes at the National Appaloosa Show.

NAFEC FLYING CLUB RECOGNIZED

A certificate giving the FAA Flying Club at NAFEC official Agency recognition was presented to the Club's President, Roman M. Spangler of the Navigation Branch of the Experimentation Division by Center Manager William F. Harrison.

Formed in April 1964, the 26-member Flying Club now meets all Agency requirements.

BOY PENS 'WAY OUT' TO SPACE

William A. Glenn, chief of the Western Region's Compliance and Investigation Staff, Flight Standards, now has proof positive that the younger generation is space-minded.

Glenn's seven-year-old son brought home the following composition written in class:

"Something to think about—
When airplanes get as thick as cars,
And people ride from Earth to Mars,
Will traffic lights be made of stars?"

FAAer's DAUGHTER SOLOS AT 16

Kathleen Van Handel, 16, is one of the youngest pilots at Fullerton, Calif., Municipal Airport.

Kathleen is the daughter of Donald L. Van Handel, chief of Western Region's Airspace and Procedures Section of Flight Standards Service.

Her father, 41, began flying in Appleton, Wis., also at 16. He has flown for the Marine Corps, dusted crops, instructed others to fly, and piloted for major freight and passenger lines.

"You couldn't stop Kathleen after that first student hour in the air," her father said. "When she soloed, she came through like a trooper. You couldn't keep her quiet when she came home for dinner."

Kathleen hopes to qualify for her private license soon.

SAN JOSE HONORS CONTROLLERS

Mayor Joseph Pace of San Jose, Calif., recently proclaimed Air Traffic Control Week in San Jose to honor FAA controllers at San Jose Municipal Airport and Moffett Field.

The Mayor's Proclamation was published in the *San Jose Mercury*.

HOME-BUILT PLANE IS WINNER

Controller Evert W. Young of the Denver ARTCC has won many prizes with his most original design and the "best all-around home-built" plane in state competitions.

BAGPIPER 'PAR EXCELLENCE'

Specialist Seymour B. Feldman of the Albuquerque Flight Service Station captured the first prizes in Highlands dancing and individual piping in recent competitions in Austin, Tex. He competed against 50 pipers and drummers from six different bagpipe bands at a Highlander gathering held in conjunction with "Scots of Texas Day."

Feldman who has been playing the bagpipes for five years, is president of the Balmoral Bagpipe Band of the Albuquerque St. Andrew Society.

Also a widely-recognized New Mexico stamp collector, Feldman won the Grand Award of the New Mexico Philatelic Association for his display, "Charles A. Lindbergh—A Philatelic Biography."

TELESCOPE DONATED TO SCHOOL

Eastern Region's Ken R. Macht, chief of Systems Maintenance Sector in London, Ky., and the sector staff recently completed building a powerful complex telescope which they donated to the city schools.

Assembled from surplus Government equipment, the precision instrument includes, among other items: a section of a B-29 fuel line; a bomb sight; an anti-tank gun lens; parts from a Ford truck rear-end and some obsolete U. S. Air Force teletypewriter components. The telescope also can be used for astrophotography.

Macht hopes that the gift will develop an increased attention to the sciences.

TECH TALK

'ZERO-ZERO' IS THE GOAL. In most things scoring a perfect zero is somewhat less than laudable—but this negative goal is exactly what Systems Research and Development Service (SRDS) and aviation engineers are seeking in their quest for an absolutely dependable "zero-zero" all-weather landing system.

In one sense, "zero-zero" landings are an accomplished fact: early in 1962 FAA engineers and technicians equipped an Agency DC-7 with an automatic landing system and by August 1963 had successfully performed well over 1,000 hands-off touchdowns at NAFEC and various airports across the country.

But an evaluation system flown by a test pilot under strictly controlled conditions is a far cry from routine air carrier operations in adverse weather anywhere in the world. But recently United Air Lines and Trans World Airlines carried out impressive demonstrations of their experimental all-weather landing systems at Dulles International Airport.

The United system, installed in a *Caravelle* jetliner, aligns the plane with the runway, "locks on" to the airport's electronic instrument landing system (ILS) beams and follows it down to the runway for a smooth landing. During the approach, electronic signals from airborne computers control the plane's heading, altitude, rate of descent and speed. Just before touchdown the system automatically flares the plane, raising the nose, closing the throttles, and letting it settle to the runway as gently as any manual landing. The pilots can override the controls at any time and take instant command.

TWA used a Convair 880, one of six jets it has equipped with what it calls AUTO-SCAN, in its demonstration at Dulles. The main features of AUTO-SCAN are the precision approach it affords and the workload it removes from the pilot because of its automated navigation and speed control. A TWA official said the "system increases operating safety because it keeps the airplane automatically on target at optimum speeds, regardless of changes in altitude, wind and other factors."

Even with the giant strides made toward fully instrumented landings there is considerable work to be done before "zero-zero" operations become a reality. Not only must the aircraft and pilots qualify, but the airport must qualify as well. Refinements are required in the instrument landing system (ILS), airport surface and approach lighting, weather detection and reporting and other problem areas.

Pilots monitor instruments during the "hands off" landing demonstration at Dulles.

The FAA program is oriented to improve all categories of approach and landing capability. Included are:

- Reduced cost and better quality of localizer and glide slope, marker beacons and associated monitor systems.
- Guidance equipment systems for V/STOL (vertical/short takeoff and landing) operations.
- Advanced all-weather guidance systems.
- Independent monitoring systems for assessing performance of the primary system.
- Improved weather measurement and reporting methods.
- Improved ground-based visual aids.
- Cockpit instrumentation for all-weather operations.

ELIMINATING THE WEAK LINK. In the winking, blinking, clicking world of computers, where decisions are made in micro-seconds and false information is instantly detected and spurned, mere man is becoming an embarrassment to the machines he created. He forgets some things, half-remembers others, recalls some he never knew at all—and besides, he's too slow.

But man is indispensible; he's used at central points to collect data from numerous communications channels, arrange it in proper format and manually enter it into a computer via a special typewriter for processing.

At air route traffic control centers (ARTCC) equipped with computers—Boston, Cleveland, Indianapolis, New York and Washington—collecting flight data from flight service stations, military bases and airline offices is being done by flight data position (FLIDAP) teams. Flight data originating in other offices is transmitted to ARTCCs over flight plan collection circuits and is teletype printed at or near the FLIDAP area.

Here is where the human gremlin is apt to exasperate the exacting computers. The stage is set for errors, manmade. The data is manually checked for errors and retyped in a special format on a synchrotape machine or message composer for entry into the computer—and it is double-checked before going into the computer. Despite this time consuming process, the computer still might kick back for error.

Last year the Agency began a program aimed at eliminating transmission errors by streamlining a large percentage of the flight data communication channels thus enabling them to go "on-line" and talk directly with the computer. Special computer interface equipment was installed in the five centers having computers. By early 1965 flight data will flow directly from the "on-line" flight service stations, military service stations and military bases directly into the centers' computers without manual intervention by FLIDAP personnel.

This is a significant step forward in automating the non-decision making activities of our air traffic control system. Plans are in the mill for expanding this "on-line" capability so the computers at the Indianapolis and Washington centers will be programmed to transmit "on-line" to adjacent non-computer centers such as Chicago, Kansas City, Atlanta and Jacksonville.

In a look to the future and the requirements of the National Airspace System (NAS), "on-line" data transmission is expected to be further expanded to include full two-way capability from the computer to flight service stations, military bases and other offices as well as automatic acknowledgement of receipt of computer generated messages.

PERSONNEL PIPELINE

PLANNING FOR YOUR FUTURE

How does an FAAer achieve maximum career potential in the Federal Aviation Agency? The professional personnel specialist knows there is no pat answer to offer the employees of this or any organization. Many things contribute to success.

However, one characteristic appears in the backgrounds of most successful executives, whether in Government or industry. The factor common to these executives is *they have moved around—they have been mobile.*

FAA's regional directors illustrate the point. Almost all have served in Washington Headquarters and in various field locations. Moreover, their experience has not been limited to a single segment of the Agency, but encompasses several areas.

Willingness to serve in different echelons and organizational components is important to the ambitious FAA employee, even though it may mean lateral movement at the same grade level. *The proverbial big frog in the small pond who hesitates to move because his image might seem lessened elsewhere, is handicapping himself.*

The field chief who refuses lateral reassignment to a higher jurisdiction either does not have a clear picture of what it means to his future or he is just plain timid. To understand the desirability of varied work experience, it is only necessary to examine the impact of decisions made at the various Agency levels.

Decisions of a line supervisor at field facilities affect relatively few employees. Decisions made in regional offices can affect from a few up to seven or eight thousand, while decisions made at headquarters may affect the majority of the 45,000 employees. Similarly, the effect of FAA decisions on the aviation public assumes greater proportions at each higher level.

If there is a single word that characterizes the aviation industry, that word is "change," and FAA employees must learn to build it into their thinking. This is important because FAA spends a large part of its annual budget developing, installing and maintaining new equipment and facilities; formulating new procedures and regulations. All bring changes that affect the work force.

One change involves consolidating operations when technical advances enable work to be performed more economically and effectively in fewer locations. Again, changes occur when organizational structures are improved, and functions, responsibilities, control and supervision are realigned more effectively. Still others are the result of what might be called natural causes—when employees retire or leave the Agency for any reason.

These changes mean many things to the FAA employee. They mean, first, that he must look ahead constantly and prepare himself for additional responsibilities and, if necessary, acquire new skills. They mean that he must, from time to time, change from one job to another to gain experience he will need when he is ready for advancement. They also may mean moving from one occupational area into another; from one location to another. The challenge of the wider arena is an essential part of career development.

The philosophy of a well-known writer on management principles states that a man should change jobs every five years. After that period of time, he has contributed all he can to the job he has, and conversely has learned all he can from it.

When a change means moving a family to another city, the Agency tries to avoid all unnecessary frustration and expense by advance planning. Agency policy is that out-of-town moves should be carried out with the least possible interruption to the employee's personal life. This can be done by "phasing" the move to allow sufficient time for homes to be sold, if necessary, and arrangements made for school transfers. Equally important in the circumstances, job efficiency is not impaired when such a course is followed.

The FAA has established a system for planning and carrying out changes required of its employees that should permit such smooth transition. This system is called "Career Planning." It starts with the Agency-wide determination of staffing needs—the skills and talents needed now and in the foreseeable future. A second step is to catalog the skills and talents already available in the work force to meet these requirements, and the third is discovering the development capabilities of the work force. The fourth is to fill the jobs with qualified people.

The Agency's Personnel Performance Program is essential to career planning and its aim is the full utilization of every employee's talents.

The program provides for continuing supervisory counsel, including information on moving to other jobs, locations and services.

In the long run, however, advancement is up to the employee. Elements which he alone controls—attitude, flexibility and job performance, for example, usually determine how far he goes.

DON'T BE A BIG FROG IN A SMALL POND

AERIAL GIANT TAKES WING

The USAF's biggest and most powerful jet transport, the Lockheed C-141A **Starlifter**, was largely designed manufactured and test-flown in the FAA's Southern Region. After four years of development, it is expected to be type certificated early in 1965. Clockwise, from top left: A stream of demineralized water from a KC-135 tanker strikes the **Starlifter** in icing tests at 20,000 feet in minus-22 degree temperature. ● Robert McKissick and Robert Stanton, vice-chairman and chairman, respectively, of FAA's Pre-flight Certification Board, Southern Region, inspect the giant transport. ● **Starlifter** fuselage mockup looms behind J. B. McLaughlin, Southern Region Engineering and Manufacturing District Office supervisor (**left**), Walter Haldeman (then chief, EMDO, Southern Region) and William H. McKee, FAA coordinator. ● Deputy Administrator, Lt. Gen. Harold W. Grant (civilian clothes, sun glasses), at the August 1963 "rollout" of **Starlifter** No. 1 at the Lockheed-Georgia plant. Air Force Secretary Eugene M. Zuckert is on stair behind General Grant. ● The 316,000-pound, four-engine cargo jet cruises at 550 mph in flight tests. It is capable of short takeoffs and landings and has a wing area of 3,228 square feet, about twice the floor space of an average size home. ● Southern Region Director Arvin O. Basnight tries the pilot's seat on the day the type inspection authorization was issued. **Starlifter** is first USAF plane built to simultaneously meet both military specifications and FAA type certification.

FAAers ON THE JOB

Edward Gates

Mountaineering isn't part of Edward Gates' job but the 68-year-old general aviation inspector recently clambered up 13,500-foot Antero Peak, near Salida, Colo., with a rescue party seeking crash survivors. Lean and tough as a hoe handle, Ed, who works out of Jefferson County Airport, Broomfield, Colo., has been in aviation since his days as a World War I pilot. In the mountain climbing episode the rescuers had to pick their way over nine miles of rugged terrain littered with rocks and slag, before reaching the crash. Returning, two pack horses fell over a ledge, necessitating a second recovery of the bodies. Despite an overnight stay in bitter cold, Gates worked shoulder to shoulder with men years younger.

Edward Zoelle

They're making everything out of plastics these days and Edward Zoelle, flight service specialist at the Minneapolis Flight Service Station, is in there pitching with the best of them. He devised an "instant" estimated-time-of-arrival wheel that takes a lot of the guesswork out of filing flight plans. The revolving plastic disk is marked off in various ground speeds which, when placed along the route of flight, shows at a glance the time to destination as well as the magnetic direction. And—there's more to come—the device also highlights terrain features and navigation aids along the flight path. Not the least of its attractive features is the fact that it costs little to manufacture and it can easily be fabricated locally.