FAA HORIZONS

OFFICIAL EMPLOYEE PUBLICATION OF THE FEDERAL AVIATION AGENCY / MARCH, 1966

COVER

Robert S. James, a Central Region civil engineer, is typical of the more than 1,433 FAA engineers and technicians who use their combined skills—electronic, civil, construction, mechanical and electrical—to establish the Agency's numerous facilities. (See pages 12 and 13).

CONTENTS / MARCH 1966


Technicians To Be Certificated 3


This Is Farewell 6


Tahoe's ABCs of Aviation 8


Smoke Tunnel 9


Hawaii's Guard Is Up 10


The Man Behind the Airways 12


NONCOM, the Snooper 14


Pilikia Atop Mt. Haleakala 15


Swivelhead 'Rodney' Does His Bit 16

Other Features:

Agency-wide news 18-27

Names and Faces 28

Personnel Pipeline 30

For Where the Action Is 31

FAAers on the job 32

WILLIAM F. McKEE Administrator

DAVID D. THOMAS Deputy Administrator

CHARLES G. WARNICK Director, Office of Information Services

MARSHALL C. BENEDICT Chief, Employee Information Division

ALEXANDER F. GARVIS Editor

ABNER B. COHEN Art Director

FAA HORIZONS, the official employee publication of the Federal Aviation Agency, is published monthly by the Employee Information Division, Office of Information Services in Washington, D.C.

Articles of general interest to FAA employees may be submitted to: Editor, FAA HORIZONS, IS-40, Federal Aviation Agency, Washington, D.C. 20553, Telephone: 962-5574 or contact Regional Public Affairs Officers: George T. Fay, Alaskan Region; Robert L. Fulton, Eastern Region; W. Bruce Chambers, Southern Region; Joseph H. Frets, Central Region; K. K. Jones, Southwest Region; Eugene S. Kropf, Western Region; Gilbert E. McCoy, Pacific Region; Edwin L. Shoop Jr., NAFEC; and Mark Weaver, Aeronautical Center.

Glenn E. Goudie, SMS Director (left) presents rating certificate to Miami-based technician Harold L. Terlecky.

Technicians To Be Certificated

Systems Maintenance Service Will Rate 8,000 Technicians

"I've got an ASR and an ASDE; what do you have?"

"Well, I've got my VOR and TACAN, and now I'm sweating the ILS."

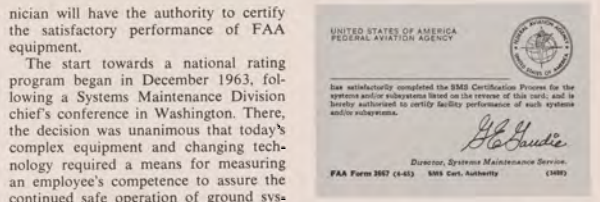
This might be a conversation between two airway facilities technicians comparing notes on their new Form 3667s. These 2-by-3-inch card forms are technician rating certificates similar to a 355 (pilot certificate). Listed on the next page are acronyms and abbreviations that describe the FAA facilities for which the technician is rated. A rating indicates the man is authorized to certify that a particular piece of equipment is performing satisfactorily for safe air operations. Earning a rating involves long hours of study and practical experience and, in many cases, written and practical examinations.

"The new rating program," according to Glenn E. Goudie, Director of Systems Maintenance Service, "not only will be an effective means of assuring a highly competent work force for today and the future, it will also provide incentive for achievement by the employee."

The national rating program for airway facilities technicians was started last October 31. When completed, approximately 8,000 technicians as well as certain field engineers will carry the coveted ratings. A man might have only one rating, and some may have as many as 10. Without the rating, no technician will have the authority to certify the satisfactory performance of FAA equipment.

The start towards a national rating program began in December 1963, following a Systems Maintenance Division chief's conference in Washington. There, the decision was unanimous that today's complex equipment and changing technology required a means for measuring an employee's competence to assure the continued safe operation of ground systems critical to air navigation and air traffic control. The rating idea, however, had been around for perhaps a good 20 years. Some CAA/FAA old-timer might say, "Hey, we discussed that the day my boy was born. He's in college now." Twenty years ago there were not as many facilities. Moreover, they were less complicated. The airways were not as crowded, and the demands on the system were not as stringent.

By the time the decision was made to start the national program, almost all regions had recognized the need for the rating yardstick and were in various phases of developing their programs. The Eastern and Alaskan regions had progressed the farthest and were the first to begin rating programs of their own. James S. (Scotty) Riggan, Manpower Training Officer, Airway Facilities Division in Alaska, and his counterpart in the Eastern Region, Kenneth Perssons, were


UNITED STATES OF AMERICA
FEDERAL AVIATION AGENCY

has satisfactorily completed the SMS Certification Process for the systems and/or subsystems listed on the reverse of this card, and is hereby authorized to certify facility performance of such systems and/or subsystems.

G. E. Goudie

Director, Systems Maintenance Service.

FAA Form 3667 (4-65) SMS Cert. Authority (1400)

the rating pioneers in those regions. The new national program standardizes the competency requirements for all regions. The man in the Alaska Region with the VOR and RCAG on his ticket has come along the same road of study and practical experience as the Central Region technician with the same ratings.

Certification is divided into four basic fields: communications, navigation aids, radar and data processing. These are again subdivided into a total of 77 systems on which a man can be certified. First, a man must show a theoretical understanding of the basic system; and second, he must, by his performance, demonstrate his ability to maintain the specific equipment or system for which he seeks certification.

If a man successfully completes an

Academy or approved school course on the system in which certifications are required, or successfully completes a written examination equal in scope to the resident training, he will have met the theory requirement for certification. In addition, if, during the preceding 12 months, he demonstrates an acceptable level of performance in maintaining the system for which he seeks certification, or satisfactorily completes a performance examination given by an authorized examiner, he will have met the performance requirements.

Not all technicians will have to take the written and performance examinations to get their ratings. The new certification program has its "grandfather" clause. Technician "grandfathers," that is, those who have already passed an Academy course on a particular system and have satisfactorily performed their duties on this system for one year, are automatically given their ratings. They are not required to take additional courses or to pass any examinations unless competence is in question, a switch is made to another technical field, or major equipment modifications require it. In addition, technicians who were previously certified under regional certification programs established prior to Jan. 1, 1964, retain their certifications under the new national program.

All whose present positions require certification must be certified on or before October 31, 1966. Those who are unable to become certified will be considered for lateral reassignments. New employees will be hired with the understanding that continued FAA employment is contingent upon satisfactory completion of a certification program.

If a man fails his examination, however, he is not at the end of his rope. The national certification program calls for immediate counseling by the supervisor and remedial action by way of an Agency training program. And he is given more than one shot at the examination.

In all regions, technicians are preparing for the certification exams.

At Galena Flight Service Station on the Yukon River in western Alaska, Peter J. LaPlant prepared for his performance exam on TACANs. He completed the theory portion of TACAN training at the FAA Academy at Oklahoma City last fall. This is one route to certification—attending the specialized course training at the Academy or an FAA designated school for theory, then passing the performance exam administered by the Region.

Richard E. Schlotter from Moses Point near Nome, and Ernest L. Hosack from Homer, south of Anchorage, were certified last year by taking Alaskan Region administered written and performance examinations.

Another route to certification is through on-the-job training where attendance at the Academy or an approved school for theory instruction is not required. The applicant, however, must pass an examination on theory which is graded by the Exam Control Center in Oklahoma City. Performance exams are handled locally.

In the new program, transfers of personnel between regions are simpler, since there is now a single yardstick for determining job qualifications. Job protection for the employee in the new region is assured since there is no retesting required. No region is any tougher than another, and a measurable acceptable level of technical competence is available.

Development of technician rating exams followed the same established procedures used in the Airmen's Certification Examination Program. Approximately 4,000 test questions were written with the assistance of over 100 Academy instructors and administered to 1,700 regional technicians in the validation phase of the technician test program. Program leaders were: Thomas Hunt, project leader, Systems Maintenance Service, Washington; James Riggan, group leader, Anchorage, Alaska; C. W. Mueller, Air Navigation Facilitites Branch chief, and H. T. Swenson, NAVAIDS Section chief, and coordinators at the FAA Academy: Charles Biberstine, communications, Western Region, Denver; Arthur Forrester, navigational aids, Central Region, Fargo, N. D., and Joseph Mayhall, radar, Cleveland.

COMMUNICATIONS	
ARTCC	Air Route Traffic Control Center
ATCT	Air Traffic Control Tower
CENTO	Center/Tower Co-located
CERAP	Center Radar Approach Control
CKT	Control Circuit Equipment
CS/T	Combined Station/Tower
FREQ	Frequency Control Unit
IFSR	IFSS Receiver
IFSS	IFSS Station
IFST	IFSS Transmitter
LCOT	UHF/VHF Link Terminal
LMWR	Microwave Link Repeater
LMWT	Microwave Link Terminal
LNKR	UHF/VHF Link Repeater
LRCO	Limited Remote Communications Outlet
ORES	Overseas Residual Station
RAPCO	Radar Approach Control
RATCE	Radar Air Traffic Control Center
RCAG	Remote Center Air/Ground Comm.
RCO	Remote Communications Outlet
RECORDERS	Recorders
RTR	Remote Transmitter/Receiver
TROPO	Tropospheric Scatter Station
DATA PROCESSING	
ADIS	Automatic Data Interchange System, Service A
ADPS	Automatic Data Processing System
*ALPHA-NUMERICS	Alpha-Numerics
*ARTS	Advance Radar Traffic Control System
BDIS	Automatic Data Interchange System, Service B
*NAS	National Airspace System
RBDE	Radar Bright Display Equipment
*SPAN	Stored Program Alpha-Numerics
*UFC-II	Univac File II Computer
RADAR	
ARSR	Air Route Surveillance Radar
ASDE	Airport Surface Detection Equip.
A/N	Alpha-Numerics
ASR	Airport Surveillance Radar
LMWR	Radar Microwave Link Repeater
LMWT	Radar Microwave Link Terminal
MHFR	Military Height Finding Radar
PAR	Precision Approach Radar
RBDE	Radar Bright Display Equipment
RVDP	Radar Video Digital Processor
SECRA	Secondary Radar
STARE	Special Terminal Area Radar
NAVAIDS	
CEGS	Cont. Engine Generator Service
CONSO	Consolan Facility
DMEG/L	DME at Glide Slope/Localizer
DOPDF	Combined UHF/VHF Direction Finder
DVOR	Doppler VOR
FM	Fan Marker
H	Non-directional Homing Beacon
ILS	Instrument Landing System
L/MF	Low/Medium Frequency Radio Range
LMM/LOM	Compass Locator—Middle and Outer Marker
LTDA	Localizer Type Directional Aid
RACON	Radar Responder Beacon
TACAN	Tactical Air Navigation
UDF	UHF Direction Finder
VDF	VHF Direction Finder
VOR	VHF Omnidirectional Radio Range
VOT	VOR Test Facility
WG. LOC	Waveguide Localizer

* Ratings to be issued later.

Technicians throughout the country are preparing for their rating examinations.

1 James S. Riggan (left), Manpower and Training specialist, discusses certification manual with Richard Young, Airway Facilities Division chief.

2 Technician Charles W. Goldsberry (center) gets TACAN rating from Richard C. Young. Alaskan Director George M. Gary looks on.

3 Senior technician Carl L. Johnson (left) helps relief technician Fred E. Syba begin his studies.

4 Homer technician Ernest L. Hosack repairs teletype machine. Hosack took Alaskan Region examinations.

5 Gerald R. Akers, technician at Galena, takes written part of performance examination.

6 Paul H. Boatman, Miami Area Manager (left), presents rating certificate to Edward D. Wheeler, Miami technician.

7 Technicians Glenn E. Tolleson (left) and Peter J. LaPlant engage in training session at Galena, Alaska.

8 Cold Bay technicians Douglas B. Pemberton (left) and Harvey B. Gray have already passed Alaskan Region certifications.

9 Douglas B. Pemberton (left) and Harvey B. Gray work on equipment for which they are rated.

10 Lee Sarver, supervisory technician in charge (left), instructs technician Richard Schlotter who is preparing for his examination.

THIS IS FAREWELL!

One of the most isolated flight service stations in Alaska, and perhaps in the Agency, bears the forlorn name of Farewell. Located 160 miles northwest of Anchorage, Farewell sits on the north edge of the granite-hard Alaskan Mountain range. An intermediate field with a low frequency radio range, it serves the pilots who fly through the mountainous area between Anchorage and McGrath to the west.

Despite its name, Farewell is a welcome sight to a pilot who has just left Rainy Pass, a narrow defile through the mountains, on his flight westward. It's a welcome sight, too, for the pilot who is heading east through the pass so narrow in some places that an aircraft cannot turn back. Here he can land, receive a weather briefing on pass conditions, and drink a cup of coffee before continuing his flight. And, if he has to turn back for some reason, he knows that the runways at Farewell are like oversized welcome mats, beckoning him to land and stay as long as he wants.

"Mushers" gave Farewell its name long ago. A nearby lake was a resting place for the dog teams which carried supplies and mail from Anchorage to Nome. For man and beast, it was "farewell" to the shelter of the mountain passes: Only windswept, open country lay ahead for the dogsledders.

But there's more to Farewell than a tiny, neat community in the middle of nowhere. All visitors to the Farewell FSS are struck by the friendliness of the station complement and their high morale. It is a truism in the Alaskan Region that morale seems to rise in inverse ratio to the degree of isolation and weather extremes experienced by FAAers and their families who serve at the lonely stations.

In Farewell, Alaska, (above) bear and bison roam the area looking for food in garbage cans and in garden plots. 1 ATCS Robert M. Curry completes computations prior to reporting area weather. 2 Electronics technician Victor Stachowiak repairs a small radio. 3 ATCS Michael W. Zaske broadcasts weather to pilots from latest weather sequences.

Community coordinator Charles H. Shenkel, senior air traffic control specialist, chuckles each time someone refers to him as community coordinator. "There's hardly anyone around to form a community," says Shenkel, "that is, unless you count the bears, bison, moose, caribou and wolves, which consider the station a second home. Everywhere we go, we have to carry a gun. Bears and bison are always rummaging in our garbage cans. Last summer the bison rooted up cabbage we had planted in the housing area."

Morale among the wives is unusually high. They manage to keep busy with household chores and with their children. Mrs. Katherina Stachowiak teaches classes to six-year-old "Sis" and seven-year-old Victor Jr., because there are no schools near Farewell. Parents teach their children at home, using school materials furnished by the Alaska Department of Education. Her husband, Victor, is an electronics maintenance technician.

There are no churches for Farewell families to attend, either. But that doesn't stop the Zaskes, Doughertys or Currys. Each Sunday, they gather for services in Michael W. Zaske's home. Michael, an air traffic control specialist, plays tapes of services on his stereo set, which are sent to him by the Zion Lutheran Church of Anchorage. "We receive the tapes one week after the services in Anchorage," explains Zaske. "We have our own hymn books and we sing right along with the stereo."

Hunting, working in leather crafts, and building radios and record players occupy any free time the families might have. Wild game supplements the FAA commissary shipments of food they receive from Anchorage once a month.

"We have wonderful people here," says Shenkel. "However, keeping busy is the key to serving in a remote station."

Perhaps the name Farewell inspires everyone at the FSS to make it one of the best in Alaska.

4 Community coordinator Charles H. Shenkel sweeps the snow from his ski-equipped aircraft. 5 The household effects of the Robert M. Curry were flown to Farewell. 6 Nurse Maebelle Nielson (right) gives Christina Shenkel a medical check as mother Verna looks on. 7 Sewing is popular with Mrs. Delores Dougherty (standing) and Mrs. Marie Zeske. 8 Mrs. Katherina Stachowick instructs her children using home study courses.

TAHOE'S ABCs of aviation

What does FAA do? How do you control air traffic? What is radar?

These questions and literally hundreds of others were asked by fifth graders at Bijou Elementary School near Lake Tahoe, Calif. And the questions were answered by FAA personnel in a unique FAA-school program designed to acquaint youngsters with the "Wonderful World of Aviation."

Robert L. Markwith, tower chief at Lake Tahoe Airport, got the idea for the program when he was contacted about a year ago by Arthur Muskovitz, fifth grade teacher at Bijou School, concerning weather data needed for a field trip by his class.

"How about including FAA?" Markwith asked.

"Great idea!" said Muskovitz, and one of the nation's peppiest aviation education programs involving FAA-school participation was launched.

Markwith arranged to have students visit the tower and witness traffic control first-hand. FAA services were explained in simple language. FAA pilots discussed airplanes, principles of flight, engines, designs, instruments and communications. A flight instructor explained pilot requirements. FAA brochures and pamphlets rounded out the instruction. Displays of aircraft and aviation material were used to decorate classroom walls for the entire six-week program.

Each week, Markwith arranged to attend at least two of the one-hour classroom sessions on aviation. After each session, Markwith discussed progress of the program with the teacher and helped plan subsequent sessions. He worked closely with the school on all phases of the program, arranging for FAA films, brochures and speakers.

He also mapped out a series of airport field trips aimed at giving the youngsters a grasp of airport business activity, air taxi operations and other activity. "It wasn't unusual for parents of students to thank FAA employees for giving their children an understanding of aviation," Markwith said. "We made this education program fun for the kids. We tried to give FAA presentations sparkle and appeal, and the enthusiasm and interest of the class was very gratifying."

Another important measure of that success is the fact that the entire program will be continued annually in the Lake Tahoe school system.

Above: Lake Tahoe Tower chief Robert L. Markwith turns aviation professor for fifth graders in their first look at aviation. Below: The tower (background) was the classroom for the youngsters during their course.

SMOKE TUNNEL

Faced with the problem of explaining to Academy students how air behaves as it flows around an aircraft wing or fuselage section, the FAA Aeronautical Center designed and built its own smoke tunnel, solving a longstanding visual aid problem.

The Aeronautical Center's new smoke tunnel is a wind tunnel into which smoke is introduced to make the air stream patterns readily visible. By placing an exact model of an airplane or airfoil section in the stream of visible air, an instructor can visually demonstrate principles of aerodynamics in the classroom.

Discovering the need and acquiring the smoke tunnel were two different things, the FAA learned. J. B. McCullough, an Academy instructor, discovered that no commercial smoke tunnels were available. This presented no problem to McCullough, a flight test engineer by profession, who had built his first smoke tunnel in 1955 while a student at Oklahoma University.

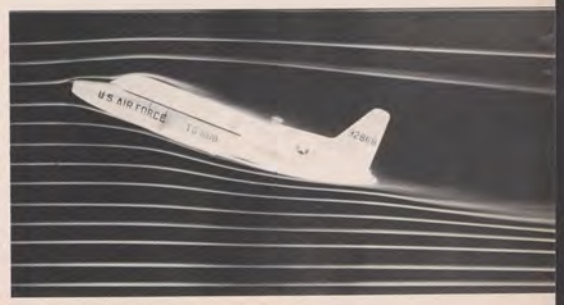
Instead, McCullough and Paul J. Lane of the Academy's Technical Service Branch visited a number of educational institutions where smoke tunnels are used for instruction and research. These included tunnels at Oklahoma University and Wichita State University and a two-dimensional tunnel at Iowa University and a three-dimensional version at Notre Dame. After the inspection tour, McCullough worked out the design and the Technical Services Branch completed the new tunnel in six months.

The smoke tunnel has a one-foot square test chamber with a 16 to one air inlet ratio. A smoke manifold provides 13 smoke streams. These can be controlled so that all can be used at once or the smoke flow can be limited to the center five streams or to alternate ones. The lines can be positioned anywhere within the test chamber by remote controls at the operator's position. A mount for models within the chamber is manipulated through electronic remote controls at the operator's position. Twelve eddy screens made of stainless steel mesh insure a straight air flow. The automatic smoke generator features up front controls and a sophisticated lighting system of strategically placed bulbs and mirrors.

All agree that McCullough and Lane have produced one of the best smoke tunnels in existence.

▲ *J. B. McCullough, Academy instructor and designer of FAA smoke tunnel, works smoke controls.*

▼ *Smoke flow around airfoil shows wake turbulence dangers.*



A jet model "stalls out" ► in the smoke tunnel.

Radar vectors are relayed to interceptors by controller Bill Owen at the Diamond Head ARTCC.

Hawaii's Guard Is Up

If Pearl Harbor should ever again be the target of a sneak attack, most of its defenders would be civilians. The men who man the missile launchers, fly the supersonic interceptors and staff the radar consoles to provide around the clock protection against any possible repetition of Dec. 7, 1941, are citizen soldiers of the Hawaii National Guard.

The Nike missile unit, the fighter group and the Aircraft Control and Warning (AC&W) Squadron which furnishes Hawaii's air defense are manned by men who professionally might be cooks, plumbers, lawyers or bankers, but for several hours each week they don Army or Air Force uniforms and take an assigned role on the defense team.

Another group of civilians, the Federal Aviation Agency, works closely with the National Guard. With their help, Air Guard interceptors have been able to fly an average of 10 interceptor missions per day out of busy Honolulu International Airport without a threat to the dense civilian traffic.

FAA's involvement with Hawaii's air defense is symbolized by a radar site which sits atop Oahu's highest mountain peak overlooking Wheeler Air Force Base. It is a joint use FAA/Air Force radar site which is reached over an FAA-built road which winds the 6.7 mile route along razor sharp mountain ridges and through spectacular views. This long-range search radar provides the coverage the FAA needs to provide air traffic control and also provides the AC&W its surveillance capability as well as assist aircraft in distress. Since the first radar station went into 24-hour operation in July 1956, the two AC&W squadrons, the 150th and the 169th, have saved 32 lives and aircraft worth in excess of $31 million.

This three-fold mission, air defense, air traffic control and rescue, operates harmoniously on the basis of complex mutual agreements and standard operating procedures. To assure adequate air traffic control service during intercept operations, the Air Force and FAA have developed a program called the FAA Authorization for Interceptor Operations (AFIO). Through this program, specially trained FAA air traffic control operations representatives provide expert technical advice to the Hawaiian Air Defense Division and the Air Defense Direction Center. Harry E. Monaghan is assigned to the 150th for this purpose and Paul L. A. Duvauchelle is assigned to the 169th.

Basically, the program works like this: all air traffic within the Hawaiian Air Defense Identification Zone (ADIZ) is reported by AC&W to the Air Force-operated Air Defense Control Center (ADCC). If ADCC cannot identify any reported track in 60 seconds, a scramble order is given, simultaneously alerting the ready flight crews, the AC&W Intercept Director, and FAA air traffic controllers at the Honolulu Tower, the TRACON Departure Control, and the ARTCC in Diamond Head Crater. The tower immediately clears all traffic around the airport, then relays ADCC's scramble orders to the fully-armed F-102 *Delta Daggers* already moving out for immediate takeoff. Departure control radar, after cautioning or diverting, if necessary, any inbound traffic, vectors the interceptor flight on radar, and after approximately 10 miles out, hands off the flight to ARTCC controllers at Diamond Head. The Air Defense Intercept Director sitting at his radar console in the Wheeler AFB operations room now assumes control over the interceptors and positions them for intercept.

The unknown track usually turns out to be a red-faced pilot who has inadvertently wandered off his course.

For the day that the "unknown" turns out to be neither a lost "friendly" or a United States plane on a "spooking mission" to test defense readiness, Nike missile launchers ring the island of Oahu, where 95 per cent of Hawaii's military installations are located. This newly organized group of Hawaiian missile men recently outscored all other active Army units while in training in Texas. The Guard's 154th Fighter Group, rated as one of the nation's most proficient, completed almost 4,000 actual intercepts during training missions within the ADIZ.

Together with the 169th and the 150th AC&W squadrons, these units make sure that attacks on Pearl Harbor are a fading page in history while FAA makes their defense mission compatible with the growth of civilian air traffic.

1

2

3

4

1 F-102 interceptors over Hawaii are flown and controlled by civilians.
2 Honolulu's International Airport is the scene of nearly 4,000 scrambles.
3 Harry E. Monaghan (right) of the FAA watches Capt. Paul Sequira of the 169th AC&W Squadron adjust the recently installed radar unit at Wheeler AFB.
4 This TRACON departure control room plays a key role in Hawaii's air defense.
5 Controllers clear traffic on receiving the scramble alarm.
6 Lt. Colonel Paul Goya, commander of the 169th AC&W Squadron, briefs Paul Duvauchelle on the Hawaiian Air Guard's next training mission. As air traffic coordinator, Duvauchelle serves as advisor to Lt. Col. Goya while representing the Federal Aviation Agency in the air defense of Hawaii.

5

6

Above: Weekend field trips are a family affair in the Bob James household. Here young Adam James gives it everything he's got to point out the spot for the next James' jaunt. Below: James and his supervisor, Arch W. Wade (right), chief of the Airway Facilities Plant Communications Section, discuss a proposed 160-foot airport control tower for O'Hare International Airport—the desk side of the establishment job.

THE MAN BEHIND THE AIRWAYS

Mrs. James is a widow to the workshop where her husband Bob works the radial arm saw she gave him for Christmas. ►

James eyes the dials of the large steam boilers installed under his supervision at the Minneapolis Center. ▼

Robert (Bob) S. James feels just as at home behind the desk as he does in a windswept construction shack. He is one of the 1,433 FAA engineers and technicians whose work runs the gamut of establishing an FAA facility from drawing board to commissioning.

Establishment crews are a mixture of technical and engineering skills—electronic, civil, construction, mechanical and electrical.

Bob, 29, is a civil engineer. He hired in on a Monday and left the following morning on a site selection field trip. "They swore me in and handed me a train ticket," Bob recalls. For the next five months he surveyed potential sites for VORTACs, instrument landing systems and airport approach lights.

From his initial surveys, Bob prepared preliminary plans and field notes and talked to property owners about leasing required land to the government. At Whitefish, Mich., he ran into a reluctant farmer who vacillated between yes and no to having a VOR site on his property. Bob finally won him over and, before change of heart set in, typed up a lease in the back seat of his car and got the farmer's name on the dotted line. Bob then sent his plans, notes and preliminary land leases to the regional office, where office engineers developed finished sets of facility plans and specifications.

Before leaving Whitefish, Bob had his first field lesson in zoology. "I was in the wilderness, the nearest thing to the frontier I have ever seen, surveying an entrance road to the proposed VOR site," Bob chuckled. "This small, burro-like animal came up and nosed around." A forest ranger later told Bob it probably was a moose calf and that he was lucky the encounter was casual, because the cow must have been close by. If Bob had attempted to promote the calf's friendship, he might have had big moose trouble.

Once Bob and his counterparts tentatively have selected a site for a navigation aid, FAA electronics engineers and technicians move in with a mobile test facility. Another arm of the FAA also comes into play in an Agency-wide cooperative effort to get the facility on the air. Installation electronics men at the site work closely with the airborne Flight Standards crews busy upstairs in their flying laboratories to see if the facility will meet operational requirements.

While the job of finding a satisfactory site is going on, other installation and materiel gears mesh. FAA procurement people use engineering plans and specs to get somebody to make it, build it or do it. As procurement experts haggle over prices with hardware manufacturers, other procurement experts are letting a contract to build the building to house the hardware. Once the building contract is let, FAA construction engineers move to the site and work with the construction contractor.

Bob had his turn as a construction engineer during the building of the Minneapolis ARTCC in Farmington, Minn.

"The Center site was just a bean field when I got there in June 1960," he said. "The following winter the thermometer never seemed to get above zero."

While in Farmington, Bob worked under the supervision of resident FAA engineer Mathias J. Strahm, now in the Chicago Area Office. They and Roger Beck, another engineer, inspected the building as construction progressed, insuring that it met FAA specifications. They wore boots, hard hats and insulated clothes because most of their work was done outside. They operated out of a trailer rigged up like an office.

Bob's height, over six foot three, was a problem. His hard hat saved him many times as he clanked into two by fours of the temporary center doors, which the carpenter never made tall enough. His time came when he forgot his hard hat and crashed into a four by four. He was knocked cold.

Frank E. Van Demark, acting chief of the FAA's Center Program Section in Washington, said the new $2 million center at Farmington was among the Agency's first efforts in constructing its own buildings of this type and size. "It provided a whole new area of activity for the talents of FAA engineers, technicians and other specialists."

While a building is under construction, or as the building contractor can release portions of the building to them, FAA plant and electronic crews install wiring and install electronic hardware shipped directly from the manufacturers or the FAA Depot in Oklahoma City.

Once the equipment is installed and the final tuneup completed, an FAA flight check makes certain that the equipment conforms to FAA standards and tolerances. With all systems "go," the job of the installation crews is done and the facility is turned over to maintenance crews, who ensure the continued reliable operation of the equipment.

Sometimes installation crews go home; sometimes they don't. Perhaps it's on to another site and another facility, an area office or, like Bob, to the regional office when his job at the Minneapolis Center was done.

In Washington Headquarters, John B. Hogan, Acting Director of the Installation and Materiel Service, commented on changes posed by the new area office concept. "Under the area concept, installation crews who formerly worked region wide, now are kept busy within area boundaries. Their travels are shortened, but their skills are broadened to take in many more types of facilities than was possible before."

When Bob James returned to the regional office in the summer of 1961, he had a lot of experience crammed into his two and a half years as an FAA engineer. For the next three years he worked in the installation and materiel engineering bull pen, a huge roomful of desks and drawing tables, where office engineers take raw data and plans from the field and turn them into finished drawings and specifications for use by those who build the facility and install the equipment.

In January 1964, Bob was selected for a five-month Civil Service Interagency Management Intern Program which introduced him to the management side of his own profession and to more responsible tasks in the future.

His FAA job was Bob's first after getting a degree in civil engineering from the University of Kansas in 1959. He discovered that the FAA drew not only upon all the varied skills he had learned in college, but also upon any undeveloped talent he had for management and supervision.

Although the FAA did not promise romance, Bob and five other engineers hired at the same time all were married within three years after starting their FAA jobs. While on his Farmington assignment, Bob met Kathleen E. Le Vine, a Minneapolis secretary. They were married the following summer in her hometown of Oshkosh, Wis. They now have a three-year-old son, Adam.

Bob stays abreast of new engineering developments through membership in the American Society of Civil Engineers and the Tau Beta Pi and Sigma Tau honorary engineering fraternities. He is a licensed professional engineer in Kansas and has completed Agency training courses in management for supervisors, radiological monitoring, conference leadership and directives workshop.

Bob and his skilled counterparts are the men behind the nation's VORTACs, ILSs, approach light systems and thousands of other facilities now operating as vital parts of the national airspace system which today is valued at $1.1 billion dollars.

MONCOM THE SNOOPER

MONCOM, eight feet tall and encased in a cabinet, is a radar **mon**itor and **com**munications (MONCOM) console whose black boxes, scan-conversion radarscope and oscilloscope comprise an extraordinarily efficient electronic detective. It was developed by the Airway Facilities Sector at the Kansas City Air Route Traffic Control Center at Olathe to snoop on radars.

MONCOM lights up and talks when radar pains develop. Technicians can spot and identify trouble in any of the center's four radar systems at a glance. They can also talk with other technicians at remote radar and microwave link sites.

Before MONCOM, trouble calls came in from the center control room and antenna and microwave link sites to scattered locations in the equipment room. The black boxes sat wherever there was space, and technicians lost a lot of time hiking from one trouble spot to another. Now, one technician seated at the panel can monitor all four radars and components.

Robert E. Shadoin, chief of the sector, says no one individual can take credit for MONCOM. "It was born of necessity in the minds of a lot of people around here. The idea began taking shape back in 1960 when the center was still located in cramped quarters at the old terminal building at Kansas City Municipal Airport. One of the sector's biggest problems in those days was keeping tabs on the center's then three radar systems." Technicians who figured in MONCOM's development with Shadoin are Charles W. Crane, Jack C. Rice, Orville J. Hankins, John Taggert, Frederick Landon, and regional office electronic engineer Charles L. Douglass.

The first monitor used in the old center was a simple oscilloscope with which technicians could check individual radar systems and components. When the center moved to Olathe in 1962, recommendations for a better system was submitted to the regional office for engineering and approval. Douglass, now working in the Kansas City Area Office, took the recommendations and designed a workable unit which was assembled by William Diehl and Robert Luth of the regional office electronics laboratory.

MONCOM is such a popular super-snooper that two more have been built and soon will be installed in air traffic control centers at Chicago and Indianapolis. Other centers, too, are eyeing MONCOM. It may be that one day MONCOM will be eyeing them right back.

▲ *Frederick Landon adjusts the video on a PPI scope.*

Technician Patrick Tudor does repair work when he is not monitoring the MONCOM. ►

Charles W. Crane, George Becker and Thomas Purnell, Olathe, Kan., Airway Facilities Sector, scan MONCOM for possible radar trouble. ▼

PILIKIA Atop Mt. Haleakala

1 *On Maui Island in Hawaii, Mt. Haleakala rises 10,023 feet above sea.* **2** *Technician Lowell Hanks checks an antenna at the Haleakala repeater station.* **3** *Abner DeLima and* **4** *Hoover Ancheta also help maintain the station.* **5** *Ice forms horizontally because of the high winds.*

AS THE warm, balmy breezes fanned the beaches and sportsmen rode the crests of waves on their surfboards, it has not been uncommon to see FAA maintenance men atop nearby Mt. Haleakala in Hawaii working in the middle of a blinding snowstorm.

On this extinct volcano on the Island of Maui, where an FAA repeater station is located, snow and ice is no rarity.

In the past decade technicians have experienced *pilikia*, Hawaiian for trouble, in servicing the facility when wintry conditions create maintenance problems at the facility 10,023 feet above the sea.

Pilikia at Haleakala has ranged from snowstorms that hid the roads and trapped observers in their volcano facility to heavy icing, which has caused a complete signal blackout and left the facility coated with ice and resulted in damage to power lines and components of the facility.

Abner DeLima, a native of Maui, who has spent his 22 years with FAA on the island, recalls the area's biggest *pilikia*. "In February 1962, sleet and hail and 60 mph winds pelted the facility, disrupting communications at Haleakala's repeater station," he said.

"Electronic technicians had to wear parkas and other heavy clothing to service the station," DeLima stated, "and a vehicle equipped with tire chains (probably the only set in the Pacific) was used to drive up the perilous winding road to the station."

After restoring service, DeLima reminisced, the view atop Haleakala was fascinating. "The bleak and barren volcanic landscape had been transformed into a winter wonderland," he said. "Because of the force of the wind, icicles on the station pointed in a horizontal direction rather than vertical. It was a contrast to the warm, balmy beaches below which I had left only several hours previous," DeLima observed.

The storm, DeLima noted, had done extensive damage. All the yagi antennas were broken, the remote transmitter and receiver building link antennas were downed and four VHF antennas were damaged.

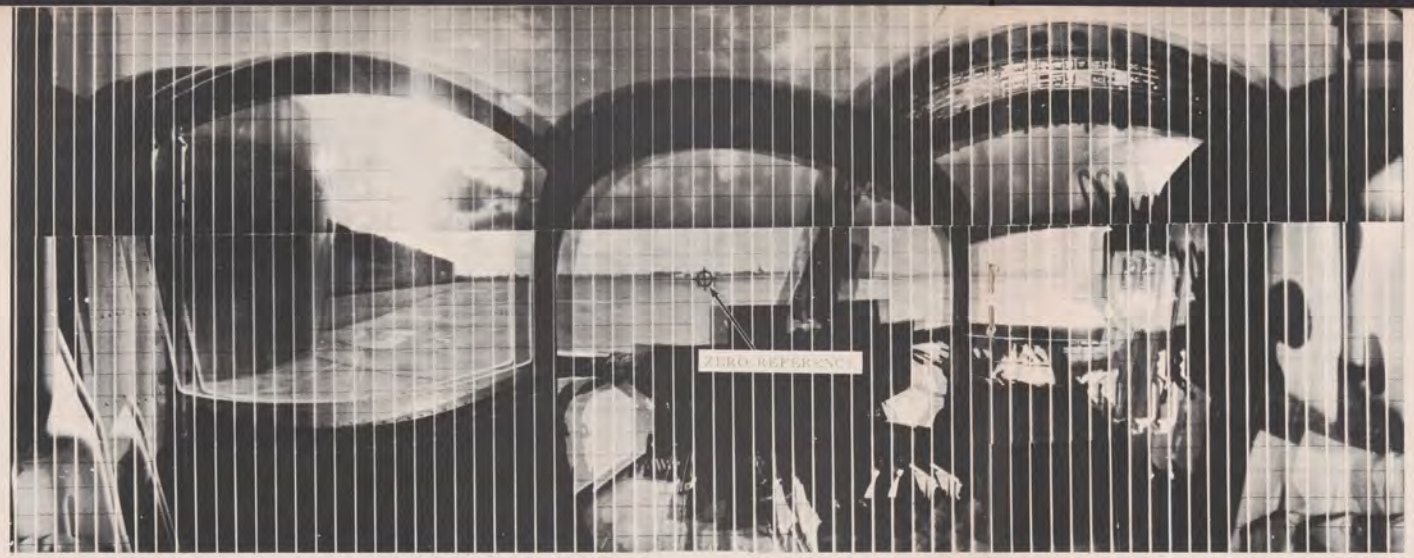
To put an end to the wintry maintenance *pilikia* and to prevent the possibility of recurring damage at the Haleakala station, preventive measures have been taken.

"Protective fiberglas now covers the vital link antennas," Charles Miesel, head of Maui's Airway Facilities Section, said, "and thermostatically-controlled heating elements on the antennas guard against icing."

Also, a masonry-block building with a reinforced concrete slab roof has replaced the old type "S" building.

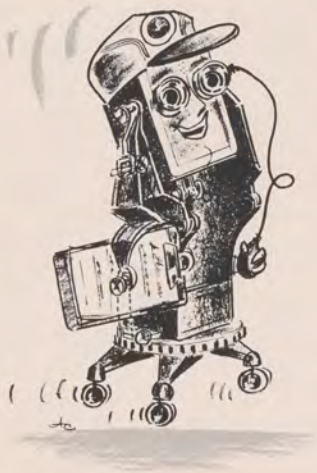
"With the new improvements," Miesel said, "no further loss of signals from the Haleakala is anticipated, and besides, the inter-island flying public has been given a greater margin of safety."

The snow and sleet and howling winds may continue to turn Haleakala into a winter wonderland, but what has been a winter *pilikia* for FAA maintenance men may now be a thing of the past.



Left: The field of vision of a Bell X-22 tri-service aircraft is recorded by "Rodney." Each line superimposed on the photograph is five degrees apart. Above: A Bell employee and NAFEC engineer Paul S. Rich set up "Rodney" in the left seat for the test. Lower: The angles of vision as seen from the driver's seat of a 1961 model automobile.

Swivelhead RODNEY Does His Bit



Rodney has a photographic memory and, for the past 15 years, has been grinding out photographs of cockpit visibility.

Rodney is a binocular strip-film camera created at the former Technical Development Center in Indianapolis, Ind., in 1951. How he got his name has never been recorded, but Rodney now does his bit for cockpit visibility and air safety at the National Aviation Facilities Experimental Center near Atlantic City.

To see what a pilot sees and to get it on record, Rodney measures and records angles of vision as might be viewed by a pilot turning his head from extreme left to right. Photographs include the binocular effects of cockpit obstructions such as windshield posts and instruments. Each photo has a grid of horizontal and vertical lines every five degrees, showing exact angles of vision out of all cockpit windows as seen from the left or right-hand seat.

As more and more emphasis is placed on cockpit design in the interests of air safety, Rodney is used by airplane manufacturers, the military services and FAA regional personnel to aid in the certification of new aircraft. Sometimes the camera is used to reconstruct a pilot's range of view in near-miss investigations. Besides recording visibility limits of airplanes, the device has performed for an automotive safety panel several times to measure visibility limits in automobiles. Recently Rodney moved into the space age to measure the visibility in a lunar vehicle, where it is important to know exactly how much an operator of one of these proposed vehicles can see in order to transport himself to the surface of the moon.

Paul S. Rich, NAFEC engineer, Aircraft Safety Branch, explains how Rodney operates: "First we place the camera in the pilot's seat, securing it with the seat belt. Its tripod legs are then adjusted to level the camera. The double lens is placed 30½ inches above the seat, which is the eye level of the average pilot. When the shutter is opened, battery-powered Rodney slowly swivels his lens, making a complete revolution in 36 seconds.

"Rodney also can simulate the forward movement of the pilot's head as he moves forward to search the skies. For these shots, Rodney is adjusted to swing forward five inches."

When the view from both the pilot's and co-pilot's seats is symmetrical, pictures are taken only from the pilot's side. If not, pictures also are taken from the righthand seat. Rodney also records angles of vision from the observer's windows in certain search and rescue airplanes, and from the back seat of a flying crane-type helicopter, where the crane operator sits.

According to Rich, Rodney was helpful in establishing technical data upon which Federal Air Regulation Part 25 was established. The regulation cites criteria for clear areas of vision for transport aircraft, outlining minimum acceptable visibility from the cockpit. "A film strip," he says, "is the easiest accurate way to measure cockpit visibility as required in these recommendations. Each job takes about three hours time to set up and take the pictures." This is done after initial consultation with the manufacturer's representative to check over drawings in order to identify the average eye position of the pilot. To try to determine angles of vision from engineering drawings, Rich declares, would be difficult and costly and could keep one engineer busy for a month.

Wayne D. Howell, chief of the Instruments and Equipment Section at NAFEC, recalls the original requirement for the camera and the attempts to get private industry to build it according to Agency specifications. When low bids averaged around $50,000, the Agency took over and then created Rodney for less than half the price by using in-house talent.

Another NAFEC engineer, R. Byron Fisher, estimates that Rodney has shot pictures from perhaps 150 different models of airplanes, most of which were prototypes or first production models.

"Rodney, the camera," weighs 46 pounds and stands three feet tall. The lenses are Wollensak 65mm., F6.8 Raptar wide angle, mounted in Alphax shutters. They are fixed focus set for an object distance of 21 inches. The two images through the lenses are set to superimpose at 200 feet. Film used is standard 6-inch by 5-foot Cirkut camera film of the Verichrome panchromatic type.

Looking back, Rodney was not always content with his air safety, cockpit visibility job. NAFEC engineer Eugene E. Pazera recalls the time in Seattle, Wash., when he tried to run away. Rodney was packed away in his box in which he is transported on his travels and which has rollers on it in order to wheel around easily. Parked on the side of a hill, Rodney took advantage of opportunity and gravity and started rolling down the grade. He was caught and eventually settled down. A mature teenager now, he seems content to sit in cockpits of the latest type airplanes and take a good slow look around.

FAREWELL TO SHRIMP BOATS SCHEDULED FOR NEW YORK IN LATE 1967

Air traffic control radar equipment which can automatically display the vital third dimension of aircraft position—altitude, in addition to distance and direction, will go into service in the New York City area by late 1967.

The automated equipment provides a luminous data block of flight information which is coded in letters, numerals and symbols and electronically attaches it to the correct radar blip. The data block, called an "alpha-numeric" tag, automatically follows the blip. It contains such information as the flight identification number, assigned altitude, and flight attitude (whether climbing, descending or in level flight). For aircraft which have automatic altitude reporting transponders, the alpha-numeric tag will also contain the actual altitude of the aircraft, instantaneously reported in 100-foot increments.

Alpha-numeric equipment relieves the controller of certain clerical duties, prevents misidentification of radar blips and provides altitude information. With this assistance, FAA controllers will be able to improve the safety and efficiency of the New York air traffic control area.

To accomplish the automation plan, FAA will shift an entire automation system from Indianapolis, where it has been undergoing tests since April 1965, to the New York Air Route Traffic Control Center, located at MacArthur Airport, Ronkonkoma, Long Island. The MacArthur facility is responsible for control of traffic at higher altitudes (generally above 6,000 feet) in the en route portion of flight, as opposed to local airport traffic at lower altitudes handled by the airport control towers.

Initially, the automated equipment will be installed only in those sectors of the New York Center which feed arrivals into or accept departures out of the metropolitan area airports. The system presently at Indianapolis will be installed at the center during the spring of 1966.

For airport traffic at lower altitudes, another automated system will be located in a specially designed "common TRACON room," a consolidated airport radar room, soon to be constructed by FAA in Hangar 11 at Kennedy International Airport. Radar control of all traffic arriving or departing at Kennedy, LaGuardia, Newark, Teterboro and 12 other New York area airports will be centered in the common TRACON room.

Currently, each radar-equipped airport control tower, Kennedy, LaGuardia and Newark, is responsible for its own arrivals and departures, and each has its own "parcel" of airspace within which it must conduct all of its operations. These separate jurisdictional areas result in "blocked" airspace, extensive coordination between controllers, "tunneling" over or under airspace allotted to adjacent control facilities and other special restrictions which complicate control procedures and limit the traffic handling ability of the present New York system. Essentially, the common TRACON room will result in a pooling of metropolitan airspace now parcelled out to the separate jurisdictions of these three airports, thus permitting the optimum use of available airspace in all traffic situations.

Automated equipment similar in concept to that currently undergoing advanced testing at the Atlanta Airport Control Tower will be moved into the New York common TRACON room. A short range airport radar and a long range en route radar, both located at Kennedy Airport, plus another short range radar located at Newark Airport, will be "piped" into the common TRACON room. These three radar systems will provide blanket radar coverage of all metropolitan airports.

This retouched photograph of an ARTS radar scope shows electronic tags which take the place of manually controlled plastic "shrimpboats" which carry less data.

Automation for the common TRACON room must await completion of suitable housing and the delivery and installation of equipment in Hangar 11 at Kennedy Airport. It is expected that the new, automated common TRACON room will be ready for operational use in about 22 months.

Present radar equipment employed by FAA air traffic controllers provides only a two-dimensional (distance and direction) picture of air traffic. With this equipment, ground controllers can learn altitudes of aircraft only through time-consuming radio communications with pilots. Controllers then are required to write the altitude data on paper flight progress strips.

In addition, controllers using horizontal radar displays often write vital flight data on small plastic chips called "shrimp boats." The shrimp boats, used to help controllers maintain the correct identity of radar blips, must be manually pushed alongside the blip as it moves across the radarscope.

Alaskan SALS Tested

Frank S. Fields and Toivo Olsen install Short Approach Lighting System at Bethel, Alaska, to aid pilots when snow and overcast obscure the horizon.

OKLAHOMA CITY TEAM WORK SAVES ANOTHER PILOT

An incident over Oklahoma City had all the elements of a good hangar flying yarn for the pilot, but for the FAA team that came to the rescue, it was routine.

The pilot of a single engine craft reported to the Oklahoma City Flight Service Station that he was lost, low on fuel and above an overcast without an instrument clearance. What followed has become a familiar story in FAA.

The lost pilot was told to contact Approach Control at Oklahoma City. Controller James L. Owens promptly located him 30 miles northeast of Will Rogers Airport. Flying in the same area was an FAA aircraft piloted by Howard A. Hasbrook of the Civil Aeromedical Institute's flight research staff. Owens vectored the two aircraft near each other and Hasbrook dropped the gear and flaps on his larger, faster plane so he could maintain the lower speed of the lost single-engine plane. Then, Hasbrook led the way through a hole in the overcast to a safe landing at Wiley Post Airport.

The lost pilot remained calm, and no real problems arose during the rescue.

THE DIFFICULT IS ROUTINE — IMPOSSIBLE JOBS TAKE A LITTLE LONGER

An FAA boat helped bring air transportation to hundreds of Alaskans recently when it cleared the way for Juneau pilots to take off from their ice-blocked seaplane dock.

Planes of the Channel Flying Service were hopelessly blocked by ice for more than two weeks, and the lonely men who depend on the seaplane pilots for mail and provisions were virtually cut off from the outside world. When their plight was brought to the attention of Ray Caudle, Juneau area manager, he dispatched one of the Agency's seagoing vessels, *Fedair II*, to see what could be done.

After the ship's master, Eanner Smith, made a thorough study of channel currents, with the help of mechanic foreman Gordon Meyer he used the 88-foot power barge-type vessel as an icebreaker to clear a path for the planes to a small ice-free boat harbor. *Fedair II* then took the role of a tugboat and towed Channel's float, complete with the two planes securely lashed to it, out through the path it had cleared in the ice.

The planes immediately resumed their service to the isolated homes and villages in southeastern Alaska.

"All in a day's work," modestly explains Eanner Smith.

With a crew of experienced seamen made up of Jim Whistler, Hans Gunderson and Angus Gair, Smith and the *Fedair II* performed a wide variety of services last year which only they would refer to as "all in a day's work."

Thanks to the **Fedair II** (shown in background) planes of the Channel Flying Service are ready for action. The **Fedair II** towed the ice-blocked seaplanes and their dock to an ice free location across from Juneau, Alaska.

Normal duty for the vessel is to provide logistic support to isolated FAA facilities in southeastern Alaska. Plying the frigid waters in all kinds of weather, they have been on hand to pick up lost hunters, tow floundering boats to safety, transport an expectant mother from her isolated home to the hospital and fight a raging forest fire alongside Forest Service employees.

Other normal days for the *Fedair II* crew included pulling a fishing trawler off the rocks and finding a dead man aboard, picking up a miner who had been stranded on the beach without food for several days, rescuing passengers from a ditched commercial airliner and delivering an engine to a Grumman *Goose* aircraft that had been forced down on a remote bay.

These and other extra-curricular activities of the *Fedair II* are routine to the crew, but, according to Ray Caudle, they will hardly be forgotten by the many people in Alaska who depend heavily on the navaids the *Fedair II* serves and the crew's constant willingness to bring help where it is needed.

Redbird Tower Specialist Cited For Community Service Projects

Air traffic control specialist Jerry M. Garner of the Dallas Redbird Tower has been named the outstanding citizen of De Soto, a Dallas suburb, by the De Soto Chamber of Commerce.

Garner was cited for his work as president of the De Soto Jaycees and assistant chief of the De Soto Fire Department.

An FAA employee since 1960, Garner came to Redbird in early 1962 when the airport tower was commissioned.

BARKER SCORES WITH ORCHIDS

The photographic skills of Jack E. Barker of the Special Projects Division, Office of Information Services, Washington, are exhibited in a new book just published on the subject of orchids.

The book, "Growing Orchids for Pleasure," by Jeanne Garrard, contains many photographs taken by Barker when he lived in the Miami area prior to joining the FAA.

WEBER NAMED TO RESEARCH AND DEVELOPMENT POST

John A. Weber

John A. Weber, a veteran electronics engineer, recently was named Deputy Director of the Systems Research and Development Service (SRDS). He succeeds James H. Mollenauer, who previously was named SRDS Director.

Weber has been with Systems Research and Development Service since the Agency was established on June 1, 1959, serving as chief, Operations Division; Deputy Director of Administration and Support; chief, Air Traffic Control Division, and finally as Acting Deputy Director of SRDS.

In 1958 he joined the Airways Modernization Board—which was later absorbed by the FAA—as chief of the Data Acquisition Division.

Weber, who worked as a design and operating engineer with the Niagara-Hudson Power Company, Albany, N. Y., for six years, joined the U. S. Navy in 1942 and served as a lieutenant commander. Later, as a civilian in the Department of the Navy, he advanced to the position of staff engineering assistant to the Assistant Secretary of the Navy. In 1956 he was awarded the Navy Meritorious Civilian Service Award.

A registered professional engineer in Washington, D. C., Weber has a degree in electrical engineering from Cooper Union Institute, New York City, and did graduate work in engineering management at the University of Pittsburgh.

AIRPORTS RECEIVE EMERGENCY POWER GENERATORS

Should a massive power failure darken the East Coast again, the FAA will not be caught with its planes down—or up, as the case may be, at New York's Kennedy International and LaGuardia Airports.

Seventeen standby power generators installed recently, 11 at Kennedy and six at LaGuardia, are FAA's assurance to the flying public that if the lights go out again operations will not halt at the two air traffic terminals.

When the power failed on Nov. 9, 1965, all lights, radios, radar and instrument landing systems went out because they were fed by commercial sources. They still are, but the newly acquired engine generators will give the facilities emergency power and uninterrupted service if another failure occurs.

The generators vary in capacity, from the two largest, rated at 125 kilovolt-amperes, to the smallest, at 8 kva's. One 125 kva generator was installed at Kennedy, where it will be utilized for runway and taxiway lighting. The other large unit is at LaGuardia, where it will provide the control tower with emergency power.

Kennedy's 10 other generators have been installed at the runway 4 Right ILS outer marker; ILS glide slope, runway 4 Right-22 Left; middle marker ILS, runway 4 Right; runway 4 Right-22 Left localizer; two remote transmitter receiver sites; approach surveillance radar (ASR-4); approach light system, runway 4 Right; control tower and Regional Communications Center.

At LaGuardia, in addition to the tower generator, emergency power units have been provided for the runway and field lighting; the ASR-4; ILS localizer; ILS glide slope, runway 22, and ILS outer market, runway 22.

Technicians Seymour Chenkin, Sebastian Virga and David Powell of the LaGuardia Airway Facilities Sector install a battery on a 75 kva generator for an ASR-4.

The generators, which will supply backup power to the towers and the runways and taxiways at both Kennedy and LaGuardia, have automatic starters with manual switchovers from commercial sources to emergency power. If another blackout occurs, the New York Area Office, which supervised the installation work, said the manual switchover process could be accomplished within a few minutes. The other generators are equipped with automatic starting and transfer. The New York ARTCC was already equipped with two 550 kva generator standby power units, so no problem existed there during the blackout

No one anticipates another paralyzing blackout, but if there is a repeat, Kennedy and LaGuardia Airports will be fully prepared to go on as usual.

A no-load test is made to insure proper functioning of a 125 kva generator should it be needed for emergency power. From left: Herbert Pelton, LaGuardia AFS chief, checks results with technician Richard Behrens, while Joseph Oberasturi, New York Area Office engineer, and Peter Piro of the New York Port Authority observe the instruments.

Aviation Consultant Commends People Behind Safety Efforts

Much of the credit for safety in air carrier operations goes to the dedicated people behind the Federal Airways System. So says David S. Little, a long-time airline pilot who is now an aviation consultant. Little had these words of praise for controllers in a recent address before the Institute of Electronic Engineers. His talk, "Pilot Utilization of the Air Traffic Control System," included a step-by-step technical description of a "typical air carrier jet transport flight."

In describing the people who make the system work, he said: "This repetitious procedure (routine ATC handling) may sound quite mechanized—and perhaps, in a way, it is. But behind the scene is a very living machine, some 14,000 air traffic controllers who live under stiff Federal Air Regulations on safe separation of aircraft. Each in his own way, and to the limits of traffic density and FARs, is trying conscientiously to provide the aircraft with the exact route and altitude desired and doing everything practical to expedite its flight with safety.

"These very dedicated Federal employees," Little continued, "are cursed by many pilots almost as much as the weatherman is when he busts a forecast. But speaking from history and experience, much of the credit for the safety record of air carrier operations must be given the Federal Airways System and its dedicated people."

New York ARTCC Breaks Its Own Record; Has Million Operations

The New York Air Route Traffic Control Center broke one of its own previous records when it passed the "One Million Mark" in aircraft movements handled during 1965.

The New York ARTCC, already the busiest FAA facility of its kind in the nation, recorded its one-millionth operation on Dec. 28, 1965. The movement was an Eastern Airlines flight bound to Miami from Newark Airport. Before 1965 passed into history, operations handled by the center totalled a staggering 1,009,792. In calendar year 1964, the New York ARTCC handled a total of 892,384 flights.

The New York ARTCC, which covers a land area of 41,000 square miles and 1.5 million square miles of overwater routes, is located at Long Island's MacArthur Airport. James Boyle is Center chief and Al Ricco is his assistant.

JERVEYS ADOPT BRIGHT-EYED VIETNAMESE GIRL

William H. Jervey triumphed over mountains of red tape and paperwork to adopt four-year-old Thu Ha. He did the herculean job all within his 30-day leave period.

"Very sorry, but no can do. What take six month, no can do in three week," said the Vietnamese government official with finality. This was in Saigon and the officer was talking to William H. Jervey, chief, Property Section, Bureau of National Capital Airports, Washington. The subject was a passport for Thu Ha, a bright shoebutton-eyed four-year-old Vietnamese orphan girl. Jervey wanted governmental approval which would permit him to adopt Thu Ha and give her a Stateside home.

The modest house in Arlington, Va., didn't have enough children in it to suit Jervey and his wife, Elsie. They wanted a sister for their five-year-old daughter, Sandra Lynn. "'Let's adopt a child," said Mrs. Jervey, and so started a chain of events that wound up with her husband pounding the hot sidewalks of steaming Saigon last November.

"We first tried to adopt a child here in the United States, but it was hopeless," Jervey said. "Almost all welfare agencies here require that married couples be under 40, so that let us out.

"We weren't discouraged, though. We carefully considered and discussed the plight of most of the world's underprivileged children and decided that the underprivileged Vietnamese children were about the most needy."

Taking a 30-day leave from the Agency started Jervey, a 29-year Federal service veteran, on his way to Saigon.

On his second visit to the Catholic Group orphanage Jervey met Thu Ha. Although he didn't speak Vietnamese nor she English, the language of love sealed their bond. From then on Jervey furiously fought the paperwork mountain and tangle of red tape.

With the assistance of a French-Vietnamese lawyer, and after miles of walking and the loss of 30 pounds, Jervey was given Thu Ha's passport just 24 hours before his plane was to leave Saigon. "The Americans overseas were wonderful," Jervey said. "Without their help Thu Ha, or Juliette Anne, as we call her now, wouldn't be here."

San Diego Office Cited for Fund Raising Efforts

The San Diego Aircraft Engineering District Office was cited recently for its outstanding fund raising efforts and was awarded the Combined Federal Campaign's Supreme Achievement Award.

The award was presented by campaign officials to Cecil W. Elliott, San Diego local coordinator, and Michael Brega, chief of AEDO 41, who arranged for FAA participation.

HAMS EARTHQUAKE AID LAUDED

James L. Dixon, electronics maintenance technician at the Salt Lake City ARTCC, received a meritorious commendation for his outstanding actions in providing communications over the amateur radio net during the Seattle earthquake last April.

Dixon is active in amateur radio activities and his call letters, W7LOE, are widely known throughout the intermountain area.

The honor was described "as a spontaneous recognition of outstanding work by individual amateurs during communications contingencies, done without hope or expectation of material reward."

Arvin O. Basnight, Associate Administrator, Inspects Alaska

The Kenai, Alaska, Flight Service Station was included in Associate Administrator Arvin O. Basnight's tour of Alaskan facilities. Discussing the FSS are: from left, FSS chief John Hummel, Regional Director George M. Gary, Basnight and Kenneth W. Jordan, an ATCS at the facility.

Arvin O. Basnight, Associate Administrator for Programs, visited the Alaskan Region for four days in mid-January. Accompanied by Alaskan Regional Director George M. Gary, Basnight visited Agency facilities at Juneau, Big Delta, Fairbanks, Kenai and Anchorage. While in Alaska, he conferred with Governor William A. Egan, air carrier officials and general aviation pilot groups.

Other region personnel who accompanied the Associate Administrator were: Richard C. Young, chief, Airway Facilities Division, and Herbert H. Stanley, chief, Air Traffic Division.

"My trip to Alaska was a wonderful experience," said Basnight. "The State has changed tremendously since I last saw it in 1955. Aviation has been the big factor in this growth. As it has progressed, so has the State. From what I have seen on my brief visit, our people are doing a grand job serving aviation in the 49th State."

Airlift to Ground Breaking

Jacksonville ARTCC controller Lennox B. Gaynon gives the town's mayor, Louis H. Ritter, a lift in a National Guard helicopter to the ground breaking site of Jacksonville's new international airport. Participating in the Jacksonville ceremonies were, Miami area manager Paul H. Boatman, local coordinator Roy Keeley and Miami Area Airports Branch chief Max Bard.

'NOT BY BREAD ALONE' — SAYS OAKLAND CENTER

Soo Bum, Jong Su, Soon Duk, Toong Kwang—these are some of the exotic names heard in the Oakland Air Route Traffic Control Center these days.

The story behind these names started nearly three years ago when controller Walter L. Slack discovered that a modest $10-a month would feed, shelter, clothe and educate a Korean orphan.

Slack promptly recruited five other members of his crew to sponsor an orphan in South Korea.

Their orphan, Soo Bum Kwon, is now almost 14 years old, a fine, sturdy lad being cared for in the Kei Yong Orphanage. The six have added interest to their program by sending letters and checks for Christmas and birthdays, invariably receiving personal letters of thanks from Soo Bum, along with English translations. One of Soo Bum's letters follows:

Dear Sponsor:

I was very glad to receive your birthday money gift of $6. With it I bought a sweater, trousers and school bag, along with tennis shoes. Dear sponsor, I graduated primary school and my junior high school entrance ceremony was held on March 5. With the school bag and the new clothes, I go to school and show them to my friends, proudly saying they are from you. My friends admire them. I feel very grateful to you for sending me money gift and letters from time to time.

Here, we are having spring, when every plant began to push through the ground. Before long we will have many beautiful flowers in our garden. I am happy just to think of these pretty flowers of the garden. Are you having warm spring these days?

I pray the Lord bless you and your home richly. With love,

This summer Slack decided to see how many other people in the center would be interested in sponsoring orphans. Fellow controllers Earl N. Halliday, Jim D. Crane and Charlotte M. Kositch, along with assistant chief Jack O. Thomas and Airway Facilities Sector unit chief Jim D. Lougheed did a fine job of recruiting. Now five controller crews, the watch supervisors and office personnel and the Airway Facilities Sector are each sponsoring an orphan.

Odel Garrison Still Keeps 'Em Flying in Florida

Odel Garrison flew a OX-5 powered aircraft during the early days of his 40-year flying career. Wiley Post, Amelia Earhart and Charles Lindbergh were his friends.

A Florida pilot was ecstatically happy recently because Odel Garrison had continued flying after retiring from FAA service at the 38-year point in his colorful flying career.

Garrison became the chief flight instructor for Pinellas Aircraft of St. Petersburg after retiring from his FAA position as GADO supervisor at Columbia, S. C., in 1963.

During a flight with a student recently, Garrison overheard a pilot calling Tallahassee. He immediately realized that the pilot was lost on his first cross-country flight.

After a few minutes, he spotted the *Comanche* below him in the soup and called the Tallahassee Tower to have the lost pilot switch to his radio frequency so that the two planes could be in direct radio contact. Garrison then led the lost pilot out of trouble over St. Petersburg. Rather than continue on the course Garrison had given him to reach his destination, the *Comanche* pilot landed at St. Petersburg, where he thanked Garrison for leading him out of his dangerous predicament.

Radio Amateurs at NAFEC Choose New Officer Slate

The newly formed Experimental Center Amateur Radio Club at the National Aviation Facilities Experimental Center, Atlantic City, recently elected as its new officers: Frank Cirone, president; Robert M. Rogers, vice president, and Fralan L. Dix, secretary-treasurer.

The club, which intends to get an FCC license, will locate its station in a former control tower.

McClellan RAPCON Does It Up Roses in Operation Gray Sky

Participating in the Operation Gray Sky program were: from left, ATC specialists Robert J. Harrison, McClellan RAPCON and Richard R. Whitson, Sacramento Tower, and Capt. Steve Grey, United Air Lines pilot.

Operation Gray Sky, a series of safety lectures for pilots in Sacramento, Calif., turned out much rosier than its name implies.

The program, sponsored by FAAers at the McClellan AFB Radar Approach Control facility, played to overflow crowds of pilots who met to learn all about FAA procedures and functions and the effects of winter weather on flying.

"The functions and services offered to pilots by the FAA at RAPCONs, towers, flight service stations and general aviation district offices were explained in detail," Hart H. Mark, McClellan AFB RAPCON chief, said.

"Although we underestimated the pilot interest at first," Mark said, "we hope to have room for all comers in the future. The first two programs were so well accepted we had to turn some pilots away."

Much of the success of the program goes to Robert J. Harrison, a member of his staff, Mark said. After determining what the pilots wanted to know, Harrison tailored the program to their requests. FAA and Weather Bureau experts lectured on such subjects as weather, flight planning, flight following, Federal Aviation Regulations and airway facilities.

VISIT RANDOLPH AFB

FAA controllers who work at the San Antonio Approach Control serving Randolph Air Force Base's Instrument Pilot Instructor School pilots were recent guests of the USAF school. They received a briefing of the IPIS mission and current projects of interest to the controllers.

SHORT-HAUL JET FLIGHTS TO BEGIN AT WASHINGTON NATIONAL AIRPORT

Washington National Airport will be opened to two and three-engine short-haul jets on April 24, shortening the flight time between the Nation's Capital and certain major cities in the eastern half of the United States by a significant margin.

The airport, which was opened on June 16, 1941, has never previously accepted scheduled air carrier jets. The lifting of this prohibition will assure Washington that the airport will remain a close-in air carrier airport as the airlines replace their propeller-driven planes with pure jets. Prior to the development of the smaller two and three-engine jets, Washington National, with its runways of 6,870, 5,202, and 4,724 feet, could not handle four-engine jets on a regular schedule. The introduction of such smaller jets as the Boeing 727, the Douglas DC-9, the BAC-111 and the Caravelle has altered the picture of air carrier service at Washington National since these newer, smaller jets can use the two longer runways regularly.

No consideration is being given to permitting the operation of big four-engine jets from Washington National.

The opening of jet service at Washington National does not change the basic roles of the two federally-owned and operated airports serving the Washington area. Washington National will continue to serve the short and medium-haul markets while Dulles International will still perform the function for which it was designed—the service of long-haul domestic and international markets.

Airlines have agreed to limit non-stop jet operations from Washington National to a radius of approximately 650 miles, except that this limit will be extended as far as 1,000 miles for scheduled service which was available from the airport in 1965. The jets will serve cities such as Miami, Memphis, St. Louis, Chicago, Cleveland, Detroit, Minneapolis, New York, and Boston. Non-stop jets may also fly from Washington National to Montreal and Bermuda. The airlines will announce the dates when jet service to such cities will begin.

The two and three-engine jets will cruise at approximately 550 miles per hour, nearly one-third faster than any propeller or turbo-prop aircraft.

The small and medium jets will climb out of the airport area more sharply and swiftly than propeller-driven aircraft, but otherwise they will use the same flight patterns now in effect at Washington National. Although the noise created by jet engines is different from that of piston engines, jet engine noise levels at Washington National are expected to be about the same as is now created by the piston aircraft.

The FAA decision was made after months of study devoted to the probable impact on air passenger traffic in the Washington area if jet restrictions at Washington National were modified. The most reliable data available indicate that the use of Washington National by short and medium-range jets will not prevent the continued growth of the other area airports, Dulles International and Friendship International.

With intermediate jet service, passenger traffic at Washington National is expected to rise from the current rate of 7 million persons per year to about 10 million within the next decade. Airlines are planning to enlarge their facilities at the airport, and the FAA anticipates an eventual major modernization program for the terminal.

Traffic at Dulles International Airport is expected to rise from the 1965 total of one million passengers to about two million passengers a year by 1975. The airlines have agreed to maintain as a minimum the daily schedule of flight service out of Dulles that was in effect on Oct. 1, 1965, an average of 89 daily flights. Traffic at Friendship Airport also is expected to increase significantly during the next 10 years.

Nigerian Fellow

Nigeria's Air Traffic Control Service Chief, Olushela Ogunbiyi discusses Western facilities with Regional Director Joseph H. Tippets. He was in the States on a ICAO fellowship.

On the Road to Hawaii

Honolulu's International Airport's radar approach captured the attention of Alan L. Dean, Associate Administrator for Administration, during a recent visit to Pacific Region facilities on Wake, Guam and Hawaii. With Dean (center) are: from left, James W. Texeira, ATC specialist; Ed Shivers, Oahu area manager; Francis Kunishige, ATCS, and Tower chief Robert O'Hara.

IT ALL STARTED FROM Z; NOW TEST EQUIPMENT IS EXOTIC AND COSTLY

As more sophisticated and expensive testing equipment is added to the Agency's inventory to check the 35 different types of facilities, a pioneer test instrument, the 27-year-old Z-box, is still performing well for the Agency.

Z-box, serial number one, which was refurbished and recalibrated in 1962 at FAA Materiel Depot's Project Materiel Branch in Oklahoma City, is still being used in the Buffalo area. It is used by Edward V. Migdalski and others at the Buffalo AFS to measure the impedence on low frequency ranges.

According to his supervisor, William A. Schulte, the box was introduced in the Lighthouse Service of the Bureau of Air Commerce in 1939 as an improvement over the $10 personally-owned voltmeter which radio operators had used prior to that time.

The contrast between this relatively simple impedence measuring box and the complex testing equipment of today is a constant reminder to the people of the airway facilities sectors of the growing complexity of air navagation facilities.

Technician Robert Haen of the Buffalo, N. Y., Airway Facilities Sector uses Z Box Number One which is used to check low frequency navaids still in the airway system.

Today more than 200 different items of test equipment are carried in the Agency's inventory. The annual cost of keeping test equipment runs well over a million dollars.

The problems of discovering malfunctions in electronic equipment has grown so complex that test equipment is designed and procured along with the basic equipment.

The complexity of new testing techniques is exemplified by the equipment which monitors the National Airspace System (NAS). The test equipment decides when the system is sick and provides a substitute course and summons a technician who can make the necessary repairs.

Tools and test equipment for the NAS computer at Jacksonville are few and small, but the price tag is $20,033.05.

The simple $10 voltmeter used by Lighthouse Bureau radio operators was effective for its purpose, according to old-timer Sidney G. Robinson of the Buffalo AFS, because the equipment it diagnosed was simple. This is a sharp contrast to modern navaids and the NAS system which require more exotic, specially-designed test instruments.

LIGHTING THE SUBJECT ENDS ALTOONA OWL CAPER

Technicians at the Altoona, Pa., Airway Facilities Sector will not buy that saying about the owl being a wise old bird. And with good reason.

Recently, the Altoona facility was plagued by unexplainable nightly VOR outages. No one could determine the cause, because equipment checks proved that it was operating soundly.

Then the perplexed FAAers discovered the cause. When what proved to be the last nightly outage occurred, one of the technicians, who turned out to be the wise one, discovered a large gray owl perched on the VOR counterpoise roof. The technician turned on the outside building lights and the owl took off and the VOR was restored to normal.

Since then, an outside light has burned nightly, keeping the owl away.

'Equal Justice Under Law' Tells History of U.S. Supreme Court

Better understanding of the Federal Law and the Government's operations is the aim of a new book, *Equal Justice Under Law*, published recently by the Foundation of the Federal Bar Association.

It was published as a public service in cooperation with the National Geographic Society.

Moffett Field Controller Trainee Learns That Efficient Routine Service Pays

A controller trainee at the Moffett Field, Calif., Radar Air Traffic Control Center (RATCC) was given an early 'indoctrination in one type of aviation emergency which can develop without the controller being aware of it. The incident dramatized the need for prompt, efficient routine air traffic service at all times.

The trainee, James T. Perkins, and controller Wesley T. Montgomery were radar-monitoring an incoming aircraft piloted by an off-duty San Jose police officer, Glen E. Brewer, who was making a special VFR approach to San Jose Municipal Airport.

While descending through haze and smoke, Brewer's passenger became hysterical. He tried to leave the aircraft and was frantically clutching at the aircraft controls.

Officer Brewer was able to subdue the passenger and, with the aid of a prompt vector from the Moffett RATCC, was able to land safely at the airport.

"Your quick action saved our lives," Brewer told Kenneth R. Allen, chief controller at the Moffett RATCC, when he landed.

"Without the immediate vectors and expert guidance, I don't believe we could have made it to the airport."

Prior to the landing, neither controller was aware of the difficulty Brewer had encountered and they handled the incoming flight in a routine manner.

Thus, the importance of efficient "routine" service at all times was indelibly and dramatically transmitted to a new employee of the facility.

San Jose, Calif., police officer Glen E. Brewer (left) gives his personal thanks to James T. Perkins, trainee at Moffet Field RATCC, for his help during an emergency.

gourmet corner

Truly a gourmet's delight, Adorna Cellini's gastronomic creation called Zuppe Inglese, *a cake flavored with rum and topped with chocolate kisses set over baked meringue, is bound to make one's mouth water.*

Editor's Note: The magazine will feature regularly the favorite recipes of FAA employees who find relaxation and creativity in preparing their own spécialités de la maison. We hope "Gourmet Corner" will find its way into the homes and kitchens of FAA HORIZONS' readers.

By Sue F. Silverman

The decline of Rome brought a halt to many pleasures, but fortunately for posterity, not to the art of classic cuisine. Modern proof of Italy's gastronomic glory abounds in the home of Adorna Cellini, secretary to the Associate Administrator for Development.

Adorna credits her mother's tutelage for her penchant for preparing unusual Italian dishes. Her creations reflect a facile delicacy that belies the fact she is a full-time career girl with a myriad of interests that preclude many kitchen activities.

Adorna's keen mind and good judgment have benefitted the FAA even before its formation. Adorna was the personal secretary to Fordyce W. Luikart, Director of the Federal Aviation Organization Study—the White House report from which the blueprints for the FAA emerged. Luikart was named the first Assistant Administrator for Personnel and Training when the FAA opened its doors in 1958. Adorna accompanied him to the FAA. Later, she moved to the Office of the Special Assistant to the Administrator for General Aviation, and then was promoted to her present position.

Previously, Adorna worked with the President's Advisory Committee for Government Organization and with Nelson A. Rockefeller when he was Special Assistant to President Eisenhower.

Her gastronomic creation is *Zuppe Inglese*, an intriguing cake flavored with rum and topped by chocolate kisses nestled in clusters of baked meringue. The name, *Zuppe Inglese*, has the unlikely translation of "English Pudding."

Cake:

Bake in 12" round cake pan, 3" deep. Grease very lightly and dust with flour.

1 dozen large eggs
1⅓ cups sugar
1⅓ cups sifted flour
1 heaping teaspoon baking powder
1 teaspoon vanilla

Separate eggs. Beat egg yolk with sugar until very light in color. Sift together, three times, flour and baking powder. Add this to egg and sugar mixture, folding in by hand. Beat egg whites until they are stiff but not dry. Add beaten egg whites and vanialla to batter, folding in by hand. Pour into prepared cake pan and bake in 325° oven until done (approximately one hour). Invert cake until cool (about one hour). Loosen with spatula and remove from pan.

Cream

5⅓ cups milk
1⅓ cups sugar
1 large cinnamon stick
Rind of 1 lemon
8 egg yolks, well beaten (with fork, not egg beater) (Set aside 3 egg whites for meringue receipe to follow.)
2 heaping tablespoons cornstarch.

In top of large double boiler, put 5⅓ cups milk, sugar, cinnamon stick, and lemon rind. (Peel lemon rind in one continuous strip, making sure white skin does not adhere to rind as this makes it bitter.)

After mixture is scalded, add cornstarch to the ⅓ cup milk remaining and dissolve. Add this to double boiler, stirring with wooden spoon. Stir this mixture occasionally, until mixture begins to thicken. Pour thin stream of egg yolks into double boiler, stirring constantly at same time. Let cream cook for another five minutes or so, stirring only occasionally, until it thickens to consistency of a pudding. Remove from double boiler, and remove lemon peel and cinnamon stick from mixture.

To assemble: *Cake, cream, about ¾ of a fifth bottle of Puerto Rican rum, 1 pound of Hershey kisses.*

Put cake on wooden cutting board and slice across diameter of cake into ½ inch slices. Pour some rum into the bottom of a platter for use in dipping cake slices. (As you use up the rum, keep replacing it. Start out with about a ¼ inch level in bottom of platter and refill to same level after it is all used up.)

Spoon cream filling on bottom of large cake plate in "patches" and top with a few Hershey kisses here and there. Dip both sides of cake slices very lightly in rum, making a layer on the cake plate. (Care should be taken in selecting slices to be used; for instance, longer slices in middle of bottom layer and shorter ones at sides. On top of this place cream in patches, topping always with chocolate kisses. [Continue building up layers until all ingredients are used].

Final effect of cake should be a pyramid. Care then should be taken to make the bottom two layers larger, and then each succeeding one smaller.

Meringue

3 egg whites
6 tablespoons confectioners sugar

Beat three egg whites until stiff but not dry. Beat in the confectioners sugar, ½ tablespoonful at a time. Do not overbeat.

With large serving spoon, place meringue atop the cake in 4 or 5 large peaked clusters.

Preheat oven to 450° and bake until meringue is golden brown.

your health

BLOOD DONOR PROGRAMS. During recent years, programs have been developed in various parts of the country to assure employees and their families of adequate blood supply in case the need arises. This assurance is obtained through participation in blood donor programs. In the Washington metropolitan area, FAAers are eligible for participation in the FAA Blood Donor Program as outlined in Agency Order AM 9000.5. A donor under this plan is assured of a free blood supply for his family and, provided the yearly FAA quota of 400 pints is met, a supply for his fellow employees. A healthy donor may give one pint of blood every eight weeks, but not more than five times a year. Employees interested in joining a blood program should contact the Regional Flight Surgeon Office or in Washington, contact Mrs. Dorothy M. Meyers, the Headquarters Blood Donor chairman.

-and safety

WHAT ARE THE ODDS? Out of every 330 accidents, one person will be killed and 29 injured.

Those are pretty good poker playing odds. So, why all the fuss about safety? That was the question asked by a class of students attending a safety course. The instructor, in answer, produced a bottle of little white pills.

"In this bottle," he announced, "are exactly 330 white pills, each exactly alike in appearance and taste. Three hundred are harmless candy pills and will produce no ill effects. Twenty-nine pills contain a drug which causes slight nausea. One contains arsenic and will be fatal if taken internally." He passed the bottle around and each student took a pill. "Now," he said, "I want each of you to swallow the pill you've chosen."

Not one of the students did.

The instructor had made his point. No matter how great the odds, no one would take the chance. Yet, in everyday activities, many continue to flaunt the odds by hedging on safety practices. Accidents don't always happen to the "other guy." Somebody is the one person killed in every 330 accidents . . . it could be YOU. The odds are 329 to 1. Do you want to take that chance?

RETIREMENTS

Eleven Pacific Region employees who retired recently had a combined total of more than 300 years of Federal service. Here they surround Pacific Regional Director Phillip M. Swatek (front row center). They are, from left: seated —Thomas D. Musson, Helen Kell, Swatek, Portfirio Garcia and Chalmers B. Williams; standing—Frank E. Honeychurch, John A. Piper, Harry Feuerstein, Harris K. Fuller, Edwin G. Ihli, James E. Keefer and Walter H. Grasser.

Others retiring from the Agency recently included **Reginald L. Reed** and **Richard M. Palmer.**

Reed retired after 22 years with the FAA and predecessor agencies. He was chief of the Airports Branch at the Boston Area office. He left the Agency to begin a new career as Cumberland County engineer in Maine.

Palmer retired from the Albany, N. Y., Flight Service Station. He spent 20 of his 32 years of Government service at the Albany FSS. Before joining the CAA in 1940, Palmer was a Navy communications operator.

After 32 years service, Charles L. Lilly (center), Chicago ARTCC building superintendent, retired. L. R. McCarthy, Center maintenance chief (left) and D. R. Begley, chief, Chicago area Airway Facilities Branch who presented him a retirement-certificate, bid him farewell.

James Shipp, assistant chief of the Eastern Region's Flight Standards Division, retired recently after 28 years in Government. He began his career as a junior aeronautical inspector with the Bureau of Air Commerce.

Robert Fox of the Baltimore Airway Facilities Sector made it a dual retirement when he ended his 38 years of combined Army/CAA/FAA service recently. Here he throws the switch to decommission the LF range.

Amid Bullets and Bandits Agency Technicians Maintain Siirt VOR

Bullets and bandits cause as much concern as airplanes and antennas to FAA personnel in Eastern Turkey.

Bandit activity near the Siirt VOR site in southeastern Turkey has made FAAers wary of trips to this remote site, deep in Kurdish territory. Usually an armed escort from the Turkish Jandarma accompanies them to the site. The eight-mile road between the montain-top VOR and the small town of Siirt winds through a pass which is a short distance from the village where a notorious Kurdish bandit was shot down last year by the Jandarma. The bandit, police said, had terrorized the area for years and openly defied them until his final battle with local police.

The bandit's territory and his smuggling operation across the Syrian border reportedly has been taken over by another bandit, Hakimo.

The presence of the United States maintained VOR in this area stems from the CENTO Alliance. An Agency staff, the CENTO Aviation Group, Turkey, (CAG), is helping the Turkish government establish the new CENTO Airways System, which will stretch from Ankara in the north through Tehran, Iran, and on to Karachi, Pakistan.

Modern air navigation facilities, including the recently commissioned VORs in Turkey, will provide precise guidance for aircraft travelling the narrow air corridor between Soviet Russia and Iraq.

The Turkey CAG staff includes Fred J. Wild, chief; Michael J. Ollis, ATC specialist; Scott King and Leonard G. Galloway, both electronic engineers, and Alene F. Babers, admin. assistant.

After armed bandits had made two attempts to take over the VOR site, CAG hired a full-time *bekje* or caretaker. He is well armed, but he has had little use for his weapons.

CENTO is much less concerned about possible attacks on their VOR facility now that they have learned their *bekje* is a nephew of Hakimo the bandit.

Reverse Psychology

Displaying the Pacific Region Wake Island's "We Goofed" Award is Theodore M. Escobar, chief, Airway Facilities Sector. The trophy will go to the shop with the poorest safety record.

Cleveland's Radar Technicians Give Assistance to Movie Team

Radar technicians from the Cleveland Airway Facilities Sector recently provided technical assistance to the Mirisch Corporation in the filming of the movie "The Fortune Cookie," starring Jack Lemmon and the Cleveland Browns football team.

George Dorony of the Cleveland AFS helped motion picture crews and technicians select camera locations at Cleveland Hopkins International Airport and worked closely with Mirisch and United Air Lines representatives.

Most of the filming was done at the airport's ASR site, which provided a panoramic view of airport operations.

In one scene Dorony, an avid Browns fan himself, is among those hailing the return of the Cleveland Browns in a United Caravelle after an away-from-home game.

NAFEC Phototheodolites Track Aircraft Maneuvers

Performance data recently was obtained on two new airplanes, the Aero *Jet Commander* and the Piper PA-13 *Navaho*, using the National Aviation Facilities Experimental Center's optical tracking phototheodolites.

NAFEC's four-station phototheodolite system, one of the most modern in the country, pinpointed the location and time of the planes during various maneuvers, enabling it to obtain performance information. It is operated under the direction of Harry T. Morgan and Harry R. Jackson. The *Jet Commander* was working on a type certification for category II operations, while data on roll distances and accelerate-stop distances was obtained on the new *Navaho*.

tech talk

AN IMPROVED ARRESTING GEAR cable support system for runways at joint-use airports has been developed by Thurston Erlandsen Corporation of Sanford, Maine, around an idea suggested by the Airport Systems Branch, SRDS.

The new system reduces the danger of cable backlash, a sometime cause of damage to small jets, by using a unique method of retracting the cable flush with the runway. The retracting mechanism is an automotive airbrake through which 100 psi air pressure is applied to the cable supports. A rubber torsion bar (tosilastic spring assembly) provides the force to raise the supports when air pressure is released. It can be cycled through raising or retracting in a maximum of fifteen seconds, and it is reliable in all kinds of weather.

COSTS OF INSPECTING navaids will be reduced markedly with the adoption of a new system designed by the Navigation Development Division, Systems Research and Development Service. Called Signal Evaluation Airborne Laboratory (SEAL), the new system stresses more accurate measurement based on scientific principles, thereby minimizing the amount of periodic flight inspection. Emphasis is shifted toward site evaluation, commissioning, fault diagnosis, post-accident investigation and post-modification checking. The present flight inspection fleet of more than 40 flying laboratories, mostly DC-3s, will be replaced with higher performance aircraft which carry airborne equipment that will permit pinpoint navigation independent of ground equipment.

CONSTRUCTION NEAR AIRPORTS often causes concern in FAA, especially when it does not come fully within the score of Federal Air Regulations, Part 77, on "Objects Affecting Navigable Airspace." At some locations new construction has made it necessary to relocate ground radar facilities. When certain types of construction are proposed they are screened to identify features which probably will affect service from ground radar facilities. Airway facilities personnel then try to arrange suitable changes in the construction by negotiating with the builder. Revisions in Part 77 are being considered to protect existing FAA ground electronic facilities from signal interferences often caused by new construction.

names & faces

1 *Honored for outstanding and meritorious services to Brazilian aviation, Blanche W. Noyes, air marking specialist, received the Merit of Santos Dumont from Brazilian Air Attache Brig.-Gen. Ary Presser Bello. Deputy Administrator David D. Thomas (left) also attended the ceremonies.* **2** *Two Civil Aeromedical Institute illustrators, William V. Flores (left) and Betty Gatliff (right), who work with scientist Joseph W. Young, made the "books" recently. Flores was listed in the "Encyclopedia of the American Indian" and Betty was selected for an edition of "Outstanding Young Women in America."* **3** *Standing guard over the Kansas City ARTCC's new trophy case are John R. Schleper (left) and Ted J. Pickett, who did their part to win baseball trophies. Another award won by Harley E. Shotliff's men included the ATCA Facility of the Year Award for 1965.* **4** *Indianapolis ARTCC chief L. C. Morris (right) helps Father Dorraugh of St. Joseph's Parish unload food donated by the Center for needy families.* **5** *Robert F. O'Neil and Toinetti (Toy) Mizerock of FAA Headquarters show Arlington, Va., students one of Agency's most popular publications.* **6** *Western Region's Aircraft Maintenance staff was cited recently for outstanding efficiency.* **7** *Joseph L. Alexander (right) of the Louisville, Ky., FSS, who presents an award to a youthful orator, is executive secretary of the Optimist Club of Fern Creek, Ky.* **8** *Thomas E. Ashley (left), chief of the Minneapolis area Flight Standards Branch, presents a check to Marlys L. Hillmer while her boss, Air Carrier District Office chief A. C. Miller smiles approvingly.* **9** *Terrence Mackle (right), chief, Administrative Services Division, Alaskan Region, and Exalted Ruler of the Anchorage Elks Lodge, presents a special couch to the local blood bank. Dr. M. F. Bierne accepts.* **10** *Major Whitcomb O. Jones, Air Force representative at Southwest Region Headquarters, receives the USAF Commendation medal, first oak leaf cluster, for USAF duty from Region Director Henry L. Newman.* **11** *Six Kansas City Airway Facilities Branch employees who received awards from area manager Robert I. Gale (left) and branch chief James E. Carl (right) were: from left, Marjorie M. Hall, Warren E. Robertson, Paul N. McMullen, Ronald S. Bassford, Jean Corbett and Clarence Draskovich.* **12** *Col. Andre R. Brousseau, Aircraft Programs Division, Flight Standards Service, Washington, presents Robert Dame (right) an employee suggestion award. Dame and William Bogel (not in photo), of Bedford, Mass. FIDO, made a suggestion which will save $36,000 annually.* **13** *That's Michael A. Largo of the Central Region Motor Fleet handing out Southern Jackson County (Missouri) Jaycees literature.* **14** *For 30 days of error-free workmanship, Aeronautical Center Director W. Lloyd Lane (right) presented PROUD certificates to: from left, Lannie Hill, Robert Hight, Ralph Hamlin, and made supervisor Floyd Harris equally proud.* **15** *For efficient operation of sectors, Central Region Director Edward C. Marsh (left) presented awards to Robert C. Bannister, Des Moines AFS; Frank Platner, Indianapolis AFS, and Charles B. Storey, Helena, Mont. AFS.* **16** *Boston ARTCC air Traffic and airway facilities personnel donated $1,391 to help youngsters like Stephen Tardif and the Crotched Mountain Foundation, Greenfield, N. H.*


1


2


3


4

5


6


7


8


9


10


11


12


13


14


15


16

personnel pipeline

FORM W-2 MEANS WOE OR WINDFALL

A new law for fans of Parkinson or Murphy might read, "The state of morale is directly proportional to the rate at which employees make changes in their payroll deductions for income tax." The sad faces of people who have discovered again this year that deductions do not equal debt have been flooding payroll offices ever since W-2 forms were distributed in mid-January. Credit unions did a booming business last year in early April when changes in the tax law caught most people with a gap between what they owed for income tax and the amount they paid through payroll deductions. The change has been included in this year's withholding tax table, but there are indications that quite a few again will have to ante up more money before midnight, Friday, April 15, the last day to file 1965 income tax returns. In the struggle to compute just how much they owe, many people forgot that they can receive a helping hand from the Internal Revenue Service. Tax assistance is available either by telephone or in person. No problem is too trivial for IRS tax experts to answer. The IRS is just as interested that citizens pay ONLY what they owe as it is in their paying WHAT they owe. For those who are confused by a form, unsure of a deduction or have a question about taxable income, the IRS can assist them. For the fortunates who find they have a rebate, the Government offers still another service—repayment in the form of U. S. Savings Bonds which now offer a higher interest rate.

AVOID THE YEAR END RUSH!--PLAN YOUR LEAVE NOW!

Annual leave is earned as a matter of legal right, but it is normally a matter of administrative discretion as to when and how much leave may be granted. This two-pronged policy in the Agency Handbook PT 3600.2 calls for close cooperation between employees and supervisors, each working toward a leave program which will provide a balanced work force throughout the year while insuring that no one loses earned leave. This need is emphasized in a policy established in June 1953 which limits to 30 days the amount of unused leave an individual may keep at the end of the year. (Those who had an accrued leave balance of more than 30 days at the time the policy was established may retain that balance.) This ceiling on accrued leave effectively encourages people to use leave for rest and relaxation during the year it is accrued. The use-or-lose feature also tends to concentrate leave requests into the more popular vacation periods during the summer months and the year-end holidays. Unless a leave program is worked out well in advance, supervisors are often forced into a position of having either to turn down leave requests from people who will lose leave, or run the risk of not having the necessary manpower for anticipated workloads. Agency policies emphasize that every effort shall be made to schedule and grant leave in such a manner that no employee is required to forfeit leave. Form 2772 is available to plan vacation schedules each year.

AGENCY SPONSORED HAZARD INSURANCE AVAILABLE

Low cost coverage for accidental death, dismemberment or temporary total disability is now available through an Agency-sponsored insurance program. The policy guarantees a stated indemnity for death, dismemberment or disability for all but natural causes. It provides protection against accidents, war risks (except war between major powers), riot, insurgency, guerrilla activity, disasters, endemic diseases and environmental hazards. Dependents, too, may be covered. Premiums range from $50 annually for $25,000 coverage for a single person to $200 per year for $50,000 coverage for a married employee, $25,000 for the spouse and $12,500 for each dependent child. Brochures carrying full information are being distributed to all offices and facilities.

CAUTION FLAG SHOWS SICK LEAVE ABUSE

While military medics have developed effective cures for GIs who ride the sick-book, there are indications that their civilian counterparts who abuse sick leave benefits will soon face their day of reckoning. This is not to suggest that FAA has a sick leave abuse problem. As a matter of fact, FAA personnel have stockpiled more sick leave per person than most other groups in Government. There are those few, though, who are forcing the adoption of tighter rules on the use of sick leave throughout Federal Civil Service.

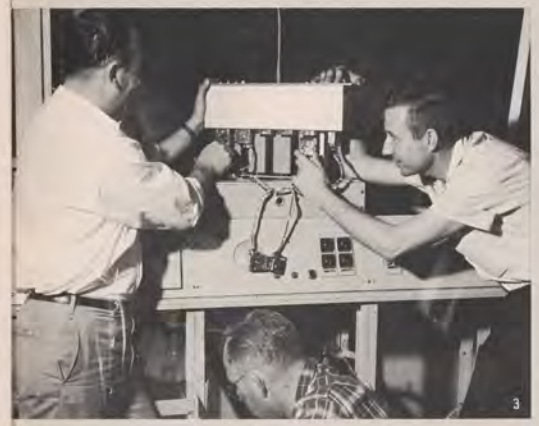
The present rule, paragraph 31, "Use of Sick Leave," on page 25 of Personnel and Training Manual 3700.2, is fairly explicit. It states: "Sick leave is provided by law to permit employees to remain in pay status while absent from duty because of illness, injury, pregnancy or to obtain required medical, dental or optical examination or treatment. Sick leave may not be used for rest, minor indisposition, or to supplement annual leave."

Sick leave abuses go far beyond those practices specifically prohibited. Some individuals reportedly use sick leave on moonlighting jobs. Others carefully use their entire sick leave balance before separation, regardless of their state of health, because, they reason, they do not receive sick leave compensation upon separation. The Civil Service Commission has been pressed to find ways to end these abuses of sick leave privilege.

Most proposals for remedying the situation rely heavily on the personal responsibility shared by each employee to insure that the program is used properly. At least one proposal would be costly to the conscientious and the abuser alike. This proposal would charge the first three days of illness to annual leave regardless of the circumstances. Other proposals, while not as punitive, also show the increasing concern over the abuse of sick leave.

Although most of the people now guard their sick leave as a needed insurance, a few persons see the program as an opportunity to get away with something. They are a threat to this very important employee benefit.

Unfortunately, the only cures for the civil servants who "ride the sick book" will affect the conscientious as well as the goldbrick. To abuse the privilege may lead to an eventual loss of this benefit.



FOR WHERE THE ACTION IS

When the action calls for emergency air traffic control service, a control tower on wheels may be the answer. Its mobility can provide a quick replacement at a damaged facility or it can serve as a temporary unit during tower modernization and relocation programs. It also may be wheeled out for air shows, fly-ins and special VIP requirements. Such a tower is being evaluated at the Aeronautical Center by the FAA and USAF as part of a proposed national Mobile/Transportable Air Traffic Control, Navigation Aid and Communications System. **1** A giant crane hoists the tower skyward to test its portability and possible use atop a semi-permanent structure instead of the trailer mounting. **2** The wire harness that will connect all pieces of communications gear for the portable tower is prepared by electronic technicians Guy L. Koonce Jr., Ronald D. Fenter, and Donald P. Harris. **3** Ronald D. Fenter (left) and Don P. Harris plug in a portion of the tower's communications gear. John W. Galvin (center) installs shock mountings to the bottom of the console. **4** Another little black box is fitted into the tower structure by Jack V. Halliburton (right) project engineer, Ronald D. Fenter (left) and Donald P. Harris. Squeezing all required gear into available space was an engineering feat. **5** The tower is test flown at the communications test site south of the Aeronautical Center. A communications check on all equipment was made by members of the Flight Check Operations Unit of the FAA Academy's Flight Standards Training Branch under the supervision of William D. Premitt, electronics technician, Okla. City.

Glyndon M. Riley

The life of Riley is a racquet—of love, add, nets, courts and FAA personnel. Glyndon M. Riley is assistant chief of the Western Region's Personnel and Training Division. He is also California's seventh ranking senior singles tennis player. Holder of more than a 100 tennis titles in six states, Riley is three-time men's singles champion of the Tri-State Tournament (Oklahoma, Texas and New Mexico), 1941, 1951 and 1957. Recently he won victories in four Tri-State divisions: junior veterans singles, 25 and over; senior veterans singles, 45 and over; senior doubles with his brother, Len; and father-son doubles with 14-year-old Cary. Son Cary follows in his father's forehand and backhand. Traveling the tennis circuit to 18 eastern cities with the Jack Kramer Tennis Club, Cary recently racqueted up wins in 13 matches, He lost four and tied one.

FAAers on the job

William N. Bryan

"I tried it and it didn't bother me," says William N. Bryan, chief of the Printing Branch in Washington Headquarters, recalling a day in 1950 when he stretched out his long, slender frame on a convenient cot and gave his first blood donation. He's been a steady donor ever since. He now measures contributions of his type, "A-positive," in the gallons. A comparative newcomer to FAA who joined in 1960, Bill Bryan logged 30 consecutive years of Federal service at 5 p.m., Friday, Oct. 15. A holder of a journeyman printer's card, Bryan got his start as a Government Printing Office plant apprentice. Over the years he's worked himself up to his present job, where he supervises 80 persons in Headquarters printing operation. Recently he was awarded the Horace Hart Meritorious Certificate by the Education Council of the Graphic Arts Industry, honoring him for his work in the printing and publishing field. There's more than printers' ink in Bill Bryan's veins.