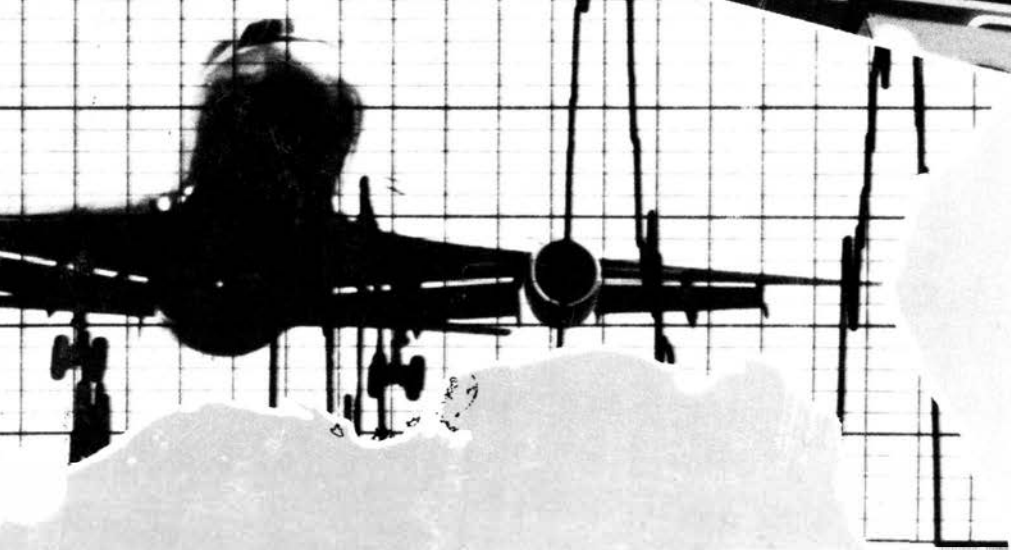
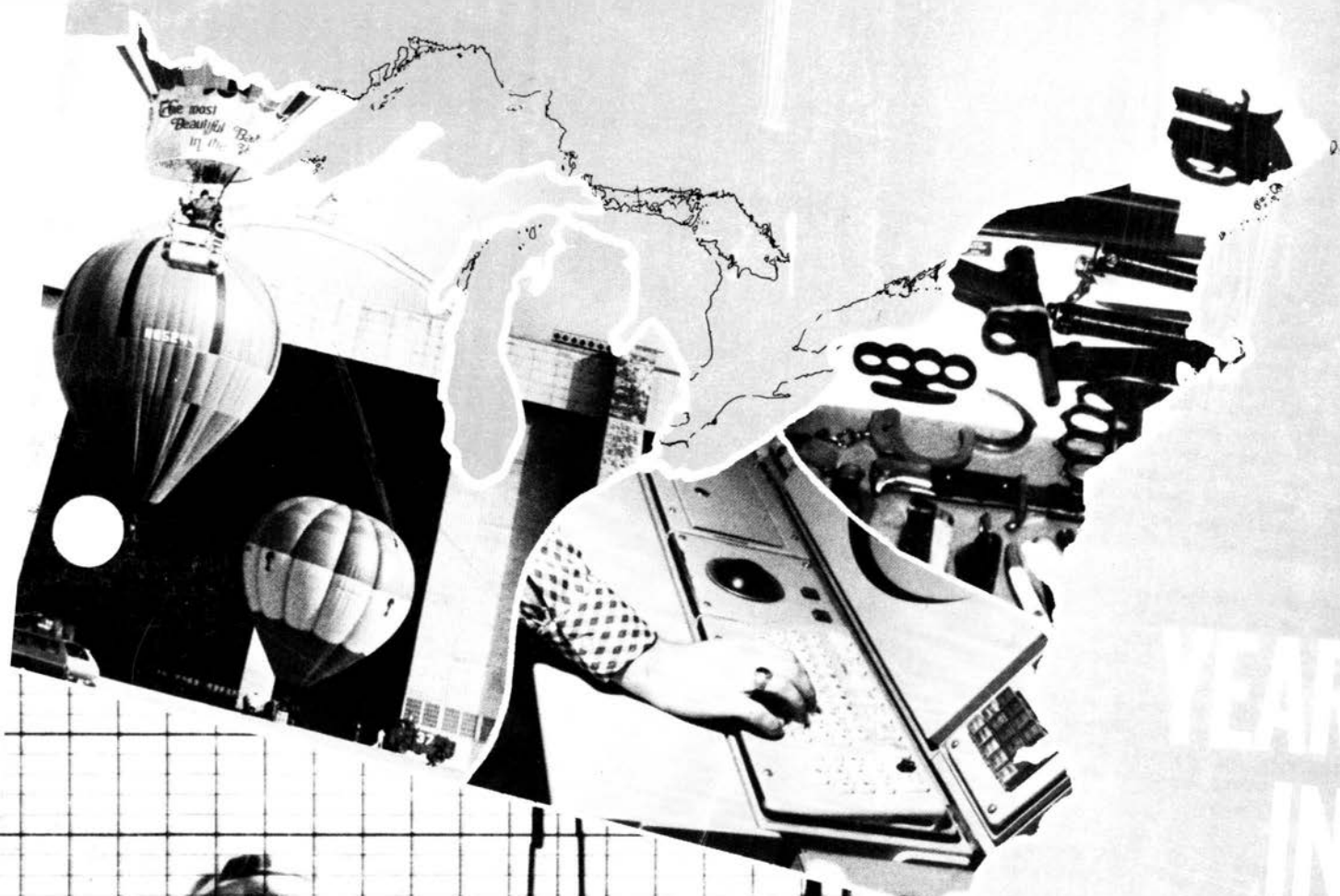


JANUARY 1975

# FAA WORLD

*Service to Man in Flight*



YEAR  
IN  
REVIEW  
1974

# FAA WORLD

## The Year in Review

JANUARY 1975

VOLUME 5, NUMBER 1

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The cover: A wide variety of events and programs from coast to coast, in Alaska and in the Pacific told the story of the FAA last year.

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**1974** was a big year for automation in the enroute centers, their radar scopes coming aglow with alphanumeric. Large strides were taken elsewhere in air-traffic technology and in the realm of aviation safety and airport improvements. And with the technical progress, human stories unfolded in the regions and centers. This, then, is the story of the FAA in 1974 . . .

*Radar data processing scopes became operational at the Chicago ARTCC in the fall.*  
Photo by William Pitchford



**NEW ENGLAND**



*It took less than five minutes to transfer the one-ton radar antenna by helicopter from the old nine-story tower to the new 22-story control tower commissioned last month at Logan International Airport.*



*Controllers work their first day in spanking new quarters. It was dedication day at the new TRACON at the snowbound Burlington, Vt., International Airport last winter.*



*Lucy Fabbo, Employment Branch chief, addresses the region's first Women's Day Conference. With 83 women attending, the consensus was to make it an annual event.*



*NE aviation planning specialist David Rickard (right) discusses airport planning with Rhode Island attorney T. Dexter Clarke, chairman of the newly formed Greater Providence Chamber of Commerce Aviation Task Force.*



*A Connecticut TV news cameraman closes in on the National Air Traffic Facility Award for 1973, presented to the Windsor Locks FSS and held by its chief, Raymond Roschbach. Present for the ceremony were Robert Martin (right), Air Traffic Service Deputy Director, and William Crosby, New England Deputy Regional Director.*



*Maintenance inspector William Neely, Norwood, Mass., GADO, watches pilot hunt for "wrongs" in a preflighting contest at a Shirls Mass., Airport accident prevention meeting. Pilots finding the most "wrongs" won prizes.*



# NATIONAL AIRSPACE SYSTEM

## ENROUTE SCOPES SPEAK UP

After untold thousands of hours of work and a price tag of \$618 million for hardware bought since 1964, alphanumeric came to life on enroute center radar scopes last year. This is the system that electronically writes out aircraft identity, altitude and other flight information directly on radar scopes.

On March 14, the Kansas City and Los Angeles Air Route Traffic Control Centers commissioned their systems, making them the first of the 20 NAS centers in the continental U.S. to reach this milestone. By the end of the year a total of 15 centers commissioned their radar data processing systems. The remaining centers will follow suit this year, with the twentieth, Miami, scheduled for November.

But this degree of automation is not the end; in November, a computer program for conflict alert was delivered to the Kansas City Center for testing this year. This will be the first in a family of "add-ons" to the basic alphanumeric systems in the centers.

*After unpacking this bevy of RDP scopes slated for installation at the Minneapolis Center, Ron McKenzie (left), computer display channel technician, and Lee Conner, military liaison and security specialist, check them over.*

*Guarding the highly complex radar displays and computers is the Systems Maintenance Monitor Console, the last of which went on line at the Miami Center last year. Assistant systems engineers C.A. Owen (left) and William Limer work at the console.*

Photo by Eugene Mickel



## CADILLAC-STYLE CONTROL WITH ARTS III

With 58 of 61 ARTS III systems already in full operation at airports around the nation at the beginning of 1974, terminal controllers were really immersed in traffic control the automation way. The benefits were clear: "It's like driving a Cadillac instead of riding a bicycle," is how one controller compared working with alphanumeric assistance and without it.

Two commissionings occurred in 1974: San An-

tonio, Tex., in May and Oakland in September. That leaves only one more to go—at Dallas-Fort Worth Airport which opened last January. The target date for its ARTS commissioning is this April.

New applications and features for ARTS III were tested last year. Among them were ARTS to ARTS handoffs between Quonset Point, R.I., and Hartford, Conn., and among five airports in the Los Angeles area. Another way of using the system on line was



**EASTERN**



*It was a family affair as operations inspector Jim Byers received the Accident Prevention Merit Award from Teterboro, N.J., accident prevention specialist John Karp (left). The occasion was Byers' departure for the Washington FSDO. With him are his wife, son and mother.*



*Awards were presented by Regional Director Robert Stanton to five men who did the most to make the "Aviation Weather" TV series a national success. From the left are Stanton; Alan Evans, George Beneman and Victor Turner, Maryland Center for Public Broadcasting; Richard Gles, AOPA Air Safety Foundation; and specialist Jan Allsman, who was host of the show when he was at the Washington FSS.*



*Joe Dulski of the Airway Facilities Div. accepts a plaque from Regional Director Robert Stanton (left) designating him as FAA's Outstanding Handicapped Employee of the Year. An engineering draftsman, Dulski is a deaf mute.*



*A certificate naming him the region's Flight Instructor of the Year is presented to Clifton Osborne (center) of Harrisburg, Pa., by Deputy Regional Director James Bispo (right). Looking on is Flight Standards Div. asst. chief Brian Vincent.*

*AF Sector chief Don Dunning starts digging in, as FSS deputy chief John Morgan and FSS chief Norm Hopkins wait their turns in ground-breaking for a new flight service station and Airway Facilities Sector building at North Philadelphia Airport. The old one had been destroyed by fire.*



*North Philadelphia Tower chief Peter Pellegrino (second from right) and ATCS Albert Trottier (right) accept award for the Air Traffic Terminal Facility of the Year from Air Traffic Division chief Ray Van Vuren (left) and Air Traffic Service Director Raymond Belanger.*

with simulated radar targets for training, a technique developed by technicians and controllers at Houston Intercontinental Airport. At NAFEC, experiments went forward in computer programming to put basic metering and spacing and unsafe-altitude alert signals directly on ARTS III radar scopes.



*At his position before an ARTS III scope in the TRACON at Washington National Airport, Rico Imundo controls aircraft approaching Andrews Air Force Base in Maryland.*

Photo by Don Braun

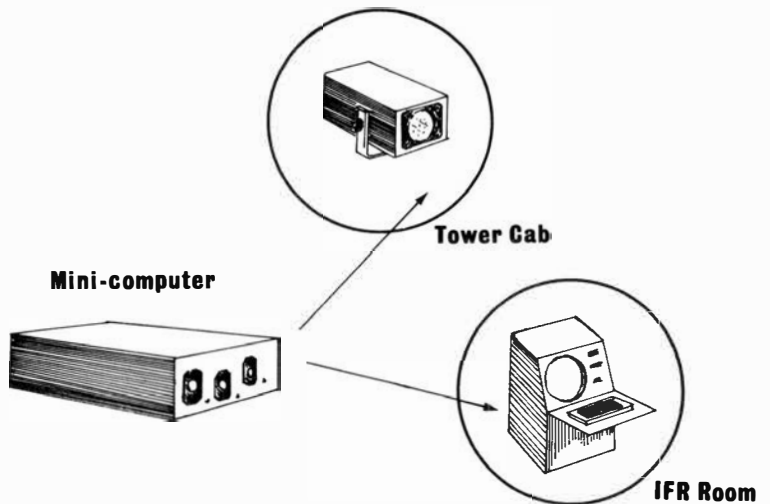
## ARTS II ORDERED

As if the term "ARTS" hadn't already been heard far and wide enough, the agency signed a contract last August for 47 new, but similar, automated terminal radar systems. These were ARTS IIs for lower activity airports. In November, the agency picked up an option for an additional 22 systems.

Like ARTS III, this system puts alphanumeric symbols directly on the controller's radar scope, but unlike ARTS III, does not show aircraft speed, only identity and altitude. Instead of a roomful of computer equipment, ARTS II uses a mini-computer which measures about a foot and a half square by eight and a half inches high.

Under the \$7.5 million contract, the Burroughs Corp., Paoli, Pa., will deliver and install the first two systems this summer, with all deliveries and installations scheduled for completion by summer 1978. Several of the ARTS II systems will be tied in with

NAS enroute centers for computer-to-computer transfer of flight information.



*In tests of a prototype ARTS II system in 1973, controllers at the Wilkes-Barre/Scranton Airport received aircraft identity and altitude on their scopes.*



**SOUTHERN**



*It took only 91 minutes for the British-French Concorde to make the Boston to Miami run in the first supersonic flight between U.S. cities, albeit over the ocean.*

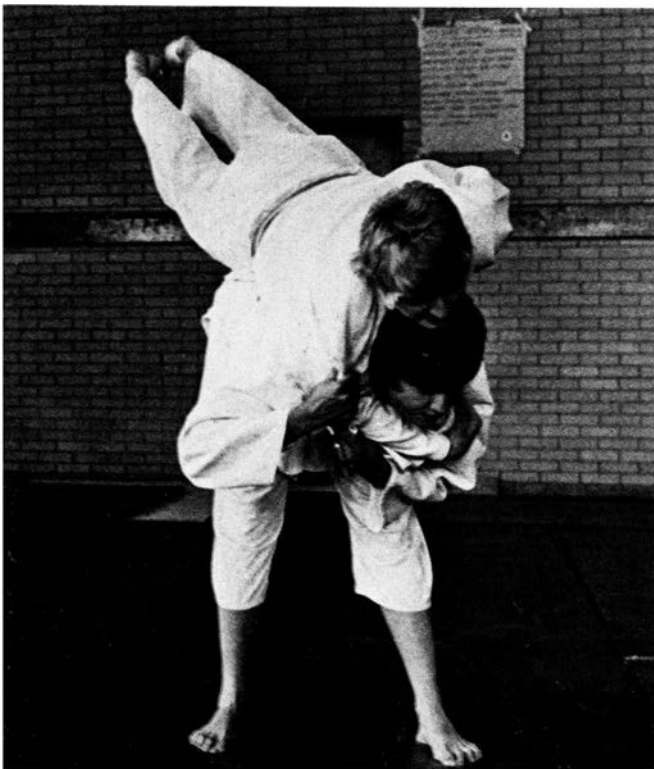


*A treat for controller Martin Elliott of the Owensboro, Ky., Tower was the chance to explain ground control to visiting Miss America, Rebecca Ann King.*

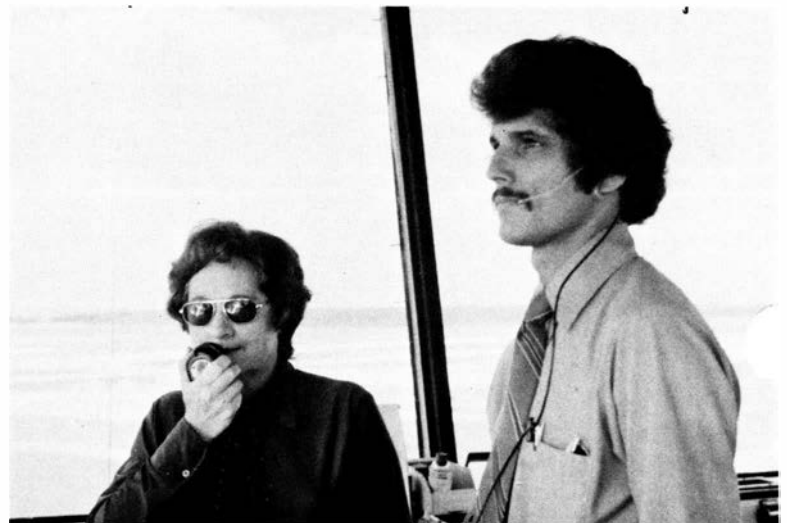


*Don Sumerlin (left) and Roy Ely (right), both of the Atlanta GADO, and Art Varnado (center), chief of the Standiford Field Tower, Louisville, Ky., pose with members of the Aviation Youth Group of Louisville. The GADO men spoke to 35 youngsters and 10 adults on the FAA and aviation career opportunities.*

*Secretary Betty Smith of the Winston-Salem, N.C., ACDO, a judo green belt holder, executes a throw.*  
*After having placed first in North Carolina state competition, she went on to take fourth place in the AAU National Judo Championships.*



*Mary Gaffaney, renowned flier and a fixed-base operator, hasn't joined FAA. She's in the Tamiami Airport Tower in Miami, next to controller Bill Denton, teaching a non-flying passenger to fly and land a plane in which the pilot had lost consciousness.*





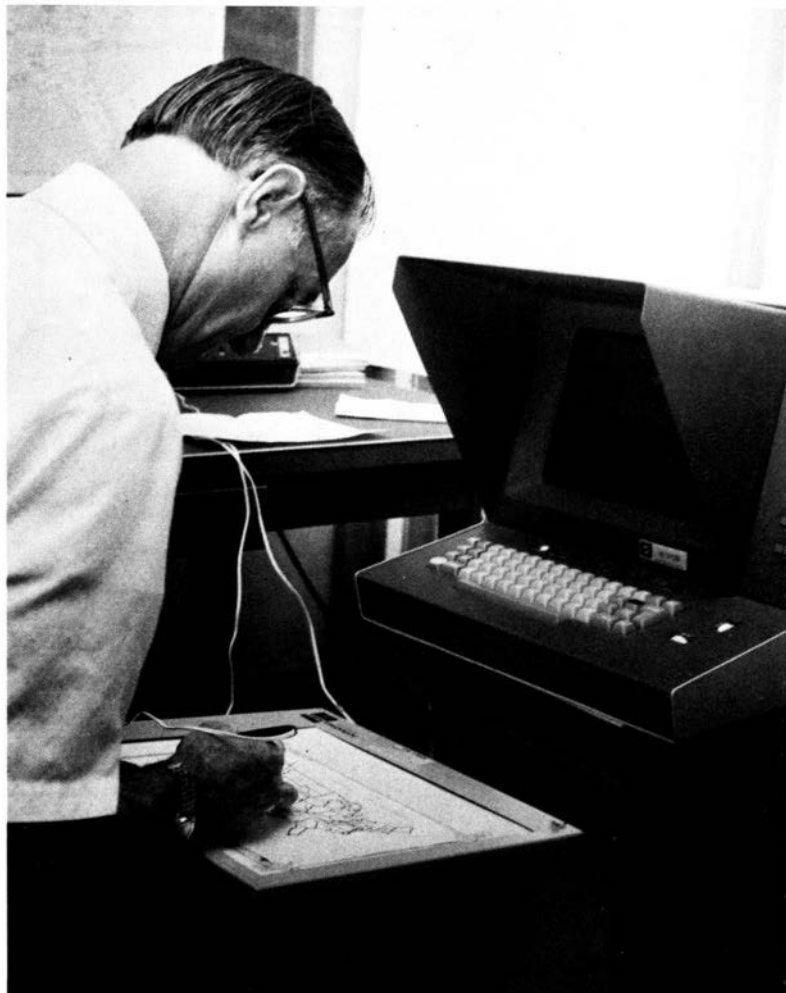
# TRY-OUT TIME FOR FSS AUTOMATION

Steady progress on the Atlanta automated flight service station and the design for "hub" FSSs marked the year's efforts in FSS modernization.

The Atlanta FSS is slated to begin a year-long test of its automated system next month. Called AWANS, for Aviation Weather and Notices to Airmen, the system will show weather and aeronautical information directly on viewing screens in front of flight service specialists, easing their workload by saving time. Linked to the system are a "satellite" FSS in Macon, Ga., and a pilot self-briefing machine at an Atlanta airport.

Last September FAA accepted two alternate designs for buildings and equipment for hub FSSs. Hub stations will use automation and display techniques similar to those being developed in Atlanta, but will be standardized.

In April, NAFEC staffers began a nationwide "road show" with an experimental pilot self-briefing machine. Nearly 1,300 pilots tried out the machine for mock pre-flight briefings. FAA hopes eventually to install many self-briefers across the country while training FSS specialists in automated hub and satellite stations.



*William Lewis of NAFEC's Systems Test Branch draws a simulated weather chart while on the road with the pilot self-briefing terminals, here, at the San Diego FSS.*

# SECOND ROUND FOR TURNKEY TOWERS

FAA's double-barreled effort to build pre-fab control towers at low- and medium-activity airports continued full-bore last year with the delivery of 12 of 31 new towers under a second FAA contract for such construction.

These non-radar towers, complete with kitchenette in the cab, are being built by AVCO Corp., Cincinnati, and are similar to 64 towers delivered by Hunt Building Corp., El Paso, Tex., under an earlier contract. After completion of much of the Hunt work in 1973, the last 10 towers were finished in 1974. All have been commissioned except Providence, R.I.

*(Continued on Page 11)*



*Visitors line up for an open house at a new turnkey tower at Purdue University Airport in Lafayette, Ind.*

*Photo by Neal Callahan*



## GREAT LAKES

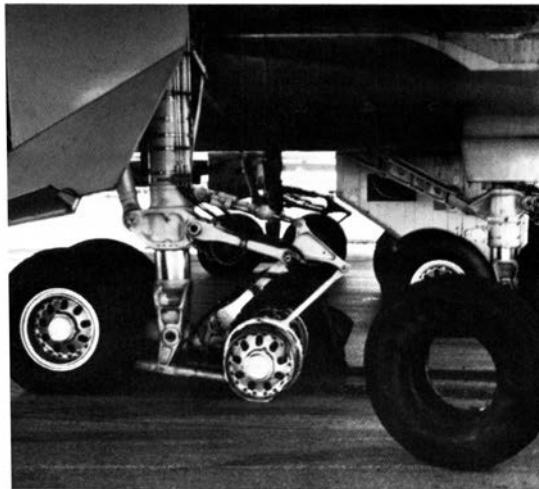


Spring tornadoes knocked a cone from the VOR at Lafayette, Ind. Chicago and Indianapolis technicians hoisted it back, fixed the roof and put the VOR back on the air. Pearl Scheiber shot the photo when she accompanied her husband, Herman, general maintenance mechanic, to work.



Each year, the EAA fly-in at Wittman Field, Oshkosh, Wis., brings hundreds of planes to roost nose to tail. But nose to bumper is a little unusual, even for EAA. While taxiing, this plane was forced into FAA's mobile control station wagon by gusting winds. Damage to the auto was minimal; the plane needed a new prop and an engine overhaul.

Photo by Marijane Nelson



Donna Jahnke, clerk-steno at the Green Bay, Wis., Tower, wore her bikini to the season's first race at the Seymour Speedway so she could get in free as a contestant to watch her husband race his stock car. She won the contest, got in free the whole season and presented all the race trophies, none of which went to her hubby.



When it's a Boeing-747 with 300 passengers aboard, you just don't jack it up and change flat tires. It was already a bad day for delays at O'Hare when this happened and tied up a taxiway to a major runway for several hours.

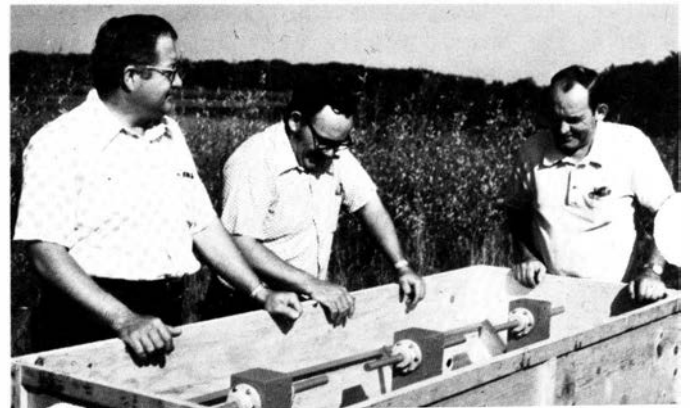
Photo by Neal Callahan

The FAA's exhibit at the "Operation Push" minority exposition was the site of discussions on the agency's new Affirmative Action Program. From the left are Willie Gainor, Chicago Urban League; Sandra Southerland, Gay Smith, Alvin Ray and Vern Urban, Great Lakes Manpower Div.; Gene Jirak, Civil Service Commission; Jim Chaloupka, Manpower Div. chief; and George Reeves, Director of Personnel.

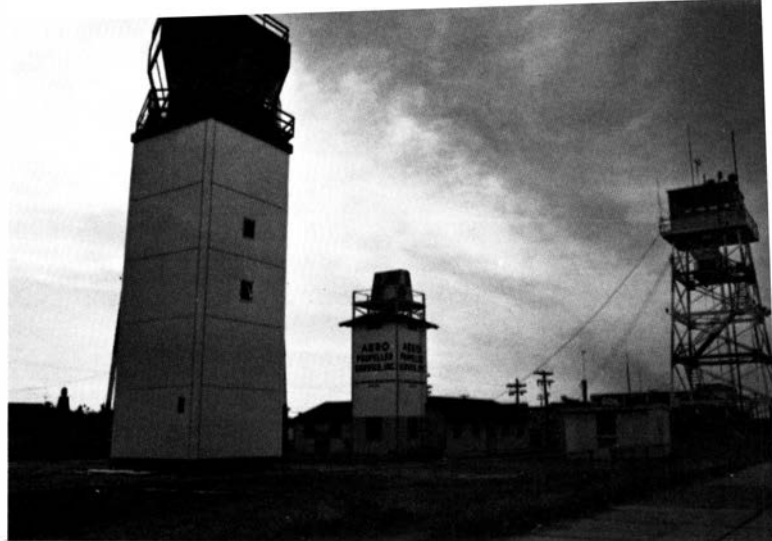
Photo by William Pitchford

Brainstorming among (left to right) sector manager Herbert Rugen and ETs Vernon Edmonds and Harry Kebbe at La-Crosse Municipal Airport resulted in removing an old glide-slope antenna and putting up a new one within an hour.

Photo by Marjorie Kriz



*A new turnkey tower graces the Greenville, Miss., Airport, a low-activity facility, to meet future aviation growth. It replaces the old military-type tower at right.*



Of the completed AVCO towers, six were commissioned last year, the first at Lewisburg, W.Va., in June; the thirty-first is scheduled to begin operation in November this year at Ponce, P.R.

Most of the AVCO towers operate 16 hours a day

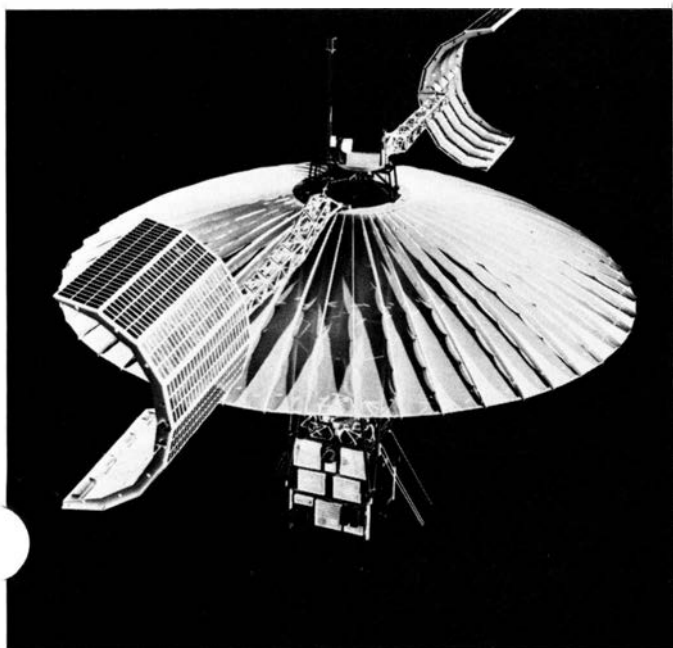
and are 40 feet high, although some range up to 70 feet and a few are on the air full time. They are being built under a "turnkey" contract, which means that AVCO does all the work, leaving FAA only to take the key, open the door and go to work.

## AEROSAT PROGRAM LIFTS OFF

**T**he AEROSAT program entered the preliminary test stage in 1974, using NASA's ATS-6 satellite to send air traffic control messages to aircraft over the Atlantic Ocean. The first such test took place November 12, followed by others last month.

Other milestones last year included the signing of an AEROSAT agreement by the U.S. in May and by Canada and the European Space Research Organization in August after three years of negotiations. Comsat General was selected at the U.S. con-

tractor for the proposed satellites and satellite control facility, along with Canada and ESRO. Flight tests of an experimental version of the planned two-satellite AEROSAT system are expected to begin in mid to late 1978.



*Barry Saltzman of NAFEC's Communications & Guidance Div. (right) enters data into a KC-135's airborne computer in tests of satellite communications using the NASA ATS-6. Below, NAFEC displays show the position of test planes that are out of radar range through data link. Participating are (left to right) Canadian controller Rod Gallo-way, NAFEC's Erroll Porter and Wayne Willoughby and Canadian Ted Crowell.*





**CENTRAL**



*The last of five Central Region low-activity turnkey towers was commissioned in Cape Girardeau, Mo. Inspecting and monitoring all five, which were under concurrent construction, were David Henderson and John Gronberg.*



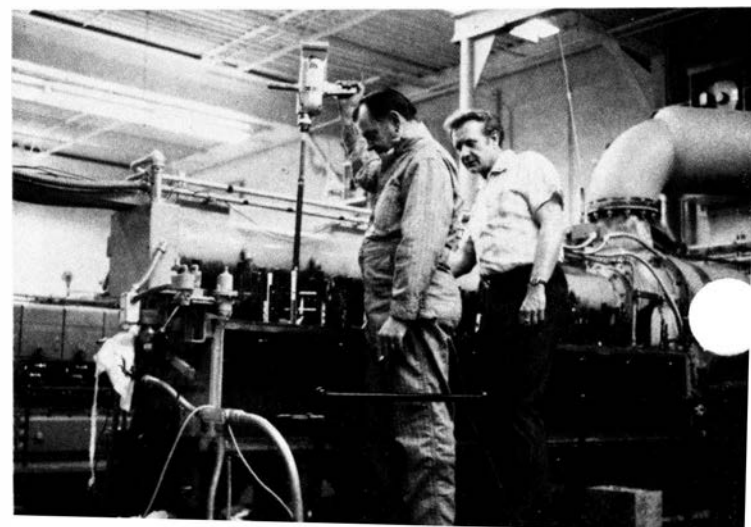
*Representatives from 16 nations to the Second Annual Conference of the Aeronautical Telecommunication Network held in Kansas City were treated to a tour of the FAA National Telecommunication facility. Here, Leslie Walls explains NATCOM operations to some of the foreign visitors.*



*Central Regional Director A. L. Coulter (left) presents Dr. James Swann of Midwest Air Freighters with a certificate authorizing the operation of their DC-3 aircraft in air taxi operations from Fairfax Airport, Kan.*



*Flight Standards Div. chief Browning Adams (left) accepts the keys to New England's Beech Baron from his NE counterpart Jack Sain. It was a fair trade, for Adams had flown in Central's Beech Queen Air in exchange.*



*A sextet from the Olathe, Kan., AFS decided that no job was too big for them. Overhaul director Robert Bogucki (left) and Leonard Dragon stand before a 550-KW engine generator on which the group performed a major overhaul.*

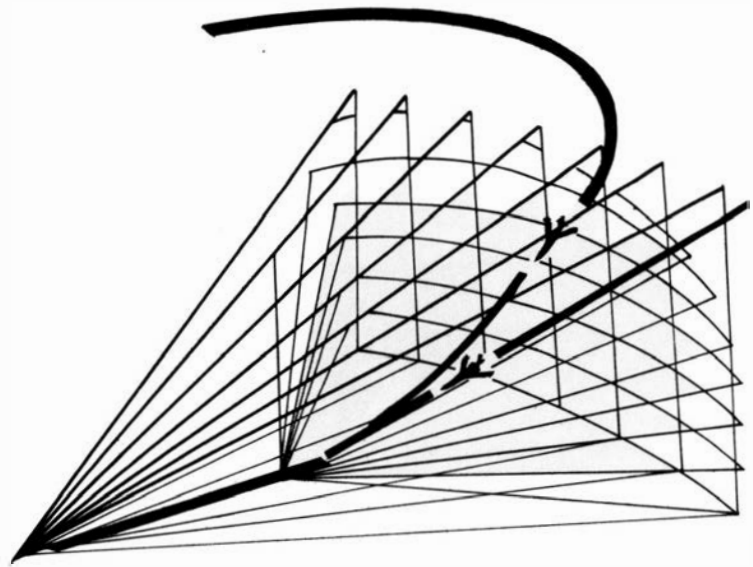


# EENIE, MEENIE, MINEY MLS

As the year was drawing to a close, FAA was nearing a decision on the selection of one of two competing techniques for further development as the U.S. candidate for an International Standard Microwave Landing System. The competing techniques are the conventional scanning-beam system and a Doppler scanning system. The technique that is selected will be developed for submission to the International Civil Aviation Organization to compete with systems from other countries for adoption as the new international standard.

Earlier in the year, FAA approved a design by Tull Aviation Corp. for use as an Interim Standard Microwave Landing System pending adoption of a permanent worldwide standard MLS by ICAO.

The microwave landing system will operate more



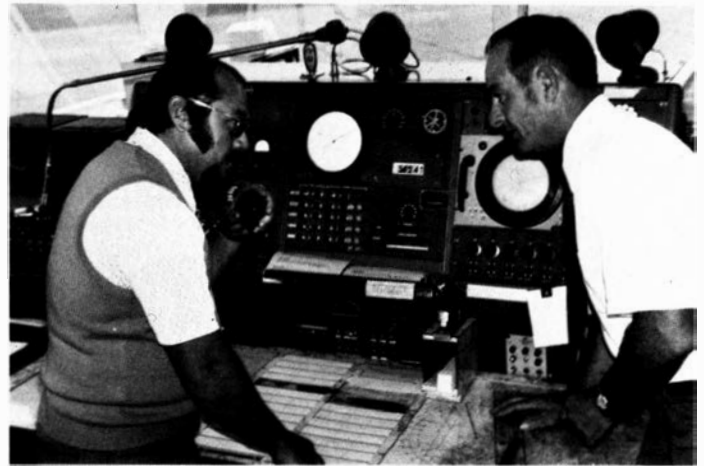
consistently than conventional instrument landing systems, regardless of local terrain, and will increase the capacity of airports to accept incoming planes by providing multiple approach paths.

## WE POINT WITH PRIDE

Four air traffic control specialists were honored in December for their outstanding flight assists of the year (FY 1974). Receiving cash awards and special citations were: Richard C. Gardner III, Tallahassee, Fla., Tower; Vernon L. Gray and Darrell E. Scheidegger, Arcata, Calif., FSS; and Charles R. Bliss, Kenai, Alas., FSS.

Gardner talked a lost pilot down to a safe landing on an interstate highway that was blocked from traffic at FAA's request. Gray and Scheidegger teamed up to guide a pilot who was losing a battle with the weather to a touch-down at Arcata Airport. Bliss directed the passenger of a float plane to a safe landing in Salamatof Lake after the pilot suffered a fatal heart attack.

As of Dec. 1, 1974, FAA towers, flight service stations and enroute centers had made 2,758 flight assists during the year, involving aircraft with 4,368 people on board.



*Above right: Darrell E. Scheidegger  
and Vernon L. Gray  
Arcata, Calif., FSS*

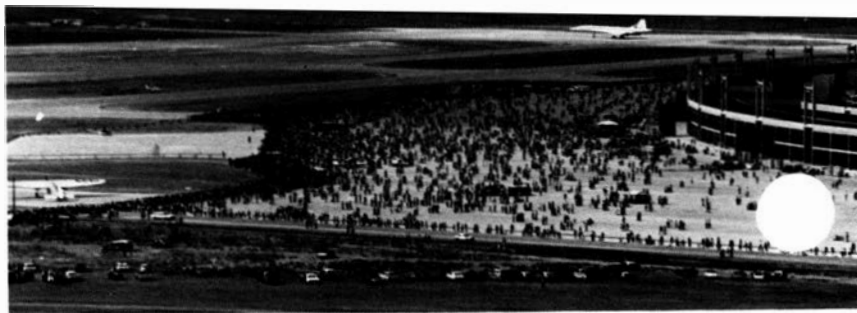
*Right: Richard C. Gardner III  
Tallahassee, Fla. Tower*

*Far right: Charles R. Bliss  
Kenai, Alas., FSS*

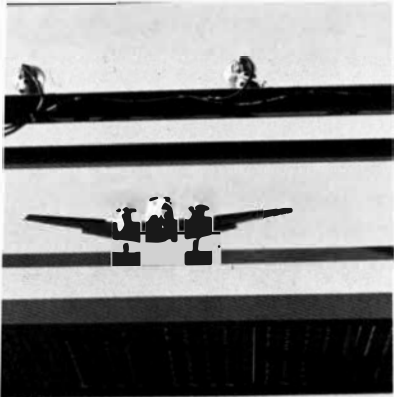




**SOUTHWEST**



A highlight of the year for the Southwest Region was the opening of the world's largest airport, following the first appearance of a supersonic transport on American soil, when the British-French Concorde visited the Dallas-Fort Worth Airport during its dedication.



The region's annual arts and crafts show was the most successful ever, with 70 entries in 24 categories. Admiring the FAAers' handiwork are (left to right) Wendell Towrey from MTS in Lawton, Okla., and Leila Barfield, Jim Lloyd and Jim Brewer, U. of Oklahoma instructors at MTS.



Project engineer Daly Reynolds (left) of the Aeronautical Center explains the switching mechanism to GFET Bob Prince, Fort Worth AFS, of "help yourself runway lights" tested at Meacham Field. It allows pilots to turn on runway lights when the control tower is closed for the evening by keying the microphone in a prescribed pattern.



Certification of the Boeing 747-E4A Advanced Airborne Command Post fleet was a big project for the Flight Test Section. FAAers and reserve officers who conducted the tests are (standing, left to right) Cal Stoner, Jerry Davidson, (kneeling) John Fauntleroy and Roy Berkley.

Houston Intercontinental Tower's Data Systems Staff devised a training program (out of the Enhanced Target Generator Program) that allows the ARTS III computer and scope to display any air traffic area in the world. Briefing Deputy Regional Director Al Thurburn (seated, center) are team members (from left) Van Houston, "Rock" Hudson, Darrell Kelley, James Goertz and "Doc" Holloway.



Ann Stone, accident prevention specialist in the El Paso, Tex., GADO, keeps an eye out for aircraft that violate the White Sands Missile Range Restricted Area. She submitted a proposal that would give an aural warning over nearby VORs.



# AVIATION SAFETY

## A NEW LOOK AT AIRWORTHINESS

FAA took a bold step in 1974 to improve its airworthiness regulations—those all-important rules that set standards for airplane, helicopter, balloon, engine, propeller and component construction. A two-year cycle for review and systematic revision of the rules in cooperation with industry and the public began in February with an invitation for agenda proposals for the first Airworthiness Review Conference, an eight-day affair that took place in Washington last month. In December, the Administrator also announced plans for a biennial flight operations review program.

This year, the agency will issue proposed rule

changes based on discussions with the aviation community at the conference. Final rule-making action is expected by February 1976, thus completing the first two-year cycle.

A special Airworthiness Review Staff, headed by William J. Sullivan, was set up in the Flight Standards Service to run the program. When Administrator Butterfield announced the program, he cited rapid growth and technological advances in aviation which made FAA "procedures for amending airworthiness regulations on a piecemeal basis increasingly less effective." He said the new reviews should result in more timely changes.

## PLANNING DIALOGUES CONTINUE

Administrator Butterfield pursued his initiative for expanded consultative planning with the aviation community last year. Begun in 1973, two new types of meetings, the Consultative Planning Conference and the Listening Session, were held several times in 1974, both in Washington and at various locations across the country.

Three Consultative Planning Conferences were held with a cross-section of aviation representatives. The topics were: planning in relation to goals and priorities; FAA facility establishment criteria; and airport grant-in-aid. Listening Sessions, in which top FAA officials do just that, were held with representatives from a variety of groups with special concerns, each group meeting separately with FAA officials. Included were: sport and recreation pilots; air taxi and commuter operators; private pilots; business aircraft operators; flight attendants; helicopter operators and manufacturers; and flight school operators.



*Above, Stephen Matula (left), Office of Aviation System Plans, confers with Fred Meister, Associate Administrator for Policy Development and Review, at last June's Aviation Review Conference. The three-day meeting attracted 800 participants to panel discussions like the one below, which included representatives from ALPA, the Port of Seattle and DOD.*



*Aviation business, FBOs, aviation organizations and the press met with FAA officials in October in the Northwest Region's first Listening Session and dialogue.*



**ROCKY MOUNTAIN**

*A crane lifts the cab atop the framework for a new 75-foot tower in Bismarck, N.D., completed late last year.*



*Electronic technician Ron Owen (right) had work to do at the Mines Peak Repeater that serves the Denver Center. Tagging along for the snowcat ride to FAA's highest facility (12,445 feet) were Paul Bohr (left), Airway Facilities Div. assistant chief, and John Talerico, Employment Branch chief.*



*A Special Achievement Award was presented to teletype operator Jane Selles for her personal contribution to a more efficient Service C Teletypewriter System.*



*Deputy Regional Director Ike Hoover gave his secretary, Lois Shuck, a ride to her farewell luncheon on his motorcycle, prior to her departure for a Washington assignment.*

*For two years running, special agent Howard McGlothlin, assigned to Denver's Stapleton International Airport, has qualified as a member of the Perfect Score "250 Club" during training courses in the Air Transportation Security Program conducted at the FBI Academy.*





## WINGSIDE ADVICE PROGRAM

A special effort to prevent accidents before planes get off the ground was mounted by the agency last summer in a 30-day campaign dubbed "Operation Ground Assist."

From June 15 to July 15, Flight Standards field personnel visited selected general aviation airports during busy hours in a mutual exchange of ideas with pilots, mechanics and others. The emphasis was on safety in pre-flight planning, maintenance and airport conditions. Contacted during the campaign were 54,957 pilots out of a total of some 700,000 and 8,176 out of 100,000 maintenance personnel; 28,309 out of a total of 181,000 general-aviation aircraft were inspected.

Reaction from pilots and others was quite favorable, although a few thought FAA was on a hunt for violations. Administrator Butterfield intends to launch a similar program this year with more advance notice to increase public understanding.



Helping preflight pilot Curtine Metcalf, who was working on her instrument rating, is Colorado GADO chief Ansel McAllaster. It was part of "Operation Ground Assist," designed to improve pilots' safety consciousness.

## ACCIDENT PREVENTION GETS TOGETHER

For the first time, all of the agency's 85 accident prevention specialists met for a review of their three-year old program in a three-day conclave in St. Louis last May. Also included in the attendance of 225 were chiefs of all of FAA's General Aviation and Flight Standards District Offices, as well as members of regional Flight Standards Divisions and several top agency officials.

Although FAA does not claim credit for the encouraging dip in the number of general-aviation accidents since the prevention program began in 1971, the attendance since then of over one million

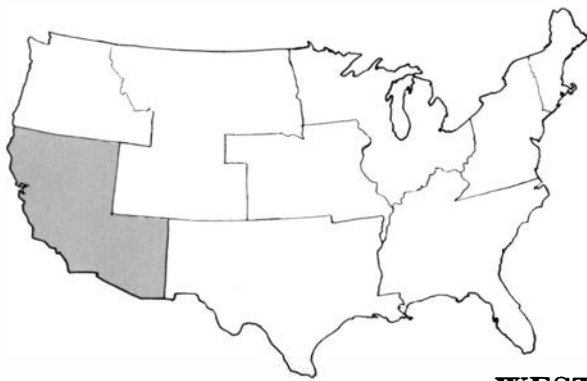


Accident prevention begins with a safe plane. At a September air show at San Diego's Gillespie Field, airworthiness inspector Jim "X-ray" Denniston of the San Diego FSDO checked the exhaust system of a Rose "Parakeet."

*FINFO received the first of its new fleet last year. Here, the first Jet Commander delivered sits in an Aeronautical Center hangar with a predecessor flight-inspection DC-3.*



people at FAA-inspired safety meetings and the counseling of more than 300,000 pilots indicate that a strong positive step toward safety awareness has been taken. In 1974 alone, about 4,000 pilot safety clinics were held by the specialists and by their 2,943 FAA-appointed counterparts in the aviation community, the accident prevention counselors.



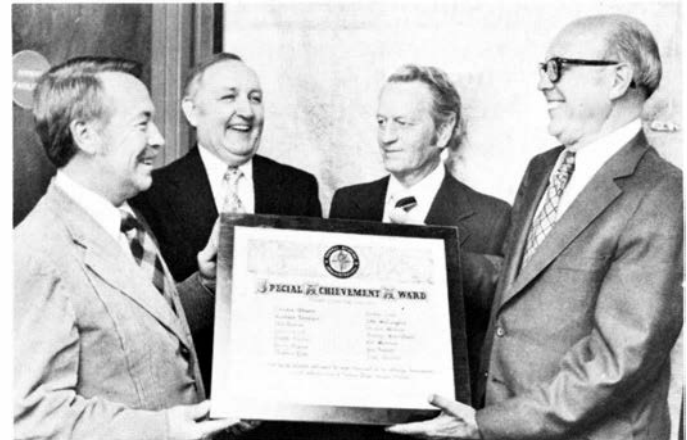
**WESTERN**



A Superior Achievement Award went to Olen Young, chief of the Reid-Hillview Airport Tower, San Jose, Calif., for organizing the aviation community, promoting aviation and the airport and reducing citizen opposition. From left to right are Regional Director Arvin Basnight, Deputy Administrator James Dow, Young and Deputy Regional Director Robert Blanchard at presentation ceremonies this past year.



Navy A4Es drop their hooks and gear and come into Merced Municipal Airport, Calif., in an exercise supported by an FAA truck-mounted mobile control tower.



The Salinas, Calif., FSS garnered a group Special Achievement Award for a modernization project in which the specialists joined to save money in interior refurbishing. F. Par. Schriver (right), AT Division assistant chief, presents the award to (left to right) specialist Harry Gigous, chief Charles Linn and specialist George Moorefield.

Flight Standards Director Dick Skully (left) presents the National Flight Standards General Aviation Field Office Award to chief Bill Glenn for his San Diego FSDO.

Jim Phennicie, Environmental Support Unit chief at the Los Angeles Center, and his assistant, Rex Shull, check the performance records of the newly installed Power Conditioning System after a local power outage.



The National Flight Instructor of the Year Award for 1973 went to Willard Marvin (left) of Long Beach, Calif. This fall, Bob Sweazey of AOPA presented him with the keys to a 1975 Lincoln Continental Mark IV.



# ANTI-HIJACK SCORECARD: GOOSE EGGS BACK-TO-BACK

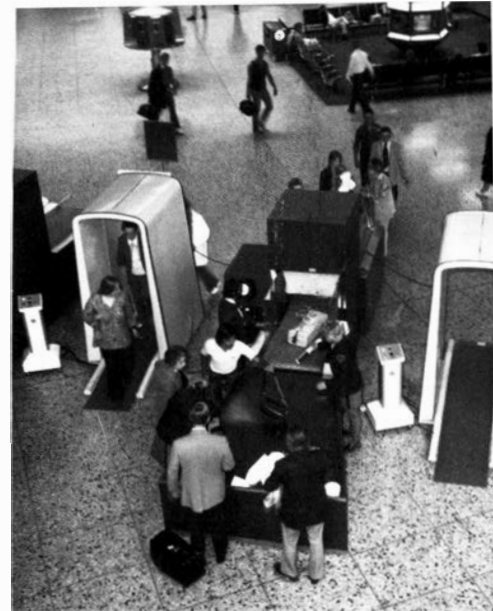
For the second year in a row, the most gratifying statistic in the FAA anti-hijack program appeared in the scheduled air-carrier "aircraft piracy" column: 0. More muscle was put into the agency's aviation security efforts by the Anti-Hijacking and Air Transportation Security Acts of 1974, enacted in August, which required the continuation of 100 percent passenger and baggage screening and local law enforcement back-up. Among its other provisions, the law authorized the President to suspend air transportation between the U.S. and nations which harbor hijackers or aid and abet terrorism.

During the year, the 36 U.S. air carriers and the 500 airports they serve strengthened their security, assisted by about 5,000 local law officers.

In 1974, at least 2,300 passengers were denied boarding for security reasons, while 2,800 individuals at airports were arrested. Of these, 893 were charged with attempting to carry weapons or explosives aboard aircraft. Some 70,000 weapons, explosives and other dangerous items were detected on passengers and other people in the airports.



*Instructor Richard Milan mans the passenger check-in at a mockup used for an aviation-security class conducted at the Transportation Safety Institute, Aeronautical Center.*



*Screening at Denver's Stapleton International Airport involves portal-type magnetometers and luggage x-raying conducted by airline-hired searchers.*



*Variety certainly isn't lacking in this array of weapons taken from boarding passengers at Seattle-Tacoma International Airport. Showing them (from the left) are Sea-Tac police chief Dan Barker; Robert Berkley, chief of the Sea-Tac Air Transportation Security Office; and Max Shaffer, chief of regional security.*

## ELT PROGRAM TRIGGERED

Pointing the way to quicker discovery of crash sites, a Federal law implemented by FAA regulations required most planes in the general-aviation fleet to carry Emergency Locator Transmitters as of June 30 last year.

About 40 downed planes had been found by year's end by search planes and vehicles that homed in on the ELTs' automatically triggered emergency signals. Many people who might not have survived long searches were found in only a few hours. About 135,000 aircraft must carry the transmitter, although military, turbojet, rotorcraft and certain air-

line and other aircraft are exempt from the rule.

Unfortunately, many false alarms from ELTs have plagued FAA and rescue teams. An FAA ELT Coordinating Committee formed last summer attacked the problem in cooperation with other agencies, resulting in a steady drop in false alarms.

In any case, it should be a comfort for pilots to know that FAA control towers, flight service stations, enroute centers and Air Force towers, as well as FAA flight inspection aircraft, Air Force planes and Coast Guard ships and planes, while enroute, are constantly tuned in to ELT frequencies.



## NORTHWEST



Still being tested at the Seattle FSS is the Stampede Pass TV weather monitor, which shows pilots the weather 60 miles away in the Cascade Mountains. Specialist Robert Jones (right) briefs a pilot and explains the system.



Associate Administrator for Air Traffic and Airway Facilities William Flener congratulates controllers from the Seattle ARTCC on its being selected for the "Center of the Year" award. From the left are Dave Hoyt, Bill Johnson, Flener, Steve Juntini and Brian Taylor.



Lori Erickson, secretary to Charles Crum, Everett, Wash., Tower chief, must have been a shoo-in when she was selected as Queen of the 1974 Lynnwood International Air Fair, considered the third largest show in the nation.



Evel Knievel's unsuccessful rocket vault across the Snake River canyon this past summer required a temporary tower not far from the jump site at Twin Falls, Ida. Keeping the canyon airspace clear and aircraft separated were (from left) Vain Scadden, Len Neiwert, Jack Stoltz and Bryan Johnson.



Seattle FSDO chief Bob Jones (left) congratulates William Marsten, chief pilot for Everett Aviation Flying Service, on his being named the region's "Flight Instructor of the Year."

Framed in the hubbub at the Seattle-Tacoma International Airport, the new Sea-Tac Tower rises around the old one, the new cab perched two stories above the operating cab.





# FAA LOOKS AT AIR SAILORS

The agency's interest in the growing popularity of lightweight aviation gelled last year with FAA's first hot-air-balloon seminar and an official statement on the breezy sport of hang gliding.

Taking no chances on losing any of the 36 valuable Flight Standards personnel in attendance, FAA began the three-day January balloon seminar inside an ancient, huge dirigible hangar in Santa Ana, Calif. After some practice indoors, balloon flights were made outside. The aim was to give the Flight Standards staff the expertise needed for certificating balloons, repair stations and aeronauts. A second seminar is planned for this month in Santa Ana.

In Albuquerque, Flight Standards inspectors and Air Traffic staff were on hand to ensure the safety of the second annual Hot Air Balloon Championship last February.

Last January, the Flight Standards Service's

*Accident prevention specialist Robert Griscom (right) of the San Diego FSDO congratulates hang-gliding enthusiast Jim Rusing on his appointment as safety advisory counselor. ing has made well over 1,000 flights.*



*Balloons in tethered flight at the first FAA hot-air balloon seminar, Marine Air Station, Santa Ana, Calif.*

Charles Schuck and Larry Youngren took a fact-finding trip into the world of hang gliding, visiting manufacturers, pilots and flight schools. In May, FAA issued an Advisory Circular which recommended safe practices in hang gliding. Inspectors also observed hang-gliding events in several parts of the country during the year.

*Don Kuebler, Southern Region Flight Standards Division, waits at the side of the gondola as balloon-builder Tracy Barnes boards the Firefly 7 for type certification tests.*

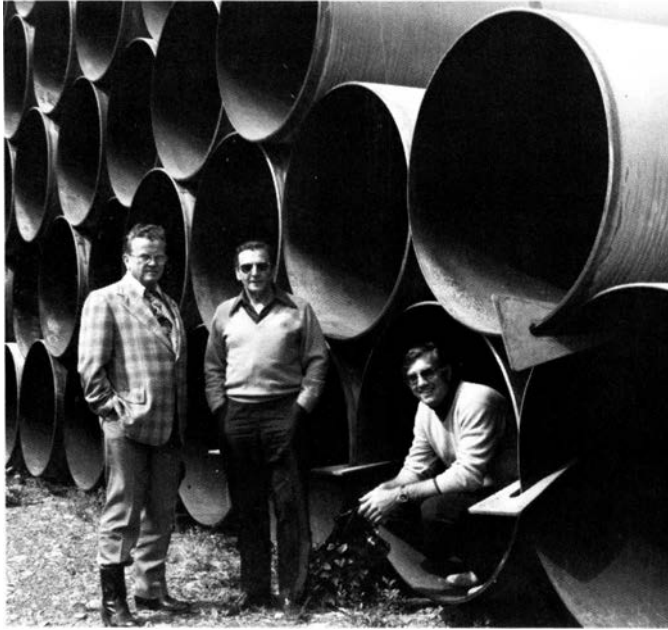


## International Women's Year 1975

*You'll be seeing more of this emblem in 1975. It symbolizes a worldwide effort to • promote equality between men and women • ensure full participation of women in all aspects of national and international life • recognize the contributions of women to world peace. The agency will be focusing special attention on women's rights in FAA and aviation this year.*



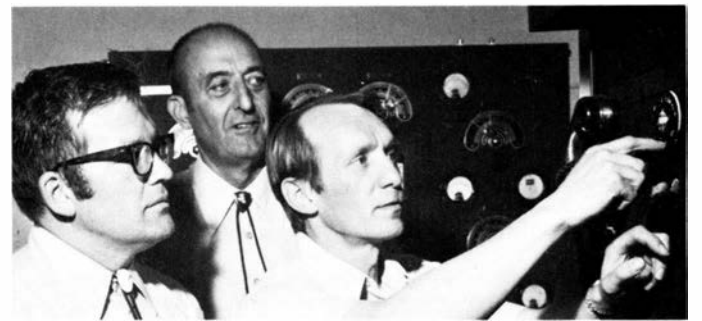
## ALASKAN



With the Alaskan oil pipeline road construction under way and aviation booming there, Regional Director Lyle Brown and visitors Louis Churchville, Assistant Administrator for Information Services, and Fred Meister, Associate Administrator for Policy Development and Review, toured the pipeline route, beginning at a storage yard in Valdez.



When the British-French Concorde SST visited Fairbanks for cold-weather tests, tower controllers (seated, from left) Glenn Green, John Balaski, Larry Sustrick and (standing, right) John Clark were pleased to have been in the operation. Off-duty assistant tower chief Red Brooks came to look.



This was the moment that the last Low Frequency Ray was decommissioned. ET Steve Ruks switches off the Norway LFR, as supervisory ET Albert Eggebrotten and flight inspection pilot Clarence "Slim" Walters watch.

With this new structure, the Deadhorse FSS on Prudhoe Bay was to be converted to a combined station/tower.



E. L. "Turk" Mayfield (right) gets a handshake from Carl Bailey, Air Transportation Security Div. chief, after his naming as Alaska's Peace Officer of the Year by the Alaska Peace Officer Association at its Annual Crime Conference.

Photos by Al Garvis

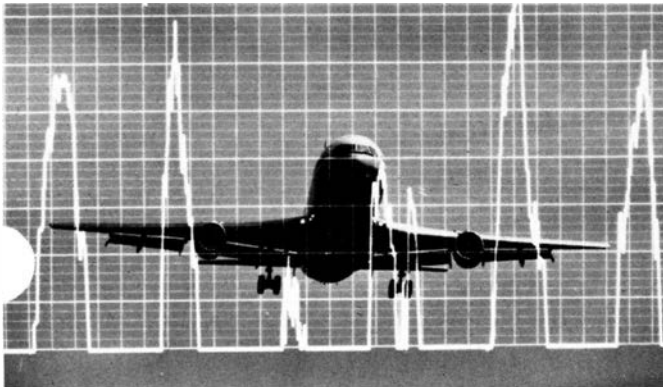
EPDS Don Schmidt instructs a controller on the modified ARTS III computer system that has been installed in the Anchorage ARTCC for processing and displaying digital data from the Murphy Dome long-range radar.



# DOWN, DECIBELS, DOWN

During the year, FAA kept up the pace of its actions to reduce aircraft noise. Significant actions were: 1) In March, the agency proposed a rule that would assure that all aircraft over 75,000 pounds met established FAA noise standards. Going to the very heart of the noise problem, the rule would require acoustic treatment or retirement of the many noisier turbojet aircraft that do not meet current standards, 2) An NRPM was issued for small newly certificated propeller-driven planes that would set maximum noise limits for these planes. 3) An advance notice of proposed rule-making requested comments on the mandatory use of two-segment landing approaches that could significantly

Profile of a DC-10 taking off. Noise-pollution surveillance continued during 1974. Photo by William Pitchford



Bob Howe, Southern Regional Office; Grumman pilot Morgan Cobb; and FAA Southern Region pilot Ed Wilson (left to right) tested newly designed tailpipe on a Grumman Gulfstream II.

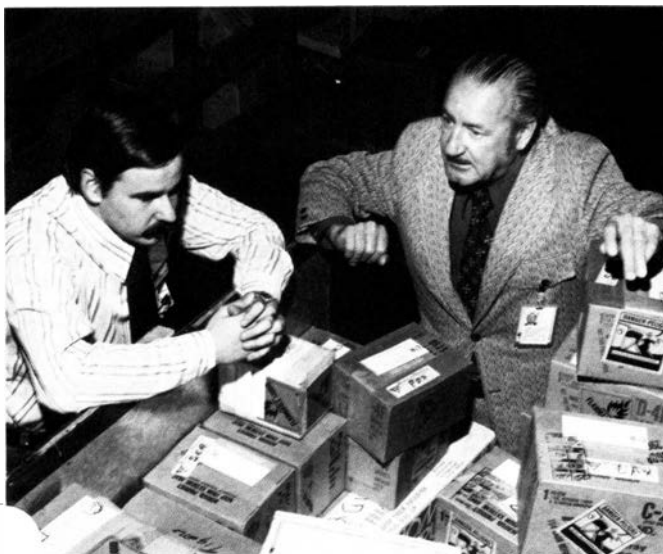
reduce noise in airport communities. 4) Development progressed on a proposed rule on noise-abatement departure procedures.

Capping a productive year, the agency distributed an Environmental Program Five Year Plan to the public and industry for comment.



Dewitt Vernelson (left), Aeronautical Center, records data, as Charles Knapcik, O'Hare Airway Facilities Sector, monitors an APTAR scope that tracks aircraft for studying noise.

# MONITORING HAZARDOUS CARGO



Norman A. "Tony" Proctor (right), Great Lakes hazardous materials coordinator, discusses marking and packaging of such materials with a cargo airline representative.

Increasing public concern over the air transportation of hazardous materials prompted the FAA in 1974 to strengthen the safeguards over them, despite the high level of safety that has characterized these operations in the past.

Significant among these efforts were the training of FAA inspectors and personnel of air carriers, freight forwarders, shippers and others in the packaging, labeling, loading and handling of hazardous-materials shipments. Nearly 250 FAA inspectors have completed training courses, and more than 4,200 persons from government and industry have attended some 38 seminars sponsored by the FAA around the country. Additional FAAers were assigned in the field as hazardous-materials coordinators.

Rule-making projects were begun to require the radiation monitoring of passenger aircraft carrying radioactive materials, as well as to limit radiation levels aboard aircraft and to reduce the amounts of radioactive materials aboard passenger aircraft.



## PACIFIC-ASIA

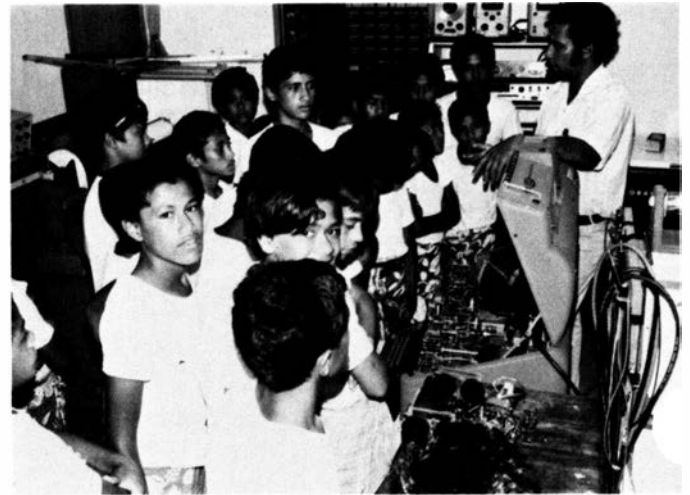


*Daisy Kiakona became a first in the FAA when she was selected as chief of the region's Manpower Division.*

*Cutting up—a 30th Anniversary cake, that is—in honor of the Pacific-Asia Region's beginnings are (left to right) Deputy Regional Director Joe Nestor, GFET Rikito Yamamoto, Regional Director Jack Webb, engineering technician Charles Morihara and administrative officer Jimmy Morihara.*



*The Kahului Airport Station/Tower on Maui became the second in Hawaii to receive radar service when an ASR-7 was installed last spring. Making use of his BRITE scope in the cab as he clears inbound traffic is controller Ray Hughes. Tower chief Don Epler points out targets on the scope.*



*Elementary school children from the Aoloau Village in Samoa get a first look at the world of air traffic control and its complex electronic equipment at the Pago Pago Combined Approach Control/International Station (CAPIS). Here, electronics technician trainee Su'esu'e explains a teletypewriter.*

*President Gerald Ford, then Vice President, extended a helping hand to blind Curtis Chong before presenting him with the Outstanding Young Employee nominee certificate at the Federal Day's Employee of the Year luncheon. At Chong's elbow is his supervisor, Val Rowe.*





# LIQUID GOLD CONSERVED

After announcing a seven-point jet-fuel-saving plan in the teeth of the energy crisis in November 1973, FAA followed through last year with more measures to save precious fuels.

A study was begun to learn whether accelerated building of instrument landing systems at 20 major airports would offer fuel savings by reducing arrival delays—savings not offset by construction costs. Preliminary findings indicated the answer to be yes. Another idea—towing aircraft instead of using engines between gates and runways—was found not to be worthwhile. Implemented, however, was taxiing with fewer than all engines running.

In the first three quarters of 1974, total energy use by FAA facilities, buildings and aircraft was cut 16 percent, more than twice the seven percent goal set for Federal agencies. President Ford has set a 15 percent Federal energy conservation goal for FY 75, which means that FAA must remain vigilant and stingy in energy use.

*Heating fuels in addition to aviation fuel were in short supply last winter. With temperatures and thermostats going down, Joyce Clark of the Albany, N.Y., GADO brought a fur-trimmed parka to stoke her fires and keep her fingers nimble.*



Photo by Don Braun



## NEW RULES FOR PILOTS AND THEIR MENTORS

Two significant actions taken during 1974 involved issuing new certification and operating standards for FAA-approved pilot schools under Part 141 of the FARs and implementing a requirement for a biennial flight review for pilots under the new Part 61 pilot-certification rules.

The new pilot-school certification standards are higher and cover advertising restrictions, use of airport facilities, simulator/ground trainers, course outlines, standard curricula and adequate record-keeping.

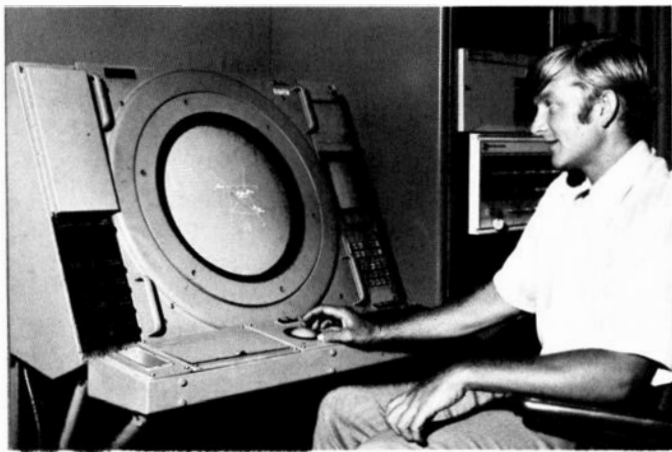
Under the new biennial flight-review requirement, a pilot may not act as a pilot-in-command unless he or she has satisfactorily completed a flight review within the preceding 24 months from a certificated instructor or other person designated by the FAA and has had the logbook endorsed to this effect. November 1 was the closing date for the first biennial flight-review cycle. The only pilots exempt are those who have passed a proficiency flight check or a flight test for a pilot certificate or rating within the preceding 24 months.



**NAFEC**



*Color for radar scopes was evaluated as a method of reducing clutter, to code maps and alphanumeric tags and to check the readability of target data in varied color combinations. Paul Quick looks over one of the displays.*



*NAFEC mocked up the proposed New York TRACON of the 1980s, the world's largest, with some two-score controllers from the Common IFR Room at JFK evaluating it. The new facility is slated to be built at Mitchell Field, Long Island, and be equipped with ARTS III. The program area leader was Felix Hierbaum and E.A. Quinn supervised the tests.*



*In an attempt by the Aircraft & Airports Safety Division to find the right thickened fuel that will not burn under certain conditions, firefighter Norman Irons uses liquid foam.*

*To study placement of data on a radar display and the optimum location of controls, psychologist Gloria Karsten monitors the operation of a lightweight, head-mounted eye-movement camera, worn in this evaluation by Bob Strack.*

*Perry Yon rides the bucket, Oscar Adams works behind the radar dish and Frank Rosati is on the base of one of the three radar beacon antennas being installed as part of a ground-based data-collection system for pattern measurements.*



*Technical photographer Joe Cox sets up an optical system to photograph fuel breakup in a wind tunnel. Observing (left to right) are Dr-Costos Polymeropoulos of Rutgers U. and NAFEC's Jim Valleley and Sam Zinn. They are investigating anti-misting characteristics of two jet fuels.*



# AIRPORTS

## ADAP TOPS \$1 BILLION

By mid-1974, the Airport Development Aid Program (ADAP) passed the \$1 billion mark in aid to U.S. airports. ADAP allocations are authorized by the Airport and Airways Development Act of 1970.

When the ADAP grants hit that benchmark, a total of 1,955 projects had been approved, of which 1,355 were for airports serving all airspace users, and 600 were for airports handling general aviation (non-airline) aircraft only. Included were funds for the construction of 81 new airports, of which 78 were for general aviation exclusively.

Special emphasis in the ADAP program was placed on increasing the capacity of airports with a reduction of ground-maneuvering time. The program also assured the acquisition of landing approach aids and the improvement of safety and security at the nation's airports.



The Delta terminal at Atlanta International Airport.



Controllers John Strobridge (left) and Jim Shienk, Jr., from the Riverside, Calif., tower man a temporary cab at the Big Bear, Calif., Airport for dedication ceremonies for a new runway extension last year.



Great Lakes airport certification officer Algis Zukauskas (left) inspects fire-fighting equipment at Rock County Airport, Janesville, Wis., with airport manager James Kerr. The fire truck was purchased with the profits from farming on the airport property.

Photo by Marjorie Kriz



Eastern Region Director Robert Stanton hands pen to New Jersey DOT chief Alan Sagner for signing a grant of \$271,000 for the state's aviation system plan. Others from left are Airports Division chief Louis Cardinali, Gov. Brendan Byrne and State Aviation Director Frank Gerard.

## MORE AIRPORTS UNDER FAA'S WING

Following up initial certification in 1973, FAA's airport certification staff last year inspected nearly 500 airports serving scheduled CAB-certificated airlines operating large aircraft. These airports serve airlines that carry 99 percent of the nation's paying air passengers.

Nearly 500 additional airports that serve the certificated carriers in unscheduled flights or op-

Atop the tower cab at Dallas-Fort Worth Regional Airport, which was certificated last January, electronics technician A. J. Branam adjusts a communications antenna.

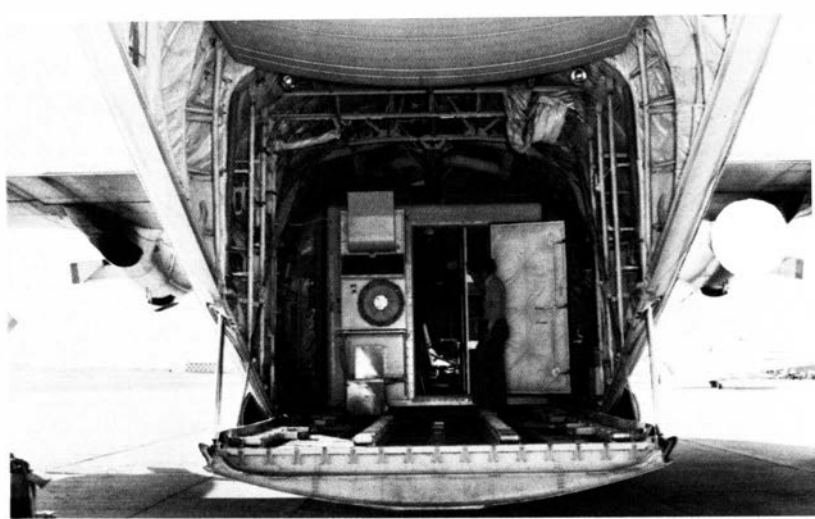




**AERONAUTICAL CENTER**



One of last year's projects for the Civil Aeromedical Institute (CAMI) was testing the rapid evacuation of the handicapped from a downed airliner using its evacuation simulator, which can be raised to 20 feet and can be tilted hydraulically about 15 degrees.



ET Warren Dimmick, Avionics Maintenance Section of the Aircraft Services Base, inspects a flight-inspection module inside an Air Force C-130. The ASB developed the scope and estimates for the mobile package, which can be removed or installed in five minutes.

Leo Suter of the Flight Inspection National Field Office (FINFO) works the solid-state console in a new Jet Commander. The console has all the capability of the larger ones, but is only one-fifth the weight and size of them.



Foreign nationals train in many courses at the FAA Academy. This class for flight-inspection pilots/technicians includes (left to right) Bernt Reppe, Norway; Mohamed Heroual, Algeria; Omar Barayyan, Saudi Arabia; Julian Herrera Vargas, Peru; Lahcen Kouider, Algeria; and Chae Mu Cho, Korea, seated at the console.



New at the Aircraft Services Base is this truck-mounted 42-foot boom with two-man basket designed for washing and de-icing aircraft. It has 1,000-gallon heated tanks for solutions, ground level hose reel and spray gun, pumping systems and cab-to-basket communications system.





erations with small aircraft received provisional operating certificates in 1974. The method for final certification of these additional airports was set forth in an amendment to FAR Part 139, which permits tailoring safety requirements necessary for the

type and frequency of certificated carrier activities anticipated.

The agency also gave technical assistance to communities and states for training programs for firefighters at certificated airports.



*The Northwest Region's first Airport Operating Certificate for an airport serving non-scheduled supplemental air carriers was issued to King County International Airport (formerly Boeing Field).*

## PITCHING GOOD RELATIONS

By law and by inclination, FAA is committed to making good neighbors of airports. Administrator Butterfield last year called upon region and center directors to foster committees for airports—citizen groups that will work for better understanding between an airport and its neighbors.

In San Jose, Calif., a sympathetic and vigorous effort to improve airport-community relations netted tower chief Olen Young an Award for Superior Achievement. Young said in retrospect, "Little did we know the success we were going to experience." Typical of the regional responsiveness to the Administrator's program was the New England Region where several airport committees have been formed. In each, FAA personnel are working closely with community members to promote the ideas of airport safety and usefulness.

At Dulles International Airport, a relocated navigation aid was named in honor of a neighboring

family who became very friendly with tower controllers. It's the Armel VORTAC, for Larry and Betty Armel.

As the year ended, approval was near on a re-drafted agency order spelling out FAA's responsibility to see that appropriate consideration is given to environmental impacts before Federal money is spent on airport development.



*The Great Lakes Public Affairs staff—Marjorie Kriz, PA officer Neal Callahan and Warren Holtsberg—assembles over 6,000 slides into 45 "Airports Mean Business" slide shows for distribution to facilities around the region.*

Photo by William Pitchford

# PEOPLE NEW FACES IN PLACES

Although the building still looks the same, Washington Headquarters lifted its face during the year. New offices and office heads are: Associate Administrator for Aviation Safety, James R. Rudolph; Associate Administrator for Air Traffic and Airway Facilities, William M. Flener; Associate Administrator for Airports, Robert F. Bacon; Deputy Associate Administrator for Policy Development and Review, Frederick A. Meister, Jr. (and Acting Associate Administrator); Office of Personnel and Training (a combination of two formerly separate offices), Director, F. E. Whitfield; Deputy Director, Donald B. Rock; Metropolitan Washington Airport Service Director, James T. Murphy; Civil Aviation Security Service Director, Richard F. Lally; Office of Aviation Policy, Acting Director, David J. Sheftel; Deputy Director, Milton



*James Dow took the oath of office as Deputy Administrator in August from Secretary of Transportation Claude Brinegar, as Mrs. Dow held the Bible.*

B. Meisner; Office of Aviation System Plans, Acting Director, Thomas P. Messier; Office of Investigations and Security, Acting Director, James M. Yohe; Acting Deputy Director, Alan W. Read.

Eliminated, with functions transferred to other offices, were: Associate Administrator for Operations; Quiet Short Haul Air Transportation System Office; Office of Air Transportation Security; Office of Appraisal; Office of Aviation Policy and Plans; and Office of Aviation Economics.

## COLLEGE BECKONS FAAERS

With its beginnings only two years ago in Long Island, N.Y., and Nashua, N.H., the Federal Aviation After-Hours College Opportunity Program (FAACOP) caught fire in 1974, thanks to the initiative of FAA employees and the Office of Training, which contracted with a consultant to undertake prototype efforts. By year's end, there were more than 35 college programs involving 1,194 enrolled FAAers.

The basis of FAACOP is an agreement negotiated by employees in an area with a college at which FAAers can pursue degrees, frequently at lowered tuition rates and with up to two years of credit

*Members of a higher education committee discuss FAACOP at Milwaukee's Mitchell Field. From the left are Robert Gerde, GADO operations inspector; Donald Carter, Milwaukee AF Sector SET; Ronald Tuck, Mitchell Field controller; and Christine Fitas, Timmerman Airport controllers.*



granted for FAA training and other college work. Classes often can be arranged to suit shift jobs, held at the college or the facility. Initially, a few employees organize a higher education committee that surveys the facilities for employee interest, goals and educational background, then selects the college, negotiates the agreement, promotes the program and keeps employees informed on developments.

During 1974, 78 FAA employees were graduated from colleges around the country under FAACOP.

*Houston's ivy-covered halls for center controllers Gene Monroe (left) and Billy Mills is a hangar at Intercontinental Airport. Classes are conducted by Prairie View A&M.*



# Epilogue: The Promising Road Ahead

We have taken a look at some of the highlights of the past year in the FAA. I think it's fitting that we turn our faces for a look at the future—to this new year and beyond.



While the forecasts of aviation activity during the second half of this decade have been revised downward from earlier projections, aviation is a growing industry with growing demands on the airspace system. Our current long-term forecasts indicate that requirements for air transportation will continue to increase, and that the fuel situation

will have a minimal long-term impact on aviation. There has been no leveling off of airport development and planning requests, and there continues to be a need for better airports and advanced air traffic control systems. In sum, the mandate for pressing on with the FAA's mission remains.

Although considerable emphasis has been given system modernization to keep pace of demand, significant amounts of our resources will be consumed in maintaining, improving, replacing or relocating much of the older equipment now in use.

Along with the machines, our personnel remain an indispensable ingredient—for it is they who develop the technology; it is they who learn to operate and maintain the equipment; it is they who train others and provide support. As air traffic increases, we expect our manpower requirements will increase also—from the Fiscal Year 1975 level of 56,307 full-time, permanent positions to nearly 63,000 by FY 1980. The skill and dedication of all will continue to be essential to our success.

In addition to some of our activities related elsewhere in this issue, modernization of the system will entail completing the automation of enroute facilities, including conflict alert and conflict prediction and resolution, and improving the man-machine interface and ATC procedures to relieve controllers of routine tasks.

We are also working toward the automation and tying in to all centers of the central flow-control facility, enabling it to better forecast air traffic volume and potential congestion.

Other plans call for the development of a discrete-ress beacon system to improve surveillance and provide an automatic air-ground data link.

In addition to ARTS II and III at terminals,

we are looking forward to extending tower control to additional air-carrier and general-aviation airports and to establishing modern airport surface-guidance aids.

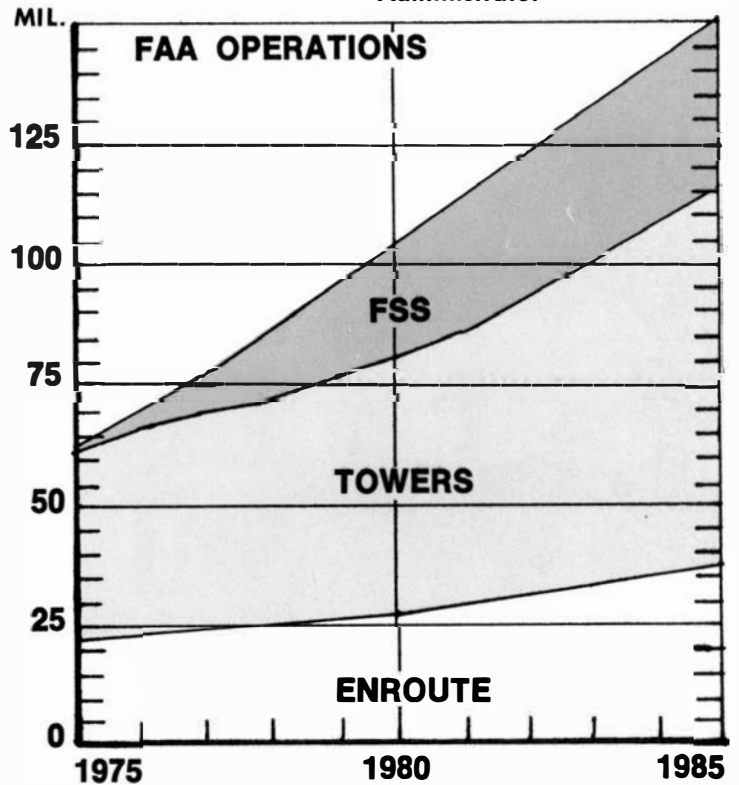
We expect to continue with reconfiguring, modernizing and automating our flight service stations.

The coming years will see us expanding area-navigation routes, upgrading the coverage and accuracy of VOR/TACAN and increasing investigations into the capabilities of various long-distance navigation aids. We also will be improving ILS antennas for use at difficult sites, increasing the number of runways equipped with landing systems and providing assistance through ADAP for navigation aids within the standardized public system.

Certainly, we will have to pursue the maximum compatibility between the aviation system and the community by seeking to develop and enforce reasonable noise regulations, encouraging land-use planning near airports and minimizing air pollution.

In truth, FAA's program continues to touch every aspect of air transportation. Our objective is a balanced airport/airways system designed to cope safely and efficiently with the growth of aviation. I have no doubt that we will meet tomorrow's needs.

*Alexander P. Butterfield*  
ALEXANDER P. BUTTERFIELD  
Administrator



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