U.S. Department of Transportation
Federal Aviation Administration

# FAA World

March 1989
Volume 19 Number 3

# The Pulse of a Training Revolution

By Jo Ann Sloane

"We are in the early stages of a revolution," FAA Academy Acting Superintendent Douglas Murphy told an audience of over 400 people meeting in Oklahoma City this past winter. They had gathered to lay the groundwork for a revolution in the way air traffic controllers are trained.

"We currently have a 40 percent washout rate that is costing the FAA $14 million per year," explained Robert Whittington, Executive Director for Policy, Plans & Resource Management. "Our training methods are outdated for the new equipment we have and will have at our centers and towers.

"A good example of this is on-the-job training. We need to get rid of OJT and use more simulation, which is more efficient and can train a controller in less than half the time it now takes," he continued.

This first-ever Symposium on Air Traffic Control Training for Tomorrow's Technology was hosted by the Aeronautical Center and attended by members of academia and private industry, as well as interested parties from nine countries—Canada, France, Belgium, Brazil, Indonesia, Great Britain, Sweden, Luxembourg and Germany.

Dr. V. David Hopkin, head of the General Psychology Section of the British Royal Air Force Institute of Aviation Medicine and consultant advisor to the Civil Aviation Authority on human factors aspects of air traffic control, set the tone for the two-day session in his keynote address with some provocative questions and comments.

"We have to have interdisciplinary

*(Continued on page 6)*

*A public information specialist in the Office of Public Affairs, Ms. Sloane is a former European correspondent and Washington reporter for United Press International.*

# Inspecting the Bottom of the World

By John Allegra

Recently, I was one of three FAA employees who was given an opportunity to participate in a unique adventure: flight checking navigation aids in Antarctica.

Our trip to the "bottom of the world" was in response to a request from the U.S. Navy, which supports the National Science Foundation's research program in Antarctica. The United States is one of 18 countries actively engaged in scientific research in Antarctica and maintains three year-round stations there—McMurdo, Amundsen-Scott South Pole and Palmer.

As manager of the Honolulu Flight Inspection Field Office (FIFO), I was picked to head the FAA team. My teammates were two airborne electronics technicians—Humphrey Russell, also from the Honolulu FIFO, and Christian Hafer from the Anchorage FIFO. Originally, we were scheduled to depart in December 1987, but that was deferred by the Navy to November 1988.

Because FAA does not have an aircraft fully capable of conducting flight inspection in Antarctica, the Navy agreed to use one of its ski-equipped LC-130 Hercules for the facility checks,

*(Continued on page 8)*

*Mr. Allegra is the manager of the Honolulu, Hawaii, Flight Inspection Field Office.*


*One small step for mankind... FAA's FIFO team of (left to right) Humphrey Russell, Christian Hafer and John Allegra plant their flag among the others at the South Pole, the exact point of which is marked by the "barber pole" behind Allegra.*

## In This Issue

FAA World

March 1989

**Secretary of Transportation**
Samuel K. Skinner
**FAA Administrator**
T. Allan McArtor
**Assistant Administrator—Public Affairs**
Kathleen Harrington
**Manager—Public & Employee Communications Div.**
John G. Leyden
**Editor**
Leonard Samuels
**Art Director**
Eleanor M. Maginnis

FAA WORLD is published monthly for the employees of the Department of Transportation/Federal Aviation Administration and is the official FAA employee publication. It is prepared by the Public and Employee Communications Division, Office of Public Affairs, FAA, 800 Independence Ave., S.W., Washington, D.C. 20591. Articles and photos for FAA WORLD should be submitted directly to regional FAA public affairs officers.

John Clabes—Aeronautical Center
Paul Steucke, Sr.—Alaskan Region
Robert Raynesford—Central Region
Kathleen B. Bergen—Eastern Region
Morton Edelstein—Great Lakes Region
Mike Ciccarelli—New England Region
Richard Meyer—Northwest Mountain Region
Jack Barker—Southern Region
Geraldine Cook—Southwest Region
Holly Baker, acting—Technical Center
Barbara Abels—Western-Pacific Region

# The President's Wingman

*Samuel Skinner (left) takes the oath of office in the FAA auditorium from Judge Joel M. Flaum as President George Bush looks on. Skinner's daughter, Jane, holds the Bible. This was the first swearing-in at FAA attended by a President.* Photo by Bob Laughlin

Samuel Knox Skinner was sworn in as the tenth Secretary of Transportation on February 6, 1989.

By now, you may be aware of his credentials as chairman of the board of directors of the Regional Transportation Authority of Northeastern Illinois, the second largest public mass transit system in the country, and U.S. Attorney for the Northern District of Illinois. You may also know that he is an experienced, instrument-rated pilot who flies his own Beech Bonanza.

You may not be aware that, according to former Administrator Allan McArtor, "He's a student of aviation history. He collects aviation art. He loves aviation." And you probably are not aware of his thinking on matters that concern the Federal Aviation Administration.

What follows are quoted excerpts from his U.S. Senate confirmation hearings and speeches, which may serve to introduce the new DOT Secretary to you.

"We must keep our aviation system both safe and competitive.

My principal goal [is] to develop a new national transportation policy that strengthens both our national security and our economy. A national transportation policy will enable industry to provide efficient, competitive delivery of goods and services and must be one that delivers the public to its destinations quickly, efficiently, at the right price and safely.

I will work to preserve and foster competition in the airline industry—to ensure that air carriers can enter and exit markets easily. The fact that one or two air carriers 'dominate' a major hub airport does not necessarily imply a lack of competition in that market.

## Airports

I will be personally involved in developing a national strategy that will lead to the provision of needed airport capacity.

I believe it is largely possible to continue to decrease the population exposed to adverse levels of aviation noise without decreasing airport capacity [but] I would challenge local noise-abatement proposals that are clearly arbitrary or discriminatory or which impose an undue burden on interstate commerce.

## Aviation Safety

As both a pilot and a 'frequent flyer,' I fully recognize the significance of aviation safety and will do everything possible to improve on an already commendable record. I admire and respect the dedicated men and women staffing the FAA and an industry that makes aviation safety its first and foremost priority.

While we cannot and should not rest until we have an error-free system, it is important to recognize that, on the merits, the system is safe and improving. If we compare commercial aviation safety for the 10 years after airline deregulation (1979-1988) against the 10 years before, we find that there has been an increase of more than 40% in total flight hours, but a decrease in the accident rate of 39% and a decrease of 46% in the fatality rate. Airline deregulation has not reduced air safety; rather, it has shown substantial and continued improvement since 1978.

The next FAA Administrator will receive whatever assistance he needs from me to pursue an even better safety record than the outstanding one we have today. General aviation is also showing continuing safety improvements, with the number of fatalities cut in half since 1978 and the fatal accident rate for 1987 and 1988 at its lowest level ever. Nonetheless, I believe that there is always room for improvement.

***People:*** FAA must be permitted to hire sufficient numbers of air traffic controllers, security specialists, airline inspectors, and maintenance technicians to ensure that aviation safety is not only maintained but enhanced. I and most certainly the FAA Administrator would press very hard for full and adequate staffing in all these areas.

Part of this planning includes timely efforts to revamp the recruitment and training process to ensure hiring and increased proficiency. It is also my intuitive belief that the current "pay demonstration" effort at important air traffic centers will not only attract full staffing but may also improve safety through greater staff stability.

***Hardware:*** I am going to make every effort—with the FAA Administrator—to see that the NAS Plan and its major modernization of the air traffic control and air navigation system goes forward as quickly as possible and with a budgetary framework that makes sense. It is important that the Congress and the public renew its 1981 recognition of the importance and sophistication of the NAS Plan, as well as its more up-to-date components. We must ensure, consistent with our budgetary limitations, that we provide state-of-the-art technology across the board in the aviation system to maximize not only safety but efficiency and passenger convenience.

***Procedures:*** There are many hardware-oriented or technical areas that will continue to be the subject of rulemakings and directives. Some of the actions with the most safety pay-off are already underway, such as the implementation of the windshear avionics and traffic alert and collision avoidance rules. Work is also continuing on occupant crash and post-crash protection requirements—airline seat and baggage compartment retrofit, for example.

***Aging Aircraft:*** In addition, I believe the aging aircraft issue should receive high-priority attention. As aircraft continue to age while remaining in our fleet, ever-increasing scrutiny has to be given to matters like corrosion-projection programs, more-stringent inspections and maintenance and possibly to mandatory replacement of certain aircraft components after a certain number of cycles, flight hours or years.

The answers will have to be found by the FAA, the airlines and the manufacturers all working together. I am satisfied with the level and quality of the joint actions already underway. I do not believe we have any evidence to date that would support the mandatory retirement of aging aircraft, if the aircraft have been properly maintained.

***Pilot Performance:*** An area calling for even greater attention is the performance of the human being—in air traffic control, in the cockpit and on the maintenance line. I strongly support mandatory random drug-testing of employees who hold safety-related positions in this industry. The constitutional safeguards in this area must be honored, and the individual's privacy and dignity must be upheld.

*In 1986, then Chairman of the Board of Directors Samuel Skinner (center) attends a meeting of the Regional Transportation Authority of Northeastern Illinois.*

I am especially concerned about pilot performance because of the human errors associated with many of the recent commercial aviation accidents. NASA studies performed over the last 10 years indicate that more than 60 percent of fatal air carrier accidents were not directly linked to mechanical failure or lack of pilot skills but rather to a breakdown in cockpit communication. These NASA studies point to a deficiency in present recurrent training in areas related to human factors.

Thus, a number of training initiatives that I am told are in process will be given very high priority. As the average level of pilot experience drops and cockpits and aircraft become more and more sophisticated, these measures will become increasingly important.

## Agency Management

As a pilot, I have a deep appreciation for the duties and responsibilities of FAA, and I have a very high regard for the men and women who staff the agency. I am also very much aware that commercial air traffic has greatly increased over the past 10 years and will continue to do so. The scheduled aircraft miles flown, for example, in 1988 increased some 65 percent from those flown in 1978—the year the Airline Deregulation Act was passed.

While I have an open mind concerning the DOT-FAA relationship, I believe that aviation is an integral part of a national transportation system, and over-arching aviation policies must be developed within that context. Day-to-day management, however, is the responsibility of the FAA Administrator.

I will avoid micromanagement—not only of the FAA but of all modes. However, whenever I or my staff can assist in getting the agency the budget it needs, suggest regulatory changes that will better comply with requirements and facilitate acceptance by OMB, or push for faster action on badly needed safety initiatives, I intend to exercise leadership and be decisive.

In addition, there will undoubtedly be major policy areas in which the Secretary of Transportation must be the ultimate decision maker. If there is to be an effective Transportation Department which implements national transportation policy across and within all modes, the Secretary must provide the leadership and must exercise final judgment; I intend to do so.

## Security

No one country or carrier should have to stand alone in matters of security. It is only by joining together that we can secure international civil aviation from acts of terrorism.

[FAA has taken] decisive action to tighten security requirements on U.S. air carriers operating out of airports in Western Europe and the Middle East. We have also enhanced security at U.S. airports. While each country must bear its own burden, we must recognize that the terrorist threat is a global one, and that alleviating the problem in one place will only cause it to appear in another.

[FAA is] examining further measures that can be taken on a global basis to enhance security while respecting sovereignty.

The international airline traveler can be assured that additional steps are now being taken [as a result of a recent ICAO meeting] to make international air travel an even safer mode of transportation. ■

## Securing the National Security Award

*Former Emergency Preparedness Officer Ed Timm (left) was recently presented with the Civil Aviation Security Director's Award by FAA Technical Center Director E.T. Harris. Timm, who is now a special assistant to the Technical Center director, received the award for his contributions to civil aviation security programs, which included a major cross-country FAA/FBI anti-hijacking, crisis-management exercise.*

# The Folks Who Made Things Happen

**"You have confronted challenges in affirmative action and in the process reshaped policies that affect FAA."**

Nineteen FAAers representing seven regions, headquarters and the two centers were recently honored with the agency's highest award for achievement in equal employment opportunity.

Granted only by the Administrator, the Awards for Superior Achievement were presented to those individuals "who have made equal employment opportunity and public service important parts of your lives," said Administrator Allan McArtor. "You have confronted challenges in affirmative action and in the process reshaped policies that affect FAA."

Speaking at the twelfth annual awards ceremonies, the Administrator said, "These are the folks who make things happen and have excelled in contributing actively to FAA's EEO goals. They have achieved outstanding results through unusually effective leadership, skill, imagination, innovation and perseverance."

An example of such innovation and perseverance is Marilyn Dickey, administrative officer at the Lubbock, Texas, Tower. Her outreach program began with arranging recruitment interviews at local television stations and placing ads in a university newspaper.

She followed up with mailing announcements to interested individuals, then tracking these candidates and arranging for orientation sessions with controllers at the tower.

Working with the Office of Personnel Management, she established a testing program for Lubbock. She recruited so many applicants that 50 turned out for the first test last June. She has helped test more than 540 applicants, of whom more than 170 were minorities and women. At least 43 passed the air traffic entrance examination, including 18 minorities and women.

A supervisor who made things happen through leadership is Bill Hendricks, director of the Office of Accident Investigation. He stresses the need for a measurable, results-oriented EEO effort on the part of his managers and provides full backing for stay-in-school and summer-hire programs. One measure in the past year is that his female staffing has risen eight percent to 41 percent of the office total.

While reciting the EEO gains that FAA has made, the Administrator emphasized that "substantial progress is still needed in the FAA's mainstream—technical operations. We have much work to do, and we'll do it better and faster if we work together." ■

*Equal employment specialist Bobbye L. Gorden, flanked by Executive Director for Policy, Plans & Resource Management Robert Whittington (left) and Administrator Allan McArtor, won an EEO award for her minority recruiting efforts for Air Traffic Pre-Test Briefings. Looking on is her boss, H.C. McClure, director of the Aeronautical Center.*

*Administrator McArtor congratulates award recipient Oliver Murdock (left), Great Lakes airport planner, who conducted successful outreaches and recruitment in Detroit minority and community organizations.*

*A Superior Achievement Award went to Johnnie Terry-Flemming, manager of Central Region's Management Systems Planning & Evaluation Branch, here honored by Executive Director Robert Whittington (left) and Administrator McArtor.*



*Great Lakes aviation safety inspector William Youngblood (right) accepts a Superior Achievement plaque from Administrator McArtor for his achievements in boosting aviation career opportunities.*

*Executive Director Whittington (left), Administrator McArtor (center) and New England Regional Administrator Arlene Feldman honor Samuel Strier, manager of New England's Logistics Division, and Dominic Johnson (right), formerly quality assurance and training specialist in the Eastern Region, now with New England Region. Another Eastern Region awardee not shown was Gerald Shipman, manager of the Employment and Staffing Branch.*

*For her work as regional chairperson of the Federal Women's Program, Alaskan Region program analyst Nancy L. Green won a Superior Achievement Award. Administrator McArtor (left) and Alaskan Regional Administrator Frank Cunningham share her joy.*

*Wayne Barlow (left), Executive Director for System Operations, joins Administrator McArtor (right) and Southwest Region EEO award recipients Larry L. Craig, Air Traffic Division manager, and Marilyn R. Dickey, administrative officer.*

*Recognized for their efforts in recruiting minorities and women in the Western-Pacific Region were air traffic control specialist James D. Swanson (left) and Nina D. Adams, manager, Human Resource Operations Branch.*

**Photos by Lance Strozier**

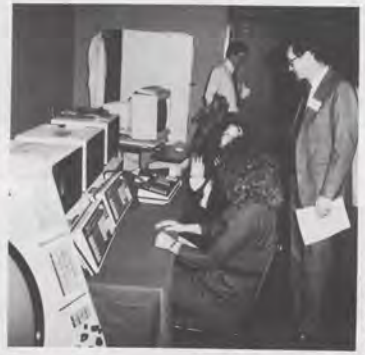
*Washington Headquarters was represented in the EEO awards, too. From the left are James R. Clinton, manager, National Enroute Field Support Maintenance Branch, Air Traffic Plans and Requirements Service, at the Technical Center; Michael P. Goldfarb, former chief of staff; Naite R. (Tina) Mallory, manager, Consumer Hotline; Administrator McArtor; Rosalyn A. Asbury, air traffic staff specialist; and William R. Hendricks, director, Office of Accident Investigation.*

*Both Luther C. McClellan (left), supervisory computer systems analyst at the Technical Center, and his boss, Edward T. Harris (right), director of the Technical Center, received EEO Superior Achievement Awards from Administrator McArtor.*

## Training Revolution

continued from page 1

*Delivering the symposium's keynote address is V. David Hopkin, director of the British Royal Air Force Institute. Listening on the dais are (from the left) David Carmichael, deputy director, Aeronautical Center; Frederica Dunn, Office of Training and Higher Education; Robert Whittington, Executive Director for Policy, Plans & Resource Management; and William Pollard, Associate Administrator for Air Traffic.*



*An ATC training demonstration was offered in an exhibition area at the Oklahoma City hotel where the symposium was held.*

collaboration; no more small fiefdoms, no special bailiwicks," he chided the group. "Interdisciplinary collaboration sounds fine in principle. Its corollary—that each discipline may seek to influence matters hitherto treated as the prerogative of others—can be an unacceptable consequence for many and seem too high a price to pay for collaboration," he said.

"Yet the general objective, in the future as in the past, must be to ensure that the safety, orderliness and expedition of air traffic flows are maintained and enhanced, with improved productivity and high cost effectiveness."

Hopkin asked the attendees to think about the question of what kind of skills "are we taking away with the new machines we are going to be using? What will really be needed in the long run?" he asked. Machines make things easier but not necessarily more fun or interesting, he pointed out. "People have higher expectations now; they don't want boring jobs." He said this aspect must be taken into consideration in any future training program.

Panels discussed broad subjects such as the future of air traffic training, approaches to training development, advances in training technology and the air traffic point of view of new approaches and technology.

Nearly everyone agreed that things had to be done differently. One panel member called the current training program irrational. Another said that problem-solving skills are not well taught. The major problem is, however, that there are no professionally trained teachers, the latter said.

Dr. Walter Schneider of the University of Pittsburgh felt that the present high failure rate was not necessary. "Experts are trained, not born," he said. He also suggested that controllers should be involved in the design phase of new training techniques and that new methods should not be tested on people whose careers depend on it. "How well is someone learning from a poorly designed test?" he asked.

The final panel of the session was composed of air traffic managers who expressed their frustration with the problems in the present training program and echoed the great need for change.

Jim Caudle, manager of the Executive Staff in the office of the Associate Administrator for Air Traffic, said the main problem is the high failure rate and the length of time it takes to train an FPL (full performance level) controller. "Training has been by evaluation, trial by fire and sink or swim," he said. But some corrections have been made. "We have now separated evaluation from certification, and a certification course is being developed at the Academy. What we need to do now is to improve recruitment," he added.

The Academy's Murphy expects to increase overall Academy enrollment and training by two thirds and air traffic training in particular by 70 percent this year. Next year, the Academy training will double, he says.

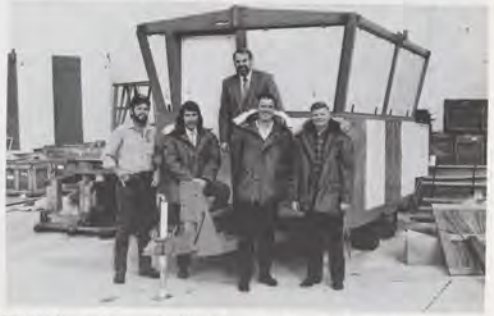
Western Pacific Region Air Traffic Division Manager Jacqueline Smith reiterated the theme that things must be done differently. As an example, she said that one facility has 24 FPLs and 25 developmentals. "We need more capacity. People are in line for training at some facilities," she said.

Jimmie Walker, manger of the Minneapolis ARTCC, expressed concern about motivating older controllers "to change and to stay in the system. How do we overcome resistance to change?" he asked, saying that we must "convince today's FPLs to accept controllers trained differently."

Atlanta Tower Manager Harry McIntyre suggested that more attention needed to be paid to proficiency training after a person has reached FPL. One thing that is needed, he said, is a quality listening course. "Operational errors are made because the controllers don't catch erroneous pilot responses. A lot more training is needed in that area, perhaps elocution lessons."

Participants called the symposium a complete success and felt that the conference was a very worthwhile effort—worthwhile enough to hold a second symposium a year hence. ■

## Good Samaritans in Waiting



*Five FAA Depot volunteers—(l-r) Marvin Beatty, Eldon Jamison, Ray Bradford, Stanley Rowlett and Jack Mechan—spent nearly a month in readiness to fly off to earthquake ravaged Soviet Armenia with hastily assembled mobile tower cabs and generators, following a State department request. The short fuse complicated support logistics for this quintet of electromechanical and equipment specialists, who needed cold-weather clothing, food, water, fuel, shelter, passports and immunizations. They were ready to fly but eventually had to stand down when the need abated.*

Photo by Jack Irwin



*Members of an in-house sign-language class flash warm smiles and a friendly "h-e-l-l-o" in the Great Lakes regional office. From left: Tim Forté, regional administrator; Georgene McDonough and Roger Ferguson, airspace specialists; Rexanna Gloeckle, airspace clerk; air traffic technician Angeline Perri, who taught the class; and Martin McDonald, quality assurance specialist.*

# REACHING OUT IN SILENCE

**By Linda Ross**

**Photos by B.P. Thompson**

*Leon Thornton, personnel clerk in the Human Resource Management Division, uses the keyboard of a special telecommunications device that allows HRM employees to communicate over phone lines with the hearing-impaired. The words from both sides of the conversation are displayed on a special read-out screen built into the machine.*

The Great Lakes Region has been opening the doors of opportunity for hearing-impaired individuals for more than three years. With the support and encouragement of management and employees, we have proven that hearing-impaired people can play a vital role in a productive workforce.

It all began in 1985 when the Human Resource Management Division was searching for temporary employees to assist in Air Traffic recruitment. Two hearing-impaired applicants were interviewed. At the time, only one person in the division knew sign language and could interpret. However, it became apparent during the interview that the hearing-impaired individuals could lip-read and communicate effectively without an interpreter. Both applicants were hired and are still FAAers.

The Air Traffic, Airway Facilities, Flight Standards and Logistics divisions have continued this special-emphasis hiring. Ten hearing-impaired employees are now working in the Great Lakes Region.

Their coworkers not only broke through the social and physical barriers that face these people but also became interested enough to learn sign language to communicate better. Because of their interest, two on-site sign language classes were conducted for regional employees. Some students continued to increase their skill by attending further classes. As a result, one former student is now teaching another in-house class for her division.

Communication is a two-way street for sending, receiving and interpreting messages. Although it may be ideal for people to use the same tools and instruments, it is not always necessary. Nonverbal communication is often as useful as the spoken word. Hearing-impaired people rely on a variety of forms of communication:

- Sign language consisting of hand and arm movements that represent ideas and concepts,
- Fingerspelling, which uses hand shapes to represent letters of the alphabet,
- Facial expressions to set the tone and establish the context of the conversation and
- Lipreading to visualize the spoken word.

Through training, nearly all hearing-impaired individuals in our society have the ability to communicate by these methods. Some are more accomplished than others and can communicate as normally as hearing people. However, this does not mean that they are any more talented than someone with less training or skills.

The best way to approach communication with a hearing-impaired individual is to ask what methods they would prefer to use to communicate.

You may have discovered that some hearing-impaired people have speech that is indistinct, while others have speech which is readily understandable. This difference is due to the level of training and their ability to use the vibration of their vocal cords to form sounds into words.

The performance of our hearing-impaired employees continues to demonstrate the wisdom of reaching out to tap this segment of the workforce. The region is proud of the success and ability of its hearing-impaired as well as of the support of their coworkers and management.

*Ms. Ross is a personnel staffing specialist and selective placement coordinator for the Great Lakes Region. In 1987, she received the Secretary's Award for outstanding achievement in equal opportunity.*

*D. Gene Bowden (left), supervisory personnel staffing specialist in the Human Resource Management Division, uses an electronic amplifying device to communicate with HRM clerk Diane Tokarz. The device allows Diane to pick up 50% of audible sounds.*

Last year, Christine Pavliny, a hearing-impaired employee, was one of seventeen handicapped employees in the FAA to be nominated for the FAA's Outstanding Handicapped Employee of the Year. She is a good representative of the spirit and dedication of the region's silent workforce. ■

*Jerry Martinez (left), an inspector at the Chicago Air Carrier District Office, uses knowledge gained as a graduate of the region's first sign-language class to communicate with ACDO clerk Gerald Raskin.*

## Antarctica

continued from page 1

with FAA providing the avionics—a Sierra Portable Flight Inspection System (PFIS). The equipment was installed on a standard cargo pallet by Honolulu FIFO personnel, with technical guidance from the engineering staff at Oklahoma City. On Oct. 14, 1988, the pallet was airlifted from Honolulu to McMurdo Station to await us.

We left Honolulu November 4 on a commercial flight to Auckland, New Zealand, and flew on to Christchurch, N.Z., which is the staging area for personnel and supplies bound for Antarctica. There each of us received a large duffel bag containing an assortment of winter clothing needed to survive the harsh and frigid Antarctic weather. Included were long johns, fur-lined parkas, clumsy but highly efficient thermal "bunny boots," furback mittens and inner and outer trousers.

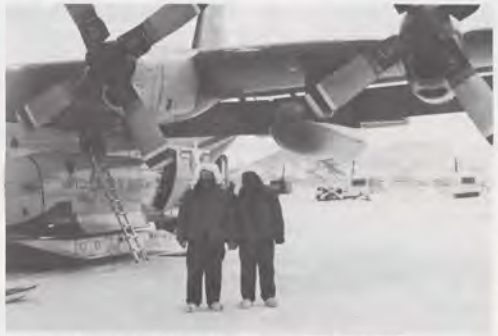
From Christchurch, we flew to McMurdo Station November 6 in an Air Force C-141 that carried mostly cargo and had space for only 28 passengers. With everyone wearing winter gear, the flight reminded me of a ride on the New York City subway during rush hours—only this ride lasted 5½ hours.

The aircraft landed on the 10-inch-thick ice runway at McMurdo Sound, which remains operational until the ice breaks up about the end of November. From then until summer ends around February or March, only ski-equipped aircraft can fly into and out of McMurdo. They use the "skiways" at Williams Field on the McMurdo Ice Shelf, which never thaws, some seven miles from McMurdo Station.

The two facilities that required flight inspection and certification at McMurdo Station were the TACAN radio navigation aid at Williams Field and the Precision Approach Radar (PAR) that serves the ice runway on McMurdo Sound until the thaw and then is moved to Williams Field.

The following day, with temperatures at 0°F, we visited the TACAN site and made celestial observations of the sun to determine a reference for the theodolite (similar to a surveyor's transit) orientation to "Grid North," which at McMurdo Station is 193° from True North. Air navigation bearings, courses and radials in the polar regions are referenced to Grid North or Grid South because the magnetic compass becomes highly unreliable and the geographic meridians converge at acute angles—making precise air navigation very difficult.

We didn't get to do flight inspections for two days, however, due to a combination of inclement weather and aircraft unavailability. We used the time to discuss technical matters with the Navy personnel and acclimate ourselves to our new surroundings.



*A ski-equipped Hercules bound for the South Pole awaits Hafer and Russell.*

Since there are 24 hours of sunlight during this time of year in Antarctica, mental adjustments had to be made to our waking and sleeping cycles. Fortunately, the bachelor officers quarters where we stayed—four people to a room in upper and lower bunks—are windowless, so that somewhat eased the transition. We also had to adjust to a problem with the water supply, which restricted personnel to a pair of two-minute showers per week. But, then, you shouldn't expect all the comforts of home at the bottom of the world.

Meal times were a highlight of our stay. The food was wholesome Navy chow, but dining also was a social occasion, which brought together all personnel stationed or transiting through McMurdo Station.

Finally, on November 9, we went to work. The weather at the South Pole had improved, and a Navy LC-130 was scheduled to fly there. The Pole lies 728 nautical miles south of McMurdo Station, and the flight took us over spectacular scenery. We landed on a 14,000-foot snow skiway. The packed snow and ice here is 9,000 feet thick. We had the thrill of seeing the geographical South Pole marker, surrounded by flags of the various nations, and the opportunity to "walk around the world" in less than one minute. The weather was excellent—clear blue skies and temperature at −50°F with practically no wind, which made conditions tolerable.

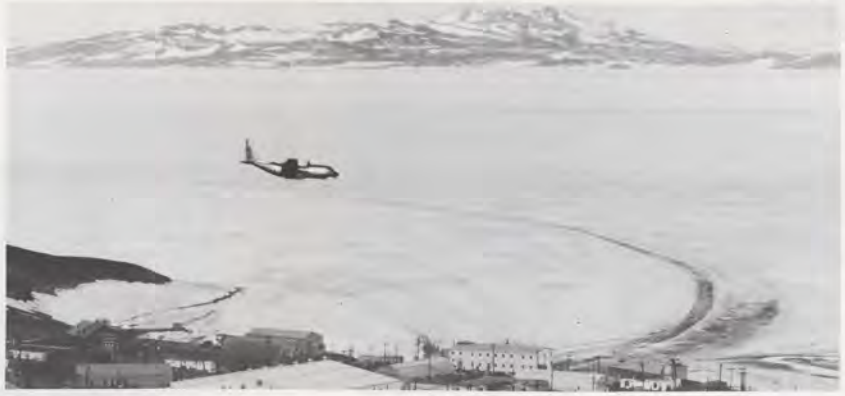
*The author (center) and Christian Hafer (right) orient the theodolite to "Grid North" at the Williams Field TACAN site at McMurdo Station.*

The Navy has two facilities at the pole, a PAR and a TACAN, which serve the skiway with Standard Instrument Approach Procedures (SIAPS). After properly orienting the theodolite to Grid North, we did the flight inspection of the TACAN. Upon completion, the theodolite was repositioned and used as a reference for the PAR certification. Both facilities checked out properly.

I think I should explain that the theodolite is used as a reference to determine the aircraft's azimuthal, or horizontal, bearing in space. A comparison of the bearing radiated by the facility and the aircraft's bearing in space, based on the theodolite sightings, indicates whether there is a facility error. Excessive bearing error and other parameters beyond the level of established criteria require adjustment of the facility before acceptance so as to preclude facility restriction or rejection by the flight inspector.

Once the job was done, equipment and cargo were reloaded on the aircraft, without shutting down the engines, and the LC-130 took off for McMurdo Station. A take-off in a LC-130 with skis is an indescribable, unforgettable experience and a tribute to the skill of the Navy's pilots.

The trip back to McMurdo was just as spectacular. Looking down from 20,000 feet at the vastness, solitude and ruggedness of the snow and ice-covered terrain, it was easy to imagine the loneliness and hardships that the explorers Scott and Amundsen endured during their treks to the South Pole.



On November 11, with the temperature at McMurdo Station a mild +15°F, we checked the TACAN and PAR. During the TACAN inspection, we found anomalies in several areas, which resulted in restricting these areas as unusable. In addition, we recommended the suspension of a TACAN SIAP to one of the skiways at Williams Field because the published approach radial did not meet the procedure's alignment criteria. The PAR also was checked and certified with theodolite reference.

We returned to Christchurch on a C-130 November 13 and then to Honolulu on commercial airlines, closing out a journey that saw us log more than 14,000 miles in the air.

That may not be the end of it for us. The Navy has indicated that it will be requesting an annual FAA flight check of the Antarctica facilities, and those responsibilities will increase with the planned commissioning of an ASR-8 radar at McMurdo Station.

Keep my duffel bag ready! ■

*Electronics technician Humphrey Russell takes his turn working the portable flight inspection station aboard the Hercules.*

*A forklift loads the palletized Sierra Portable Flight Inspection System aboard the Navy LC-130 Hercules being used for flight-inspection duty.*

# The Mother of Invention

By Billy L. Nabors

A helicopter would have been ideal for replacing the 36-inch rotating beacon atop the 153-foot water tower at Bobby L. Chain Municipal Airport in Hattiesburg, Miss., but none was available.

A 60-ton crane was available but couldn't be used because of a 10-ton load-limit bridge leading up to the site.

The ever-resourceful contractor, Hali-Brite, Inc., of Crosby, Minn., located a doctor in Meridian, Miss., with a hot-air balloon who was confident he could handle the installation. Over the years, Hali-Brite had installed hundreds of beacons. Although they had never used a hot-air balloon themselves, they knew of a prior instance of its use.

They decided that the best time for the installation would be shortly after daybreak while the air was calm. With the balloon controlled with tether lines by three men on the ground, the old beacon was brought down and the new one installed in about 45 minutes. It went without a hitch.

For those of us who thought hot-air balloons were only toys for rich men, we know there's more to it. The cost of this operation turned out to be about one-third of that quoted for the helicopter or crane. ■

*Mr. Nabors is project manager at the Jackson, Miss., Airports District Office. This article is adapted from the Southern Region* Intercom.

# People

## Aeronautical Center

■ **Doyle W. Good,** unit supervisor, Storage and Transportation Branch, FAA Depot, promotion made permanent.

■ **Charles G. Kenner,** unit supervisor, Atlanta, Ga., Flight Inspection Field Office (FIFO), from the Tokyo, Japan, FIFO.

■ **Walter E. Lee,** supervisor, Electronic Production Section, Engineering and Production Branch, FAA Depot.

■ **Alan R. Moore,** supervisor, Engineering Section, Engineering and Production Branch, FAA Depot, from the Program Engineering Service.

■ **Robert L. Mulligan,** deputy manager, Aircraft Maintenance & Engineering Division, Aviation Standards National Field Office, from the Dallas-Fort Worth, Texas, Flight Standards District Office (FSDO).

■ **William H. Owens,** section supervisor, Atlantic City, N.J., FIFO.

■ **Jon A. Phelps,** section supervisor, Battle Creek, Mich., FIFO, promotion made permanent.

■ **Lawrence J. Spoor,** unit supervisor, Battle Creek FIFO, promotion made permanent.

■ **Richard L. Taylor,** unit supervisor, Engineering and Production Branch, FAA Depot, promotion made permanent.

## Alaskan Region

■ **Rebecca Moore,** area supervisor, Fairbanks Tower, from the Anchorage Tower.

■ **Randy K. Rogers,** manager, King Salmon Flight Service Station (FSS), from the Sitka FSS.

■ **Robie B. Strickland,** manager, Airway Facilities Division.

■ **Jimmie W. Tennant,** maintenance mechanic foreman, Nome Airway Facilities Sector Field Office, North Alaska AF Sector, from the South Alaska AF Sector.

■ **Charles L. Werner,** manager, Kotzebue FSS, from the Quincy, Ill., FSS.

## Central Region

■ **Lloyd W. Adams,** supervisor, Operations Planning Section, Program and Planning Branch, AF Division, from the Kansas City, Kan., ARTCC AF Sector.

■ **Raynell Brandon,** area supervisor, St. Louis, Mo., Automated Flight Service Station, promotion made permanent.

■ **John R. Coulter,** manager, Kansas City, Mo., AF Sector Field Office (AFSFO), NATCOM AF Sector.

■ **Joseph A. Doerr,** area supervisor, Kansas City ARTCC.

■ **William V. Francis,** aviation safety inspector, Kansas City, Mo., Flight Standards District Office (FSDO).

■ **John W. Humphreys,** manager, Accounting and Disbursing Branch, Accounting Division.

■ **James H. King,** area manager, Kansas City ARTCC.

■ **Robert R. Knight,** area supervisor, Waterloo, Iowa, Tower, from the Cedar Rapids, Iowa, Tower.

■ **Robert E. McFadden,** area supervisor, Hutchinson, Kan., Tower.

■ **Arthur W. Nelson,** manager, Atlanta, Ga., Aircraft Certification Office (ACO), promotion made permanent.

■ **Ronald K. Rathgeber,** assistant manager, Wichita, Kan., ACO, from the Aircraft Certification Division.

■ **Walter W. Ray, Jr.,** assistant manager for training, Kansas City ARTCC AF Sector.

■ **Charles J. Richardson,** area manager, Kansas City (Mo.) International Airport Tower.

■ **Jack F. Schaeffer,** manager, Garden City, Kan., AFSFO, Wichita AF Sector, from the Goodland, Kan., AFSFO.

■ **Jesse J. Statham,** area supervisor, Lincoln, Neb., Tower.

■ **Charles G. Wilson, Jr.,** manager, St. Louis FSDO, promotion made permanent.

■ **Michael J. Zinkio,** area supervisor, St. Louis International Airport Tower, from the Air Traffic Operations Service.

## Eastern Region

■ **Boyd V. Archer, Jr.,** area manager, Norfolk, Va., Tower, from the New York TRACON.

■ **William R. Carver,** area supervisor, Washington-Dulles Airport Tower, from the Baltimore-Washington Tower.

■ **John G. Esposito,** unit supervisor, JFK Airport Airway Facilities Sector Field Office (AFSFO), Metro New York AF Sector, promotion made permanent.

■ **Wayne I. King,** unit supervisor, Newark Airport AFSFO, Tri-State AF Sector, promotion made permanent.

■ **Lawrence C. Lee,** aviation safety inspector, Teterboro, N.J., Flight Standards District Office (FSDO).

■ **Rosalie J. Mangieri,** supervisor, Real Estate Services South Section, Real Estate & Utilities Branch, Logistics Division.

■ **Michael Joseph McCormick,** area supervisor, Philadelphia, Pa., Tower, promotion made permanent.

■ **Peter A. Nelson,** maintenance inspector, Airports Division.

■ **Carol E. Tringali,** supervisor, Construction Section, Procurement Branch, Logistics Division.

## Great Lakes Region

■ **Robert L. Altizer,** assistant manager, traffic management, Indianapolis, Ind., ARTCC.

■ **David L. Andress,** watch supervisor, Minnesota Airway Facilities (AF) Sector, Minneapolis, promotion made permanent.

■ **Dale H. Bischoff,** watch supervisor, Minnesota AF Sector.

■ **William L. Brewner,** assistant manager, plans and procedures, Chicago O'Hare Tower.

■ **Wilbert F. Heine,** watch supervisor, Minnesota AF Sector, promotion made permanent.

■ **Gary M. Klingler,** assistant manager for training, Detroit (Mich.) Metro Tower.

■ **Gregory E. Morrissey,** area supervisor, Sioux Falls, S.D., Tower.

■ **Herbert F. Taylor,** manager, Traverse City, Mich., Tower, from Detroit Metro.

■ **Manuel A. Torres,** area supervisor, Minneapolis ARTCC, promotion made permanent.

## New England Region

■ **Frank E. Higbee,** radar specialist, Windsor Locks, Conn., Airway Facilities (AF) Sector.

■ **David P. Judson,** area supervisor, Logan Tower, Boston, from the Air Traffic Div.

■ **David H. Knettel,** assistant manager for program support, Windsor Locks, Conn., AF Sector, from the Technical Center.

■ **John R. Williams,** area supervisor, Portland, Maine, Tower, promotion made permanent.

## Northwest Mountain Region

■ **Roger A. Benegar,** systems engineer, Salt Lake City, Utah, ARTCC Airway Facilities (AF) Sector.

■ **James C. Bristow,** area manager, Denver, Colo., Tower.

■ **Gordon A. Burnet,** manager, Boeing Field Tower, Seattle, Wash., from the Everett, Wash., Tower.

■ **Lawrence J. Cates,** unit supervisor, Seattle Flight Standards District Office.

■ **Walter E. Emmons,** area supervisor, Billings, Mont., Flight Service Station.

■ **Robert E. Greene,** assistant manager, plans and procedures, Denver Tower.

■ **Darrell E. Jefferson,** area supervisor, Boeing Field Tower, Seattle, from the Ogden, Utah, Tower.

■ **Lawrence T. Leonard,** manager, Idaho Falls, Idaho, Tower, from the Sioux City, Iowa, Tower.

■ **Douglas R. Miner,** area supervisor, Salt Lake City Tower, from the Pueblo, Colo., Tower.

■ **Clement H. Monge,** manager, Civil Rights Staff.

■ **John V. Owen,** unit supervisor, Seattle AF Sector.

■ **Daniel A. Piper,** manager, Ogden Tower, from the Salt Lake City Tower.

■ **Richard E. Prang,** manager, Airspace and System Management Branch, Air Traffic Division, from the Spokane, Wash., Tower.

■ **Joseph R. Stromberg,** systems engineer, Salt Lake City ARTCC AF Sector.

■ **Lisa P. Thompson,** manager, Everett Tower.

## Southern Region

■ **Charles B. Benefield,** assistant manager, Jacksonville, Fla., Hub Airway Facilities (AF) Sector, from the regional International Staff.

■ **Thomas G. Christian,** assistant manager, quality assurance, Memphis, Tenn., ARTCC.

## High Honor for Foreign Representative

*Raymond Ybarra (right) FAA representative for Brazil, Argentina, Chile, Paraguay and Uruguay, was recently admitted to the Aeronautical Order of Merit, as an officer, by the Government of Brazil. He was one of only two non-Brazilian recipients for the year. Presented to him by an air force general in Rio de Janeiro, the Order of Merit was given for Ybarra's excellence in all areas of civil aviation.*



The information in this feature is extracted from the Personnel Management Information System (PMIS) computer. Space permitting, all actions of a change of position and/or facility at the first supervisory level and to branch manager in offices are published. Other changes usually cannot be accommodated because there are thousands each month.

■ **Robert L. Cook,** unit supervisor, Atlanta, Ga., Civil Aviation Security Field Office.

■ **Charles F. Criswell,** manager, Miami, Fla., ARTCC.

■ **Ronnie O. Farmer,** manager, Charlotte, N.C., AF Sector, promotion made permanent.

■ **William L. Johnson, Jr.,** area manager, Hebron, Ky., Tower.

■ **Marvin R. Miller,** crew chief, Atlanta ARTCC AF Sector, promotion made permanent.

■ **Mark G. Palazzo,** area supervisor, Miami ARTCC, promotion made permanent.

■ **Johnny M. Phillips,** crew chief, Atlanta ARTCC AF Sector, promotion made permanent.

■ **Michael P. Sheehan,** manager, London, Ky., Flight Service Station, promotion made permanent.

■ **Donald E. Stinson,** area manager, Nashville, Tenn., Tower.

■ **James A. Stuart,** unit supervisor, Montgomery, Ala., AF Sector, promotion made permanent.

■ **Stanley Zylowski,** manager, San Juan, Puerto Rico, Center/RAPCON, from the Air Traffic Division.

## Southwest Region

■ **Frank D. Butler,** area supervisor, Albuquerque, N.M., Tower, promotion made permanent.

■ **Walter E. Garrard, Jr.,** team supervisor, Dallas-Fort Worth, Texas, Flight Standards District Office (FSDO), promotion made permanent.

■ **Michael A. Gonzales,** manager, Albuquerque ARTCC Airway Facilities (AF) Sector, from the Western-Pacific AF Div.

■ **Beverly K. Grisham,** area supervisor, McAlester, Okla., Automated Flight Service Station, promotion made permanent.

■ **Joe G. Hokit,** assistant manager, Corpus Christi, Texas, Tower, from the Houston, Texas, Intercontinental Airport Tower.

■ **Felix D. Nunnery,** team supervisor, Baton Rouge, La., FSDO.

■ **Steven M. Nye,** area supervisor, Tulsa, Okla., Tower, from Houston Intercontinental.

■ **Carroll V. Oliver,** assistant manager for program support, Houston ARTCC AF Sector.

■ **Jack L. Oxford,** manager, Houston AF Sector, from the AF Division.

■ **Gary C. Perrin,** assistant manager, Albuquerque ARTCC, from Kansas City ARTCC.

■ **Hershel E. Rinker,** manager, Clinton-Sherman Tower, Burns Flat, Okla., from the Oklahoma City Tower.

■ **Malcolm H. Roberts,** area supervisor, Riverside Tower, Tulsa, promotion made permanent.

■ **Ruth D. Russell,** chief, Program Analysis and Evaluation Staff, Flight Standards Division.

■ **Cirilo Sanchez,** manager, Laredo, Texas, AF Sector Field Office, San Antonio, Texas, AF Sector, from St. Louis, Mo., AF Sector.

■ **Edward F. Stevens, Jr.,** manager, Santa Fe, N.M., Tower, from Midland, Texas, Tower.

■ **Boyce W. Tate,** area supervisor, Hobby Airport Tower, Houston, from the Houston Intercontinental Tower.

■ **Ronald P. Wegrzyn,** area supervisor, Oklahoma City Tower.

■ **John S. Weingartner,** area supervisor, Tulsa Tower, from Love Field Tower, Dallas.

■ **Loretta M. York,** supervisor, All Other Occupation Employment Section, Compensation & Employment Branch, Human Resource Management Division, promotion made permanent.

## Technical Center

■ **Richard F. Bock,** manager, Concepts Analysis Division.

■ **Janis I. DiFabio,** deputy manager, Human Resource Management Division.

■ **Philip J. Gill,** manager, Automation Div.

■ **Daniel M. Greis,** unit supervisor, Plant Services Branch, Plant Engineering & Services Division.

■ **Howard R. McGlauflin,** deputy manager, Automation Software Division, from the Logan Airport Tower, Boston.

## Washington Headquarters

■ **John R. Carlson,** manager, Facilities Integration Division, Program Engineering Service.

■ **Louis C. Cusimano,** assistant manager, General Aviation & Commercial Division, Office of Flight Standards.

■ **Betty J. Davis,** manager, AVR Resource and Analysis Branch, Resource Management & Analysis Division, Office of Program and Resource Management.

■ **Rondel L. Lipps,** manager, Software & Program Support Program, Navigation/Landing & Monitor Division, Program Engineering Service.

■ **Fanny Rivera,** manager, Human Resource Management Division, Associate Administrator for Human Resource Management.

■ **Henry G. Tinsley,** manager, Special Programs Branch, Technical Programs Division, Office of Flight Standards.

■ **Leu J. Weston,** manager, Repair Station Branch, Aircraft Maintenance Division, Office of Flight Standards.

## Western-Pacific Region

■ **George H. Ackerman,** manager, Hilo, Hawaii, Tower, from the Maui, Hawaii, Tower.

■ **Caroline Carey,** area supervisor, Stockton, Calif., Tower, from the Oakland, Calif., TRACON.

■ **William D. Devlin,** maintenance mechanic foreman, Palmdale, Calif., Field Maintenance Party, promotion made permanent.

■ **Robert G. Green, Jr.,** manager, Maui Tower, from the Detroit Metro Tower.

■ **Kenneth R. Mahorney,** manager, Red Bluff, Calif., Flight Service Station (FSS), from the Fresno, Calif., FSS.

■ **John Mayrhofer,** flight data monitor, Air Traffic Division.

■ **James H. Panter,** manager, El Toro Marine Corps Air Station TRACON, Santa Ana, Calif.

■ **Wayne J. Sandifer,** area manager, Phoenix, Ariz., TRACON, from the Washington ARTCC.

■ **Richard G. Teixeira,** aviation safety inspector, Honolulu, Hawaii, Flight Standards District Office.

## Retirees

AERONAUTICAL CENTER
Homer L. Baze
Billy G. Bowers
Dalton R. Bradley
Arthur W. Breon
James F. Byrne, Jr.
J.C. Champion
Richard F. Chandler
E. Pauline Clement
Alphonso J. DeJesse
Herman W. Duncan
Charles E. Griffin
Albert J. Harvey
J. Charles Herring
Jimmy D. Holcroft
William Jenkins
Robert W. Jernyn
J.D. James Kinard
Aaron W. Mahelona
Hobart D. Mattison
Enal R. McCrite
Earl R. McDow
Donald R. Miers
Glendon W. Music
Dale E. O'Brien
Arthur P. Pastore
Leland F. Patterson
Leonard T. Pschorr
James H. Roberts
Calvin E. Rutherford
Mike A. Sanchez
Norwin G. Sanders
Donald L. Smith
Earl M. Sproat
Roy C. Tamanaha
Garold D. Tessman
John E. Weber
Stanley S. Yamamoto
Robert L. Ziebry

ALASKAN REGION
John E. Fischback
Carl E. Findeen
Emery R. Hurley
Donald E. Schultz

CENTRAL REGION
Luther M. Ables
Stephen B. Carter
Charles A. Cox, Jr.
Harold A. Fields
Jerry L. Fisk
Kenneth Geslesdager
Pauline Glavin
Ralph R. Goff
Maurice R. Goodrich, Jr.
Joe H. Heathcox
Alfred A. Hostmeyer
Gordon Lee Jones
Marion L. Jones
Roy F. LeSage
Alfred Milana
Loren D. Newton
Leland T. Nutterfield, Jr.
Ralph E. Orr
Clarence E. Pyles
Warren E. Robertson
Allen Sample, Jr.
David A. Smith
Desmond G. Stanion
George A. White
Ivan E. Whitted

EASTERN REGION
William J. Arruknecht
Edwin C. Bland, Jr.
William H. Boyer
Donald P. Byrne
David C. Caesar
Benjamin B. Cliffe
Harold J. Cook
Robert H. Davis
James L. Dunlap
Charles S. Gammon
Bernard G. Golluscio
Robert M. Hanson
Richard J. Higgins
Robert E. Hoffman
David E. Lynch
James E. McCafferty
Philip Navre
Joel D. Oakley
Merino J. Pesi
William V. Roeder
Paul Shulsinger
George A. Simmons
Robert G. Simon
Wilbur C. Smith
Kenneth E. Snyder
Adolph P. Solonsky
Jerrold N. Tierney
Louis W. Vengilio
John W. Wenderoth
Dale K. Young

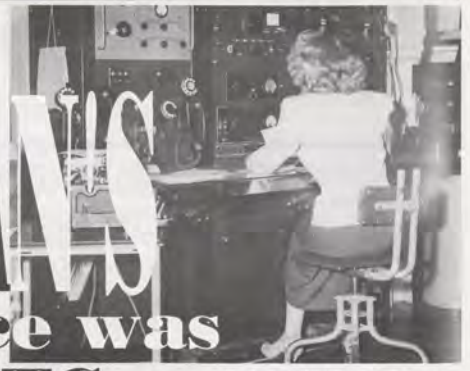
GREAT LAKES REGION
George G.E. Barthel
Leeland C. Bass
Alexander T. Bell
Charles M. Blackman
Abraham H. Bomberger
James Cormican
Michael P. Dalo
Joseph F. Forsthoffer
Eugene J. Hall
James V. Harrison
Albert Hopkins
Paul L. Jackson
Ronald C. Janacek
Robert G. Juenemann
Jack L. Keehn
Kenneth C. Kirchoff
Herman M. Larkins
Melvin B. Luxenberg
Robert L. Miller
John M. Mitchell
Charles R. Murray
James R. Murray
Edna M. Olson
Lawrence D. Rankin
Raymond G. Reed
Willard D. Rogge
Robert C. Rutkoske
Donald A. Sauvi
Joyce Sauvi
Norman E. Sears
Jesse W. Sechrest
Marvin A. Smith
Raymond B. Spann, Jr.
Charles E. Swanson
Gene H. Thomason
Gerald A. Vavruska
William D. Wagner
Richard G. Williams
William A. Wolfe
Clarence R. Yelk
George E. Young

NEW ENGLAND REGION
Wesley C. Beane
David L. Cahill
Marvin S. Carter, Jr.
Phillip E. Colburn
Richard S. Colman
Alfonso M. Craig
Daniel J. Crotty
John C. Donahue
Ronald E. Driscoll
Vernon D. Ellars
Michael R. Grady
Donald W. Holdgate
James A. Jenkins
Alfred J. Marzot
Thomas F. Mazziotti
George McKay
Robert L. McLaughlin
John J. Murphy
Ronald W. Ratt
Harold B. Simpson

*Continued on page 15*

# a WOMAN'S place was in ATC

By Debra Plymate



*The first inroads of women in airway management came in the 1930s as aircraft communicators in the aeronautical communications stations—the forerunners of flight service stations. Their numbers increased greatly during World War II.*

*During World War II (1943), controllers at the first-generation Washington National Airport Airway Traffic Control Center were augmented by an influx of women and military specialists. Intra-facility communications were via pneumatic tubes.*

In many respects, World War II was a precursor of the current women's movement. When America's young men went marching off to war following the bombing of Pearl Harbor on Dec. 7, 1941, the nation's women to a great extent took over not only the farms and factories but also the air traffic control system.

Although many of these gains in equal employment opportunity were wiped out upon the return to a peacetime economy, women had proved their point: They belonged in the workplace as well as the home.

Until the United States became involved in World War II, air traffic control was exclusively a male domain. Although women had served as aircraft communicators in aeronautical communications stations (forerunners of modern Flight Service Stations) since the early 1930s, they were systematically excluded from air traffic control work.

As America recovered from Pearl Harbor at the end of 1941, the Civil Aeronautics Administration (CAA), which was FAA's immediate predecessor, operated 15 airway traffic control centers. In addition, the agency in November 1941 had begun to take over from municipalities the job of running airport control towers that had been designated as essential to national defense.

The agency's responsibilities continued to grow with the rise in wartime air traffic. By 1944, the CAA was operating 27 centers and more than 100 airport control towers.

The increased workload together with the loss of CAA employees to the armed services soon created a critical staffing problem. Many aircraft communicators had been drafted into the military since their jobs were rated "non-essential" to the continuation of the war effort on the home front. In addition, many "essential" center and airport traffic controllers were moved by a spirit of patriotism to enlist in the armed services.

That gave women their chance. Early in 1942, the CAA opened their controller training classes to women at its seven regional offices: New York, Chicago, Atlanta, Kansas City, Fort Worth, Seattle and Santa Monica, Calif.

By the end of 1942, 40 percent of the air traffic controller trainees were women. The percentage of female trainees was to go even higher the following year, while the first women graduates were moving from the classroom to the field and becoming involved in actually working air traffic.

By June 1943, the CAA training quota was 1,200 traffic controllers and 1,800 aircraft communicators.

According to John Tighe, one of the original cadre of 15 controllers who established the enroute ATC system, the hiring of women actually began slightly before the Pearl Harbor attack as the CAA began preparing for what appeared to be an unavoidable conflict.

Another of the original 15, Lee Warren, who went on to become the director of the Air Traffic Service, said: "Bringing women into ATC was our response to a short labor market. . . . The young guys were going to war. Of the people available and the expansion you had, it was a natural way to go."

For controllers, the age limit was 20 to 45, with various combinations of experience and education admissible. Flying experience was not a requirement, but those who had it automatically went to the top of the hiring list. The pay was at a rate of $1,800 a year during training and $2,000 to $2,300 annually when fully qualified.

Applicants for aircraft communicator positions were recruited from the 17-40 age group, the only requirement being that they type at least 40 words per minute. However, preference was given to those who had radio telegraph or aeronautical experience. The pay scale was somewhat lower than that for controllers: an annual salary of $1,440 during training and $1,620 once on the job.

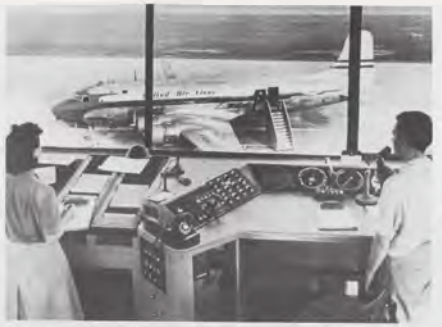
Aircraft communicators were trained as weather observers, teletype operators and radio operators, transmitting and receiving messages by voice and Morse code.

In July 1943, the *Civil Aeronautics Journal* reported on the opportunities being offered to women in CAA communications training schools. It cited the most recent graduating class at the New York regional school in Flushing, which had 25 trainees, 24 of whom were women.

As the end of the war drew closer, women were making an increasingly substantial contribution to air traffic control. In May 1945, the *Civil Aeronautics Journal* pictured two CAA-trained women controllers in the Marine Corps Air Station tower in Santa Barbara, Calif. The photo reflected the close cooperation between civilian and military personnel in this period. In addition to handling civil traffic, CAA controllers provided assistance to Marine fighter and torpedo-bomber pilots in training for operations aboard newly commissioned carriers.

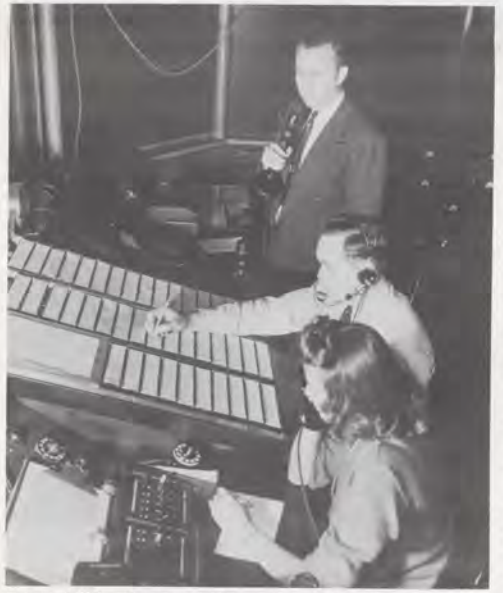
This scene changed abruptly once the war ended. The men returned from the armed services and reclaimed their jobs, and many women soon had their hands filled with what became known as the "baby boom." A review of photos taken in centers and towers in the early 1950s shows them devoid of women. The staffs were almost exclusively men in white shirts, dark ties, and jackets.

Indeed, women controllers had become such a rarity by this time that Ethel B. (Kelly) Callahan from the Honolulu tower was asked to appear on the popular television program, "What's My Line?" She managed to stump the panel of experts. ■



*A woman controller handles a log and the flight strips as a male talks to an aircraft at Chicago Municipal Airport in the early 1940s. On the ramp is a DC-4.*

*Marion Olmsted was the first woman controller at the St. Louis Center in 1958.*



*Operating the Midway Airport tower in Chicago in 1943 were (from the front) Ruth VanEtten, Tom Rigdon and tower Manager George Niles. Women first entered the towers as air traffic control specialists during the war.*

George Niles Collection

*Honolulu's first aeronautical communications station was established in 1941. Here, men and women operate teletypewriter machines under a message-dropoff device.*

## Married to a Job

Before the CAA became the FAA in 1958 and training was consolidated in Oklahoma City, the regions had their own training schools. At the training facility in Seattle, the CAA used to train husband and wife teams to run facilities in isolated locations, especially in Alaska. A wife did the same job for the same pay as her husband.

The training involved a six-month course covering communications, navigation, weather, Morse code and radio theory. Life in a remote station required full-time residence. It was a seven-days-a-week job for the couple. Often they worked 10 hours a day each for a year or more without a day off.

Reportedly many of these couples were divorced after they completed a tour, perhaps as a result of too much "togetherness" and the fact that the women now had skills that gave them economic independence. ■

*Ms. Plymate is an air traffic control specialist in the System Plans & Programs Division, Air Traffic Plans and Requirements Service.*

## A Black Woman Crosses the Bar

The first black woman to become an air traffic controller is reputed to be Elinor Williams, who began her FAA career in 1965 as a clerk steno in the Alaskan Region's Personnel Staffing Office. She then took the controller entrance exam, scored extremely high and was assigned to the Anchorage International Flight Service Station.

In 1968, Williams became a controller at the Anchorage Air Route Traffic Control Center. After 10 years, she opted for a warmer climate and transferred to the San Juan combined center radar approach control (CERAP) facility in Puerto Rico. That was followed by a tour in the Southern Region headquarters in Atlanta.

In September 1983, she returned to the Anchorage Center in order to be close to her grandchildren. During that time, she received the Administrator's Award for Outstanding Achievement in Equal Opportunity for aiding women and minorities in pursuing successful careers in the Civil Service. Williams now is an Area Manager at the Kansas City Center. ■

# Traffic Light Gets Green Light

By Duncan B. Pardue

Air traffic controllers have at times been called traffic cops. If an experiment at JFK International Airport works out, that appellation may be closer to the truth than ever.

The first red-and-green traffic light system for runways and taxiways in the United States began a one-year test there on January 15.

Red lights are displayed at 15 major JFK runway intersections until green lights are triggered individually by control tower personnel. The green lights revert automatically to red after a 20-second interval—ample time for an aircraft to begin its roll from a taxiway onto a runway.

Verbal clearances, however, are the governing instructions for the pilot. Pilots are expected to advise air traffic control anytime a visual signal is in conflict with a verbal clearance, prior to executing the verbal clearance.

The traffic lights, called a "Stop Bar System," are radio controlled and linked to the computer in the tower for recording their use. They are operated by a controller who listens to the same frequency as the local controller. He or she presses buttons on a keyboard laid out on a map of the intersections. "All that controller is doing is converting voice commands to visual light signals," says tower manager Ed Trudeau.

Installation of the Stop Bar System followed more than five years of planning and discussion by air traffic controllers, pilots and lighting engineers. The $600,000 system was installed under the jurisdiction of the Port Authority of New York and New Jersey. The prime contractor was Crouse-Hinds of Windsor, Conn., with Motorola as a subcontractor.

The need for the system has been underscored by a number of ground collisions and near collisions at various airports in recent years. The world's worst aviation disaster took place on the ground in 1977 between two Boeing 747s at Santa Cruz de Tenerife in the Canary Islands. It killed 583 persons.

Similar systems are functioning at London's Heathrow and Frankfurt's Main airports. The International Civil Aviation Organization (ICAO) in Montreal has recommended traffic lights to guide both airplanes and airport ground vehicles in bad weather. ✱


*At each runway intersection being controlled are Stop Bar Remote Switching Units, a pair of which are shown here by JFK tower Manager Ed Trudeau (left) and Port Authority Aeronautical Services Manager Jack Gardner.*

"A success with the Kennedy evaluation—measured by cost and reactions from pilots, controllers, maintenance crews and airlines—could lead to Stop Bar Systems being installed at other airports, Eastern Region Administrator Dan Peterson said.

Peterson explained that Kennedy Airport was chosen for the Stop Bar test because of its nine miles of runways, 22 miles of taxiways and scores of foreign pilots whose command of English may not always be as good as controllers would like it to be.

For economic reasons, radio control for the Stop Bar lights was selected instead of electrical wires under the runways, but that decision resulted in unexpected frequency conflicts, which delayed the launching of the test.

"We discovered that the frequency of a radio-controlled runway temperature-sensing system was interfering with the frequency of the Stop Bar System," said Port Authority spokeswoman Julie Edwards. It was resolved by assigning the temperature sensors the same frequency as a similar system at Newark Airport. The Stop Bar now operates on the old sensor frequency.

*A public affairs specialist in the Eastern Region, Mr. Pardue has worked as a reporter for newspapers in the South and in industrial relations for two major corporations.*

*JFK controller Mike Higgiston, who has trained ATCSs on the Stop Bar System, demonstrates the control panel's operation.*

*Each controlled intersection has a red and a green lens on each side of the taxiway, shown here, and three of each color embedded in the pavement.*

*The Stop Bar Mimic Panel, which shows the layout of the taxiways, is about the size of a typewriter keyboard.*

Training controllers to operate the Stop Bar System has been a full-time responsibility for Mike Higgiston, a Kennedy tower controller on special assignment. "All controllers at the level of local controller and above have been checked out on the Stop Bar," he said.

For controller training and preliminary testing, red and green lenses in the lights were temporarily replaced with amber ones. Now, the red and green ones are back and pilots and drivers have to mind them. ■

✱ Although the JFK Stop Bar System is the first use of airport red and green lights for airplanes and the first of any sort in the jet age, they were used at least at one airport in the 1930s to separate automobiles and aircraft.

FAA retiree Robert Brown recalls that when Washington and Hoover airports in Arlington, Va., combined, a paved runway was built that bisected the road that had separated them. A traffic light was installed, activated by a switch in the control tower.

This proved unsatisfactory because motorists were inclined to run the red light when an aircraft was approaching, causing some real "near misses." To remedy this, a controller was stationed at the intersection, walking to the center of the road to stop traffic when the tower turned the light red. Eventually, the road had to be closed. ■

## Retirees

continued from page 11

Joseph A. Tetreault
John E. VanHorn

NORTHWEST MOUNTAIN REGION
Paul R. Bieberstein
Alan Butterworth
John H. Carter
Patrick G. Claxton
Francis E. Davis
Frank V. Day
Gerald L. De Croo
Duaine W. Elg
James R. Franko
Bruce A. Gardiner
David E. Getchel
Richard J. Greisen
Arthur C. Hauer
Richard Henderson
David H. Kidd
Virginia S. Meadows
Frank D. Melton
Robert M. O'Brien
Roger D. Rankin
Helen S. Rees
Kenneth C. Roman, Jr.
Gordon W. Scott
Bryan R. Seare, Jr.
Byron G. Smith, Jr.
Ernest D. Smith
Robert Stagg
Charles R. Taylor
Richard W. Thompson
Donald W. Watt
Stanley E. Welch
James A. Wene
Donald D. Witherspoon

SOUTHERN REGION
James L. Alexander
Ruth T. Anderson
Conner R. Armstrong
Travis M. Atkins
R.C. Baxley, Jr.
Edward S. Bayne
Louis C. Bergmann
William E. Best
Claver J. Blair
Thurmon E. Blalock
Donald K. Boggs
Rebekah S. Brady
Salvatore A. Brocato
James P. Brown
Buford W. Brundage
Allen C. Burroughs
John P. Butler
Dempsey W. Cartwright
Edward B. Cash
Robert H. Chisholm
James D. Clark
John A. Cobb
John P. Copeland
Frederick H. Daniell
Harry E. Davis, Jr.
Rubye P. Davis
Graydon C. DePriest
Larry O. Diggs
James J. Dinkins
Richard D. Dunivant
James E. Edwards
Donald R. Felps
Aubrey L. Ferguson
William T. Gorrell
Bobby G. Gray
James R. Green
Ronald W. Greene
John P. Hagan
William F. Herring
Clelland A. Hickerson
James R. Holyfield
Richard D. Janes
Billy J. King
Harold L. Lacy
Louis H. Lanzilla
Robert C. Lauer
Donald L. Lord
Robert G. Magner
Carl F. Marshall
Elijah T. Mathis, Jr.
Robert N. McDaniel
George A. McKinney
Thomas B. Miller
David L. Morrow
Melville J. Norgart
Thomas E. Passmore
Susan E. Quesenberry
William A. Rhoden
James A. Ricker
Walter L. Rigsbee
Roy E. Rowell
Charles B. Rutherford, Jr.
Donald E. Saunders
Hugh E. Sawyer, Jr.
David R. Shelton
Wilford L. Shotts
William H. Sims, Jr.
Carroll E. Smith
Gilbert B. Stringer
Marie S. Sundh
Ronald D. Thomas
Ellerbe R. Trapp
Jon Wainwright
Arthur K. Weathers
George W. Weimar, Jr.
William H. Wilder
James H. Williamson, Jr.
George S. Wilson, Jr.
John T. Wilson
Sofia R. Young
Carl D. Youngblood

SOUTHWEST REGION
Melvin N. Asher
Jessie D. Beck
James E. Bedgood
Morin E. Blacklock
Ray V. Bush
Mildred T. Cate
Virgil E. Cochran, Jr.
Lowell J. Deal
Edmond P. Dugas
George D. Duncan
Alford G. Easterling
Harold M. Eiswirth, Jr.
Seymour B. Feldman
Richard Y. Flores
Forrestine Galbreath
Harry Gamble
Gail E. Goodin
Jr. Wallace Horne
Dale E. Jones
Edgar D. Jones
Walter L. Kiser
Troy J. Knoten
Dwain L. Lankford
James W. Larwood
Edward J. Maschek
Damon F. McDaniel
Fred L. McDowell, Jr.
Donald W. Mideke
Lawrence E. Miller
Andrew M. Minnick
Billy G. Mohon
Michael Pavlik
Donald E. Riddle
Sam L. Riddles
William E. Robinson
Kenith L. Ross
Billy M. Sawyer
John C. Schmitz, Jr.
Lowell S. Smith
Ann M. Sparks
Helen L. Sweeney
Wayne P. Thompson
Joe G. Turbyfill
Jimmie L. Vaughan
Henry O. Waite
Robert R. Watts
Byron I. Zirkle

TECHNICAL CENTER
Julia A. DeMore
Robert J. Fallon
Gloria C. Fazekas
Edward C. Holt
Lawrence M. Hughes
Wayne W. Leyrer, Jr.
Isabelle M. O'Keefe
Stanley J. Sternik

WASHINGTON HEADQUARTERS
Donald D. Alexander
Joseph F. Bartolo
Robert G. Burns
Frederick E. Castle
Robert A. Christopher
David K. Custis
Bonnie J. Embry
Karl A. Fredrickson
Walter Goody
Fred B. Houston
James A. Jerman
Kirk Lang
James E. Noyes
Dorothy D. Rhatican
Anthony J. Scarfi
Charles W. Schaffer, Jr.
Patricia A. Schumann
Marvin F. Switzer

WESTERN-PACIFIC REGION
Jay R. Adsen
Michael A. Bavuso
John F. Beatty
Thomas V. Bowlin
Nicky Calio
Gilbert L. Ceballos
Angel Cervantes
Henry K.Y. Ching
Thomas S.C. Chun
Floyd Y. Corpus
Marion C. Davis
Richard E. Davis
Henry S. DeCasas
Armon T. Dewberry
Manuel Diaz
Stanley T. Fukuyama
Susumu Furuike
Paul L. Golden
Patricio V. Gomez
Robert M. Goto
Vernon L. Gray
Nicolas L. Hernandez
James E. Kemple
Alfred A. Knieriem
Donald E. Kramer
Robert E. La Bonte
Billy R. Lee
Keith R. Litchfield
Donald F. Loomis.
Matthew Z. Markotic
Carl J. McGee
Billie R. McWhirter
Otho H. Mendenhall
Shirley O. Mercer
Donald E. Miller
Richard A. Morris
Noboru Nakao
Ernest T. Noda
Harold W. Norman
John C. Olson
Robert E. Peyton
Donald J. Polito
Edwin Poore
Edwin E. Ray
Joseph G. Roenan
Ronald V. Rudolph
Ruben A. Salazar
Neal P. Savoy
Ernest Y. Sawada
Emerson L. Schenck, Jr.
Erwin F. Stanicek
Richard T. Stevens
James T. Strawn
Jitsuo Sumida
Toshio Takehara
Laurel L. Thompson
Robert L. Varley
Bruce L. Walters
William J. Wintering

# Federal Notebook

## PAY PROSPECTS

The Administration's budget proposal recommends a two percent pay increase for January, while the Congressional Budget Office (CBO) suggests that figure or an actual pay freeze for a year. Another CBO idea is limiting annual increases to two percent below the inflation rate.

There was no mention of the failed pay increase for high-level employees in the State of the Union address, but the House Post Office and Civil Service Committee is working on legislation to sever the connection between congressional and executive salaries and enact an executive raise to forestall recruitment and retention problems.

## WHITHER RETIREMENT

The Administration's budget calls for repealing the lump-sum withdrawal (to save $1 billion the first year), a one-year freeze on civilian and military retiree cost-of-living adjustments (COLAs), but full COLAs for Social Security recipients.

In addition, the Congressional Budget Office has run ideas up the flagpole like a one-year COLA freeze for retirees under age 62, limiting COLAs to one percent below the inflation rate, raising retirement contributions 0.5 percent, basing retirement on high four-year average pay and reducing the government's contribution to the Thrift Savings Plan.

Congress has jumped in, however, with bills in both houses that would guarantee federal retirees the same COLA treatment as Social Security recipients. In addition, bills have been introduced that would require agencies to move 80 percent of all retirement paperwork to the Office of Personnel Management within one month and permit agencies to start the process months in advance of retirement; that would tax-exempt the first $10,000 of annual annuities or pensions for public employees; that would eliminate the spousal pension offset of Social Security benefits; that would narrow the tax exclusion period for annuities so the retiree could recoup his tax-free contributions within 10 years; that would restore the three-year rule; that would give retirees over age 65 the right to combine their years of service in the government and the private sector; that would repeal the taxation of Social Security benefits; and that would eliminate the Social Security earnings test.

## CONFUSION ON THE MEDICAL SCENE

Although it's generally agreed that the health plan (FEHB) is sorely in need of reform, no viable plan has surfaced. Meanwhile, the President's budget is forecasting premium increases for next January, on top of the 26 percent increase this year, as a result premium structure changes. The Administration wants to set the government's premium share on an average of the rates of all participating plans, rather than just the current big-six. The budget also shows increased costs to the elderly for Medicare.

Patchwork FEHB bills have been introduced repeatedly. This session's collection includes bills to increase the cap on the government's share of premiums from 60 to 75 percent; to pay a differential toward the premium of a retiree over 65 who doesn't have Medicare hospitalization coverage; to require dental coverage in all FEHB plans; and to require coverage for nervous, mental and emotional disorders, including alcoholism and drug addiction.

Bills in both houses would cover expenses for treatment for infertility and adoption proceedings.

Long-term-health-care and nursing-home-care bills have been re-launched, including one that permits converting part of employee federal life insurance into long-term-care insurance.

The Family and Medical Leave Act (S-345, HR-770) has been reintroduced. It permits up to 10 weeks unpaid leave for care of a child or seriously ill parent and 13-15 weeks for personal serious illness.

## LIMIT TO DRUG TESTING

Under a bill introduced by Rep. Gary Ackerman (D-NY), unless a pair of supervisors agree that an employee's performance is impaired by drug use, the employee could not be required to be tested for drugs. Excepted are the Central Intelligence and National Security agencies.

## FULL LEAVE-SHARING DEBUTS

Guidelines for leave-sharing authorized by Congress for the next five years have been published by the Office of Personnel Management in the *Federal Register*. They require agencies to accept annual leave from donors working in other agencies, to define which family member emergency qualifies an employee for the program and to respond to a request for leave within 10 days. Until agencies have the programs in place, the current leave-sharing programs are in effect.

U.S. Department
of Transportation

**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

**RETURN POSTAGE GUARANTEED**

Official Business
Penalty for Private Use $300

**BULK MAIL**
POSTAGE & FEES PAID
FEDERAL AVIATION
ADMINISTRATION
PERMIT NO. G-44

bs JHW

U.S. Department of Transportation
Federal Aviation Administration

# FAA World

March 1989
Volume 19 Number 3

# The Pulse of a Training Revolution

By Jo Ann Sloane

*A public information specialist in the Office of Public Affairs, Ms. Sloane is a former European correspondent and Washington reporter for United Press International.*

"We are in the early stages of a revolution," FAA Academy Acting Superintendent Douglas Murphy told an audience of over 400 people meeting in Oklahoma City this past winter. They had gathered to lay the groundwork for a revolution in the way air traffic controllers are trained.

"We currently have a 40 percent washout rate that is costing the FAA $14 million per year," explained Robert Whittington, Executive Director for Policy, Plans & Resource Management. "Our training methods are outdated for the new equipment we have and will have at our centers and towers.

"A good example of this is on-the-job training. We need to get rid of OJT and use more simulation, which is more efficient and can train a controller in less than half the time it now takes," he continued.

This first-ever Symposium on Air Traffic Control Training for Tomorrow's Technology was hosted by the Aeronautical Center and attended by members of academia and private industry, as well as interested parties from nine countries—Canada, France, Belgium, Brazil, Indonesia, Great Britain, Sweden, Luxembourg and Germany.

Dr. V. David Hopkin, head of the General Psychology Section of the British Royal Air Force Institute of Aviation Medicine and consultant advisor to the Civil Aviation Authority on human factors aspects of air traffic control, set the tone for the two-day session in his keynote address with some provocative questions and comments.

"We have to have interdisciplinary

*(Continued on page 6)*

# Inspecting the Bottom of the World

By John Allegra

Recently, I was one of three FAA employees who was given an opportunity to participate in a unique adventure: flight checking navigation aids in Antarctica.

Our trip to the "bottom of the world" was in response to a request from the U.S. Navy, which supports the National Science Foundation's research program in Antarctica. The United States is one of 18 countries actively engaged in scientific research in Antarctica and maintains three year-round stations there—McMurdo, Amundsen-Scott South Pole and Palmer.

As manager of the Honolulu Flight Inspection Field Office (FIFO), I was picked to head the FAA team. My teammates were two airborne electronics technicians—Humphrey Russell, also from the Honolulu FIFO, and Christian Hafer from the Anchorage FIFO. Originally, we were scheduled to depart in December 1987, but that was deferred by the Navy to November 1988.

Because FAA does not have an aircraft fully capable of conducting flight inspection in Antarctica, the Navy agreed to use one of its ski-equipped LC-130 Hercules for the facility checks,

*(Continued on page 8)*

*Mr. Allegra is the manager of the Honolulu, Hawaii, Flight Inspection Field Office.*


*One small step for mankind... FAA's FIFO team of (left to right) Humphrey Russell, Christian Hafer and John Allegra plant their flag among the others at the South Pole, the exact point of which is marked by the "barber pole" behind Allegra.*

## In This Issue

FAA World

March 1989

**Secretary of Transportation**
Samuel K. Skinner
**FAA Administrator**
T. Allan McArtor
**Assistant Administrator—Public Affairs**
Kathleen Harrington
**Manager—Public & Employee Communications Div.**
John G. Leyden
**Editor**
Leonard Samuels
**Art Director**
Eleanor M. Magnuss

FAA WORLD is published monthly for the employees of the Department of Transportation/Federal Aviation Administration and is the official FAA employee publication. It is prepared by the Public and Employee Communications Division, Office of Public Affairs, FAA, 800 Independence Ave., S.W., Washington, D.C. 20591. Articles and photos for FAA WORLD should be submitted directly to regional FAA public affairs officers.

John Clabes—Aeronautical Center
Paul Stoucke, Sr.—Alaskan Region
Robert Raynesford—Central Region
Kathleen B. Bergen—Eastern Region
Morton Edelstein—Great Lakes Region
Mike Ciccarelli—New England Region
Richard Meyer—Northwest Mountain Region
Jack Barker—Southern Region
Geraldine Cook—Southwest Region
Holly Baker, acting—Technical Center
Barbara Abels—Western-Pacific Region

# The President's Wingman

*Samuel Skinner (left) takes the oath of office in the FAA auditorium from Judge Joel M. Flaum as President George Bush looks on. Skinner's daughter, Jane, holds the Bible. This was the first swearing in at FAA attended by a President.* Photo by Bob Laughlin

Samuel Knox Skinner was sworn in as the tenth Secretary of Transportation on February 6, 1989.

By now, you may be aware of his credentials as chairman of the board of directors of the Regional Transportation Authority of Northeastern Illinois, the second largest public mass transit system in the country, and U.S. Attorney for the Northern District of Illinois. You may also know that he is an experienced, instrument-rated pilot who flies his own Beech Bonanza.

You may not be aware that, according to former Administrator Allan McArtor, "He's a student of aviation history. He collects aviation art. He loves aviation." And you probably are not aware of his thinking on matters that concern the Federal Aviation Administration.

What follows are quoted excerpts from his U.S. Senate confirmation hearings and speeches, which may serve to introduce the new DOT Secretary to you.

"We must keep our aviation system both safe and competitive.

My principal goal [is] to develop a new national transportation policy that strengthens both our national security and our economy. A national transportation policy will enable industry to provide efficient, competitive delivery of goods and services and must be one that delivers the public to its destinations quickly, efficiently, at the right price and safely.

I will work to preserve and foster competition in the airline industry—to ensure that air carriers can enter and exit markets easily. The fact that one or two air carriers 'dominate' a major hub airport does not necessarily imply a lack of competition in that market.

## Airports

I will be personally involved in developing a national strategy that will lead to the provision of needed airport capacity.

I believe it is largely possible to continue to decrease the population exposed to adverse levels of aviation noise without decreasing airport capacity [but] I would challenge local noise-abatement proposals that are clearly arbitrary or discriminatory or which impose an undue burden on interstate commerce.

## Aviation Safety

As both a pilot and a 'frequent flyer,' I fully recognize the significance of aviation safety and will do everything possible to improve on an already commendable record. I admire and respect the dedicated men and women staffing the FAA and an industry that makes aviation safety its first and foremost priority.

While we cannot and should not rest until we have an error-free system, it is important to recognize that, on the merits, the system is safe and improving. If we compare commercial aviation safety for the 10 years after airline deregulation (1979-1988) against the 10 years before, we find that there has been an increase of more than 40% in total flight hours, but a decrease in the accident rate of 39% and a decrease of 46% in the fatality rate. Airline deregulation has not reduced air safety; rather, it has shown substantial and continued improvement since 1978.

The next FAA Administrator will receive whatever assistance he needs from me to pursue an even better safety record than the outstanding one we have today. General aviation is also showing continuing safety improvements, with the number of fatalities cut in half since 1978 and the fatal accident rate for 1987 and 1988 at its lowest level ever. Nonetheless, I believe that there is always room for improvement.

***People:*** FAA must be permitted to hire sufficient numbers of air traffic controllers, security specialists, airline inspectors, and maintenance technicians to ensure that aviation safety is not only maintained but enhanced. I and most certainly the FAA Administrator would press very hard for full and adequate staffing in all these areas.

Part of this planning includes timely efforts to revamp the recruitment and training process to ensure hiring and increased proficiency. It is also my intuitive belief that the current "pay demonstration" effort at important air traffic centers will not only attract full staffing but may also improve safety through greater staff stability.

***Hardware:*** I am going to make every effort—with the FAA Administrator—to see that the NAS Plan and its major modernization of the air traffic control and air navigation system goes forward as quickly as possible and with a budgetary framework that makes sense. It is important that the Congress and the public renew its 1981 recognition of the importance and sophistication of the NAS Plan, as well as its more up-to-date components. We must ensure, consistent with our budgetary limitations, that we provide state-of-the-art technology across the board in the aviation system to maximize not only safety but efficiency and passenger convenience.

***Procedures:*** There are many hardware-oriented or technical areas that will continue to be the subject of rulemakings and directives. Some of the actions with the most safety pay-off are already underway, such as the implementation of the windshear avionics and traffic alert and collision avoidance rules. Work is also continuing on occupant crash and post-crash protection requirements—airline seat and baggage compartment retrofit, for example.

***Aging Aircraft:*** In addition, I believe the aging aircraft issue should receive high-priority attention. As aircraft continue to age while remaining in our fleet, ever-increasing scrutiny has to be given to matters like corrosion-protection programs, more-stringent inspections and maintenance and possibly to mandatory replacement of certain aircraft components after a certain number of cycles, flight hours or years.

The answers will have to be found by the FAA, the airlines and the manufacturers all working together. I am satisfied with the level and quality of the joint actions already underway. I do not believe we have any evidence to date that would support the mandatory retirement of aging aircraft, if the aircraft have been properly maintained.

***Pilot Performance:*** An area calling for even greater attention is the performance of the human being—in air traffic control, in the cockpit and on the maintenance line. I strongly support mandatory random drug-testing of employees who hold safety-related positions in this industry. The constitutional safeguards in this area must be honored, and the individual's privacy and dignity must be upheld.

*In 1986, then Chairman of the Board of Directors Samuel Skinner (center) attends a meeting of the Regional Transportation Authority of Northeastern Illinois.*

I am especially concerned about pilot performance because of the human errors associated with many of the recent commercial aviation accidents. NASA studies performed over the last 10 years indicate that more than 60 percent of fatal air carrier accidents were not directly linked to mechanical failure or lack of pilot skills but rather to a breakdown in cockpit communication. These NASA studies point to a deficiency in present recurrent training in areas related to human factors.

Thus, a number of training initiatives that I am told are in process will be given very high priority. As the average level of pilot experience drops and cockpits and aircraft become more and more sophisticated, these measures will become increasingly important.

## Agency Management

As a pilot, I have a deep appreciation for the duties and responsibilities of FAA, and I have a very high regard for the men and women who staff the agency. I am also very much aware that commercial air traffic has greatly increased over the past 10 years and will continue to do so. The scheduled aircraft miles flown, for example, in 1988 increased some 65 percent from those flown in 1978—the year the Airline Deregulation Act was passed.

While I have an open mind concerning the DOT-FAA relationship, I believe that aviation is an integral part of a national transportation system, and over-arching aviation policies must be developed within that context. Day-to-day management, however, is the responsibility of the FAA Administrator.

I will avoid micromanagement—not only of the FAA but of all modes. However, whenever I or my staff can assist in getting the agency the budget it needs, suggest regulatory changes that will better comply with requirements and facilitate acceptance by OMB, or push for faster action on badly needed safety initiatives, I intend to exercise leadership and be decisive.

In addition, there will undoubtedly be major policy areas in which the Secretary of Transportation must be the ultimate decision maker. If there is to be an effective Transportation Department which implements national transportation policy across and within all modes, the Secretary must provide the leadership and must exercise final judgment; I intend to do so.

## Security

No one country or carrier should have to stand alone in matters of security. It is only by joining together that we can secure international civil aviation from acts of terrorism.

[FAA has taken] decisive action to tighten security requirements on U.S. air carriers operating out of airports in Western Europe and the Middle East. We have also enhanced security at U.S. airports. While each country must bear its own burden, we must recognize that the terrorist threat is a global one, and that alleviating the problem in one place will only cause it to appear in another.

[FAA is] examining further measures that can be taken on a global basis to enhance security while respecting sovereignty.

The international airline traveler can be assured that additional steps are now being taken [as a result of a recent ICAO meeting] to make international air travel an even safer mode of transportation." ■

## Securing the National Security Award

*Former Emergency Preparedness Officer Ed Timm (left) was recently presented with the Civil Aviation Security Director's Award by FAA Technical Center Director E.T. Harris. Timm, who is now a special assistant to the Technical Center director, received the award for his contributions to civil aviation security programs, which included a major cross-country FAA/FBI anti-hijacking, crisis-management exercise.*

# 'The Folks Who Made Things Happen'

**"You have confronted challenges in affirmative action and in the process reshaped policies that affect FAA."**

Nineteen FAAers representing seven regions, headquarters and the two centers were recently honored with the agency's highest award for achievement in equal employment opportunity.

Granted only by the Administrator, the Awards for Superior Achievement were presented to those individuals "who have made equal employment opportunity and public service important parts of your lives," said Administrator Allan McArtor. "You have confronted challenges in affirmative action and in the process reshaped policies that affect FAA."

Speaking at the twelfth annual awards ceremonies, the Administrator said, "These are the folks who make things happen and have excelled in contributing actively to FAA's EEO goals. They have achieved outstanding results through unusually effective leadership, skill, imagination, innovation and perseverance."

An example of such innovation and perseverance is Marilyn Dickey, administrative officer at the Lubbock, Texas, Tower. Her outreach program began with arranging recruitment interviews at local television stations and placing ads in a university newspaper.

She followed up with mailing announcements to interested individuals, then tracking these candidates and arranging for orientation sessions with controllers at the tower.

Working with the Office of Personnel Management, she established a testing program for Lubbock. She recruited so many applicants that 50 turned out for the first test last June. She has helped test more than 540 applicants, of whom more than 170 were minorities and women. At least 43 passed the air traffic entrance examination, including 18 minorities and women.

A supervisor who made things happen through leadership is Bill Hendricks, director of the Office of Accident Investigation. He stresses the need for a measurable, results-oriented EEO effort on the part of his managers and provides full backing for stay-in-school and summer-hire programs. One measure in the past year is that his female staffing has risen eight percent to 41 percent of the office total.

While reciting the EEO gains that FAA has made, the Administrator emphasized that "substantial progress is still needed in the FAA's mainstream—technical operations. We have much work to do, and we'll do it better and faster if we work together." ■

*Equal employment specialist Bobbye L. Gorden, flanked by Executive Director for Policy, Plans & Resource Management Robert Whittington (left) and Administrator Allan McArtor, won an EEO award for her minority recruiting efforts for Air Traffic Pre-Test Briefings. Looking on is her boss, H.C. McClure, director of the Aeronautical Center.*

*Administrator McArtor congratulates award recipient Oliver Murdock (left), Great Lakes airport planner, who conducted successful outreaches and recruitment in Detroit minority and community organizations.*

*A Superior Achievement Award went to Johnnie Terry-Flemming, manager of Central Region's Management Systems Planning & Evaluation Branch, here honored by Executive Director Robert Whittington (left) and Administrator McArtor.*



*Great Lakes aviation safety inspector William Youngblood (right) accepts a Superior Achievement plaque from Administrator McArtor for his achievements in boosting aviation career opportunities.*

*Executive Director Whittington (left), Administrator McArtor (center) and New England Regional Administrator Arlene Feldman honor Samuel Strier, manager of New England's Logistics Division, and Dominic Johnson (right), formerly quality assurance and training specialist in the Eastern Region, now with New England Region. Another Eastern Region awardee not shown was Gerald Shipman, manager of the Employment and Staffing Branch.*

*For her work as regional chairperson of the Federal Women's Program, Alaskan Region program analyst Nancy L. Green won a Superior Achievement Award. Administrator McArtor (left) and Alaskan Regional Administrator Frank Cunningham share her joy.*

*Wayne Barlow (left), Executive Director for System Operations, joins Administrator McArtor (right) and Southwest Region EEO award recipients Larry L. Craig, Air Traffic Division manager, and Marilyn R. Dickey, administrative officer.*

*Recognized for their efforts in recruiting minorities and women in the Western-Pacific Region were air traffic control specialist James D. Swanson (left) and Nina D. Adams, manager, Human Resource Operations Branch.*

**Photos by Lance Strozier**

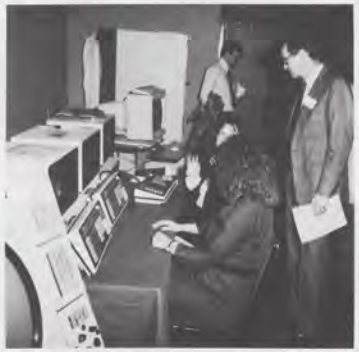
*Washington Headquarters was represented in the EEO awards, too. From the left are James R. Clinton, manager, National Enroute Field Support Maintenance Branch, Air Traffic Plans and Requirements Service, at the Technical Center; Michael P. Goldfarb, former chief of staff; Naite R. (Tina) Mallory, manager, Consumer Hotline; Administrator McArtor; Rosalyn A. Asbury, air traffic staff specialist; and William R. Hendricks, director, Office of Accident Investigation.*

*Both Luther C. McClellan (left), supervisory computer systems analyst at the Technical Center, and his boss, Edward T. Harris (right), director of the Technical Center, received EEO Superior Achievement Awards from Administrator McArtor.*

## Training Revolution

continued from page 1

*Delivering the symposium's keynote address is V. David Hopkin, director of the British Royal Air Force Institute. Listening on the dais are (from the left) David Carmichael, deputy director, Aeronautical Center; Frederica Dunn, Office of Training and Higher Education; Robert Whittington, Executive Director for Policy, Plans & Resource Management; and William Pollard, Associate Administrator for Air Traffic.*



*An ATC training demonstration was offered in an exhibition area at the Oklahoma City hotel where the symposium was held.*

collaboration; no more small fiefdoms, no special bailiwicks," he chided the group. "Interdisciplinary collaboration sounds fine in principle. Its corollary—that each discipline may seek to influence matters hitherto treated as the prerogative of others—can be an unacceptable consequence for many and seem too high a price to pay for collaboration," he said.

"Yet the general objective, in the future as in the past, must be to ensure that the safety, orderliness and expedition of air traffic flows are maintained and enhanced, with improved productivity and high cost effectiveness."

Hopkin asked the attendees to think about the question of what kind of skills "are we taking away with the new machines we are going to be using? What will really be needed in the long run?" he asked. Machines make things easier but not necessarily more fun or interesting, he pointed out. "People have higher expectations now; they don't want boring jobs." He said this aspect must be taken into consideration in any future training program.

Panels discussed broad subjects such as the future of air traffic training, approaches to training development, advances in training technology and the air traffic point of view of new approaches and technology.

Nearly everyone agreed that things had to be done differently. One panel member called the current training program irrational. Another said that problem-solving skills are not well taught. The major problem is, however, that there are no professionally trained teachers, the latter said.

Dr. Walter Schneider of the University of Pittsburgh felt that the present high failure rate was not necessary. "Experts are trained, not born," he said. He also suggested that controllers should be involved in the design phase of new training techniques and that new methods should not be tested on people whose careers depend on it. "How well is someone learning from a poorly designed test?" he asked.

The final panel of the session was composed of air traffic managers who expressed their frustration with the problems in the present training program and echoed the great need for change.

Jim Caudle, manager of the Executive Staff in the office of the Associate Administrator for Air Traffic, said the main problem is the high failure rate and the length of time it takes to train an FPL (full performance level) controller. "Training has been by evaluation, trial by fire and sink or swim," he said. But some corrections have been made. "We have now separated evaluation from certification, and a certification course is being developed at the Academy. What we need to do now is to improve recruitment," he added.

The Academy's Murphy expects to increase overall Academy enrollment and training by two thirds and air traffic training in particular by 70 percent this year. Next year, the Academy training will double, he says.

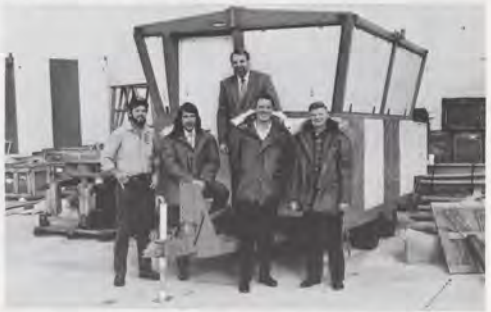
Western Pacific Region Air Traffic Division Manager Jacqueline Smith reiterated the theme that things must be done differently. As an example, she said that one facility has 24 FPLs and 25 developmentals. "We need more capacity. People are in line for training at some facilities," she said.

Jimmie Walker, manger of the Minneapolis ARTCC, expressed concern about motivating older controllers "to change and to stay in the system. How do we overcome resistance to change?" he asked, saying that we must "convince today's FPLs to accept controllers trained differently."

Atlanta Tower Manager Harry McIntyre suggested that more attention needed to be paid to proficiency training after a person has reached FPL. One thing that is needed, he said, is a quality listening course. "Operational errors are made because the controllers don't catch erroneous pilot responses. A lot more training is needed in that area, perhaps elocution lessons."

Participants called the symposium a complete success and felt that the conference was a very worthwhile effort—worthwhile enough to hold a second symposium a year hence. ■

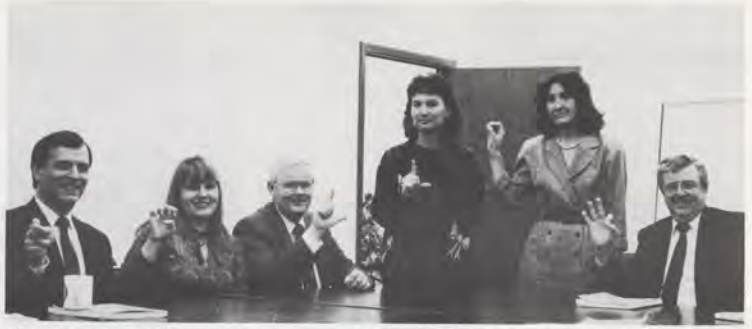
### Good Samaritans in Waiting



*Five FAA Depot volunteers—(l-r) Marvin Beaty, Eldon Jamison, Ray Bradford, Stanley Rowlett and Jack Mechan—spent nearly a month in readiness to fly off to earthquake ravaged Soviet Armenia with hastily assembled mobile tower cabs and generators, following a State department request. The short fuse complicated support logistics for this quintet of electromechanical and equipment specialists, who needed cold-weather clothing, food, water, fuel, shelter, passports and immunizations. They were ready to fly but eventually had to stand down when the need abated.*

Photo by Jack Isaac





*Members of an in-house sign-language class flash warm smiles and a friendly "h-e-l-l-o" in the Great Lakes regional office. From left: Tim Forté, regional administrator; Georgene McDonough and Roger Ferguson, airspace specialists; Rexanna Gloeckle, airspace clerk; air traffic technician Angeline Perri, who taught the class; and Martin McDonald, quality assurance specialist.*

# REACHING OUT IN SILENCE

**By Linda Ross**

**Photos by B.P. Thompson**

The Great Lakes Region has been opening the doors of opportunity for hearing-impaired individuals for more than three years. With the support and encouragement of management and employees, we have proven that hearing-impaired people can play a vital role in a productive workforce.

It all began in 1985 when the Human Resource Management Division was searching for temporary employees to assist in Air Traffic recruitment. Two hearing-impaired applicants were interviewed. At the time, only one person in the division knew sign language and could interpret. However, it became apparent during the interview that the hearing-impaired individuals could lip-read and communicate effectively without an interpreter. Both applicants were hired and are still FAAers.

The Air Traffic, Airway Facilities, Flight Standards and Logistics divisions have continued this special-emphasis hiring. Ten hearing-impaired employees are now working in the Great Lakes Region.

Their coworkers not only broke through the social and physical barriers that face these people but also became interested enough to learn sign language to communicate better. Because of their interest, two on-site sign language classes were conducted for regional employees. Some students continued to increase their skill by attending further classes. As a result, one former student is now teaching another in-house class for her division.

Communication is a two-way street for sending, receiving and interpreting messages. Although it may be ideal for people to use the same tools and instruments, it is not always necessary. Nonverbal communication is often as useful as the spoken word. Hearing-impaired people rely on a variety of forms of communication:

- Sign language consisting of hand and arm movements that represent ideas and concepts,
- Fingerspelling, which uses hand shapes to represent letters of the alphabet,
- Facial expressions to set the tone and establish the context of the conversation and
- Lipreading to visualize the spoken word.

Through training, nearly all hearing-impaired individuals in our society have the ability to communicate by these methods. Some are more accomplished than others and can communicate as normally as hearing people. However, this does not mean that they are any more talented than someone with less training or skills.

The best way to approach communication with a hearing-impaired individual is to ask what methods they would prefer to use to communicate.

You may have discovered that some hearing-impaired people have speech that is indistinct, while others have speech which is readily understandable. This difference is due to the level of training and their ability to use the vibration of their vocal cords to form sounds into words.

The performance of our hearing-impaired employees continues to demonstrate the wisdom of reaching out to tap this segment of the workforce. The region is proud of the success and ability of its hearing-impaired as well as of the support of their coworkers and management.

*Ms. Ross is a personnel staffing specialist and selective placement coordinator for the Great Lakes Region. In 1987, she received the Secretary's Award for outstanding achievement in equal opportunity.*

*Leon Thornton, personnel clerk in the Human Resource Management Division, uses the keyboard of a special telecommunications device that allows HRM employees to communicate over phone lines with the hearing-impaired. The words from both sides of the conversation are displayed on a special read-out screen built into the machine.*

*D. Gene Bowden (left), supervisory personnel staffing specialist in the Human Resource Management Division, uses an electronic amplifying device to communicate with HRM clerk Diane Tokarz. The device allows Diane to pick up 50% of audible sounds.*

Last year, Christine Pavliny, a hearing-impaired employee, was one of seventeen handicapped employees in the FAA to be nominated for the FAA's Outstanding Handicapped Employee of the Year. She is a good representative of the spirit and dedication of the region's silent workforce. ■

*Jerry Martinez (left), an inspector at the Chicago Air Carrier District Office, uses knowledge gained as a graduate of the region's first sign-language class to communicate with ACDO clerk Gerald Raskin.*

## Antarctica continued from page 1

with FAA providing the avionics—a Sierra Portable Flight Inspection System (PFIS). The equipment was installed on a standard cargo pallet by Honolulu FIFO personnel, with technical guidance from the engineering staff at Oklahoma City. On Oct. 14, 1988, the pallet was airlifted from Honolulu to McMurdo Station to await us.

We left Honolulu November 4 on a commercial flight to Auckland, New Zealand, and flew on to Christchurch, N.Z., which is the staging area for personnel and supplies bound for Antarctica. There each of us received a large duffel bag containing an assortment of winter clothing needed to survive the harsh and frigid Antarctic weather. Included were long johns, fur-lined parkas, clumsy but highly efficient thermal "bunny boots," furback mittens and inner and outer trousers.

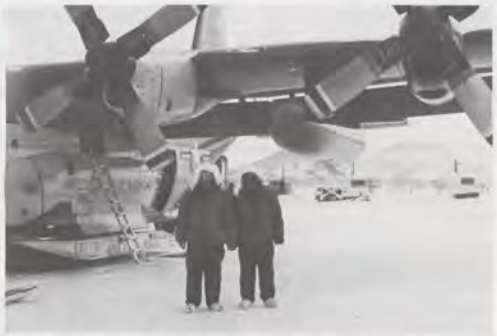
From Christchurch, we flew to McMurdo Station November 6 in an Air Force C-141 that carried mostly cargo and had space for only 28 passengers. With everyone wearing winter gear, the flight reminded me of a ride on the New York City subway during rush hours—only this ride lasted 5½ hours.

The aircraft landed on the 10-inch-thick ice runway at McMurdo Sound, which remains operational until the ice breaks up about the end of November. From then until summer ends around February or March, only ski-equipped aircraft can fly into and out of McMurdo. They use the "skiways" at Williams Field on the McMurdo Ice Shelf, which never thaws, some seven miles from McMurdo Station.

The two facilities that required flight inspection and certification at McMurdo Station were the TACAN radio navigation aid at Williams Field and the Precision Approach Radar (PAR) that serves the ice runway on McMurdo Sound until the thaw and then is moved to Williams Field.

The following day, with temperatures at 0°F, we visited the TACAN site and made celestial observations of the sun to determine a reference for the theodolite (similar to a surveyor's transit) orientation to "Grid North," which at McMurdo Station is 193° from True North. Air navigation bearings, courses and radials in the polar regions are referenced to Grid North or Grid South because the magnetic compass becomes highly unreliable and the geographic meridians converge at acute angles—making precise air navigation very difficult.

We didn't get to do flight inspections for two days, however, due to a combination of inclement weather and aircraft unavailability. We used the time to discuss technical matters with the Navy personnel and acclimate ourselves to our new surroundings.



*A ski-equipped Hercules bound for the South Pole awaits Hafer and Russell.*

Since there are 24 hours of sunlight during this time of year in Antarctica, mental adjustments had to be made to our waking and sleeping cycles. Fortunately, the bachelor officers quarters where we stayed—four people to a room in upper and lower bunks—are windowless, so that somewhat eased the transition. We also had to adjust to a problem with the water supply, which restricted personnel to a pair of two-minute showers per week. But, then, you shouldn't expect all the comforts of home at the bottom of the world.

Meal times were a highlight of our stay. The food was wholesome Navy chow, but dining also was a social occasion, which brought together all personnel stationed or transiting through McMurdo Station.

Finally, on November 9, we went to work. The weather at the South Pole had improved, and a Navy LC-130 was scheduled to fly there. The Pole lies 728 nautical miles south of McMurdo Station, and the flight took us over spectacular scenery. We landed on a 14,000-foot snow skiway. The packed snow and ice here is 9,000 feet thick. We had the thrill of seeing the geographical South Pole marker, surrounded by flags of the various nations, and the opportunity to "walk around the world" in less than one minute. The weather was excellent—clear blue skies and temperature at −50°F with practically no wind, which made conditions tolerable.

*The author (center) and Christian Hafer (right) orient the theodolite to "Grid North" at the Williams Field TACAN site at McMurdo Station.*

The Navy has two facilities at the pole, a PAR and a TACAN, which serve the skiway with Standard Instrument Approach Procedures (SIAPS). After properly orienting the theodolite to Grid North, we did the flight inspection of the TACAN. Upon completion, the theodolite was repositioned and used as a reference for the PAR certification. Both facilities checked out properly.

I think I should explain that the theodolite is used as a reference to determine the aircraft's azimuthal, or horizontal, bearing in space. A comparison of the bearing radiated by the facility and the aircraft's bearing in space, based on the theodolite sightings, indicates whether there is a facility error. Excessive bearing error and other parameters beyond the level of established criteria require adjustment of the facility before acceptance so as to preclude facility restriction or rejection by the flight inspector.

Once the job was done, equipment and cargo were reloaded on the aircraft, without shutting down the engines, and the LC-130 took off for McMurdo Station. A take-off in a LC-130 with skis is an indescribable, unforgettable experience and a tribute to the skill of the Navy's pilots.

The trip back to McMurdo was just as spectacular. Looking down from 20,000 feet at the vastness, solitude and ruggedness of the snow and ice-covered terrain, it was easy to imagine the loneliness and hardships that the explorers Scott and Amundsen endured during their treks to the South Pole.

On November 11, with the temperature at McMurdo Station a mild +15°F, we checked the TACAN and PAR. During the TACAN inspection, we found anomalies in several areas, which resulted in restricting these areas as unusable. In addition, we recommended the suspension of a TACAN SIAP to one of the skiways at Williams Field because the published approach radial did not meet the procedure's alignment criteria. The PAR also was checked and certified with theodolite reference.

We returned to Christchurch on a C-130 November 13 and then to Honolulu on commercial airlines, closing out a journey that saw us log more than 14,000 miles in the air.

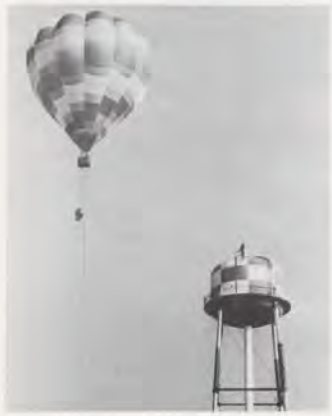
That may not be the end of it for us. The Navy has indicated that it will be requesting an annual FAA flight check of the Antarctica facilities, and those responsibilities will increase with the planned commissioning of an ASR-8 radar at McMurdo Station.

Keep my duffel bag ready! ■

*Electronics technician Humphrey Russell takes his turn working the portable flight inspection station aboard the Hercules.*

*A forklift loads the palletized Sierra Portable Flight Inspection System aboard the Navy LC-130 Hercules being used for flight-inspection duty.*





# The Mother of Invention

By Billy L. Nabors

A helicopter would have been ideal for replacing the 36-inch rotating beacon atop the 153-foot water tower at Bobby L. Chain Municipal Airport in Hattiesburg, Miss., but none was available.

A 60-ton crane was available but couldn't be used because of a 10-ton load-limit bridge leading up to the site.

The ever-resourceful contractor, Hali-Brite, Inc., of Crosby, Minn., located a doctor in Meridian, Miss., with a hot-air balloon who was confident he could handle the installation. Over the years, Hali-Brite had installed hundreds of beacons. Although they had never used a hot-air balloon themselves, they knew of a prior instance of its use.

They decided that the best time for the installation would be shortly after daybreak while the air was calm. With the balloon controlled with tether lines by three men on the ground, the old beacon was brought down and the new one installed in about 45 minutes. It went without a hitch.

For those of us who thought hot-air balloons were only toys for rich men, we know there's more to it. The cost of this operation turned out to be about one-third of that quoted for the helicopter or crane. ■

*Mr. Nabors is project manager at the Jackson, Miss., Airports District Office. This article is adapted from the Southern Region* Intercom.

# People

## Aeronautical Center

■ **Doyle W. Good,** unit supervisor, Storage and Transportation Branch, FAA Depot, promotion made permanent.

■ **Charles G. Kenner,** unit supervisor, Atlanta, Ga., Flight Inspection Field Office (FIFO), from the Tokyo, Japan, FIFO.

■ **Walter E. Lee,** supervisor, Electronic Production Section, Engineering and Production Branch, FAA Depot.

■ **Alan R. Moore,** supervisor, Engineering Section, Engineering and Production Branch, FAA Depot, from the Program Engineering Service.

■ **Robert L. Mulligan,** deputy manager, Aircraft Maintenance & Engineering Division, Aviation Standards National Field Office, from the Dallas-Fort Worth, Texas, Flight Standards District Office (FSDO).

■ **William H. Owens,** section supervisor, Atlantic City, N.J., FIFO.

■ **Jon A. Phelps,** section supervisor, Battle Creek, Mich., FIFO, promotion made permanent.

■ **Lawrence J. Spoor,** unit supervisor, Battle Creek FIFO, promotion made permanent.

■ **Richard L. Taylor,** unit supervisor, Engineering and Production Branch, FAA Depot, promotion made permanent.

## Alaskan Region

■ **Rebecca Moore,** area supervisor, Fairbanks Tower, from the Anchorage Tower.

■ **Randy K. Rogers,** manager, King Salmon Flight Service Station (FSS), from the Sitka FSS.

■ **Robie B. Strickland,** manager, Airway Facilities Division.

■ **Jimmie W. Tennant,** maintenance mechanic foreman, Nome Airway Facilities Sector Field Office, North Alaska AF Sector, from the South Alaska AF Sector.

■ **Charles L. Werner,** manager, Kotzebue FSS, from the Quincy, Ill., FSS.

## Central Region

■ **Lloyd W. Adams,** supervisor, Operations Planning Section, Program and Planning Branch, AF Division, from the Kansas City, Kan., ARTCC AF Sector.

■ **Raynell Brandon,** area supervisor, St. Louis, Mo., Automated Flight Service Station, promotion made permanent.

■ **John R. Coulter,** manager, Kansas City, Mo., AF Sector Field Office (AFSFO), NATCOM AF Sector.

■ **Joseph A. Doerr,** area supervisor, Kansas City ARTCC.

■ **William V. Francis,** aviation safety inspector, Kansas City, Mo., Flight Standards District Office (FSDO).

■ **John W. Humphreys,** manager, Accounting and Disbursing Branch, Accounting Division.

■ **James H. King,** area manager, Kansas City ARTCC.

■ **Robert R. Knight,** area supervisor, Waterloo, Iowa, Tower, from the Cedar Rapids, Iowa, Tower.

■ **Robert E. McFadden,** area supervisor, Hutchinson, Kan., Tower.

■ **Arthur W. Nelson,** manager, Atlanta, Ga., Aircraft Certification Office (ACO), promotion made permanent.

■ **Ronald K. Rathgeber,** assistant manager, Wichita, Kan., ACO, from the Aircraft Certification Division.

■ **Walter W. Ray, Jr.,** assistant manager for training, Kansas City ARTCC AF Sector.

■ **Charles J. Richardson,** area manager, Kansas City (Mo.) International Airport Tower.

■ **Jack F. Schaeffer,** manager, Garden City, Kan., AFSFO, Wichita AF Sector, from the Goodland, Kan., AFSFO.

■ **Jesse J. Statham,** area supervisor, Lincoln, Neb., Tower.

■ **Charles G. Wilson, Jr.,** manager, St. Louis FSDO, promotion made permanent.

■ **Michael J. Zinkin,** area supervisor, St. Louis International Airport Tower, from the Air Traffic Operations Service.

## Eastern Region

■ **Boyd V. Archer, Jr.,** area manager, Norfolk, Va., Tower, from the New York TRACON.

■ **William R. Carver,** area supervisor, Washington-Dulles Airport Tower, from the Baltimore-Washington Tower.

■ **John G. Esposito,** unit supervisor, JFK Airport Airway Facilities Sector Field Office (AFSFO), Metro New York AF Sector, promotion made permanent.

■ **Wayne I. King,** unit supervisor, Newark Airport AFSFO, Tri-State AF Sector, promotion made permanent.

■ **Lawrence C. Lee,** aviation safety inspector, Teterboro, N.J., Flight Standards District Office (FSDO).

■ **Rosalie J. Mangieri,** supervisor, Real Estate Services South Section, Real Estate & Utilities Branch, Logistics Division.

■ **Michael Joseph McCormick,** area supervisor, Philadelphia, Pa., Tower, promotion made permanent.

■ **Peter A. Nelson,** maintenance inspector, Airports Division.

■ **Carol E. Tringali,** supervisor, Construction Section, Procurement Branch, Logistics Division.

## Great Lakes Region

■ **Robert L. Altizer,** assistant manager, traffic management, Indianapolis, Ind., ARTCC.

■ **David L. Andress,** watch supervisor, Minnesota Airway Facilities (AF) Sector, Minneapolis, promotion made permanent.

■ **Dale H. Bischoff,** watch supervisor, Minnesota AF Sector.

■ **William L. Brewner,** assistant manager, plans and procedures, Chicago O'Hare Tower.

■ **Wilbert F. Heine,** watch supervisor, Minnesota AF Sector, promotion made permanent.

■ **Gary M. Klingler,** assistant manager for training, Detroit (Mich.) Metro Tower.

■ **Gregory E. Morrissey,** area supervisor, Sioux Falls, S.D., Tower.

■ **Herbert F. Taylor,** manager, Traverse City, Mich., Tower, from Detroit Metro.

■ **Manuel A. Torres,** area supervisor, Minneapolis ARTCC, promotion made permanent.

## New England Region

■ **Frank E. Higbee,** radar specialist, Windsor Locks, Conn., Airway Facilities (AF) Sector.

■ **David P. Judson,** area supervisor, Logan Tower, Boston, from the Air Traffic Div.

■ **David H. Knettel,** assistant manager for program support, Windsor Locks, Conn., AF Sector, from the Technical Center.

■ **John R. Williams,** area supervisor, Portland, Maine, Tower, promotion made permanent.

## Northwest Mountain Region

■ **Roger A. Benegar,** systems engineer, Salt Lake City, Utah, ARTCC Airway Facilities (AF) Sector.

■ **James C. Bristow,** area manager, Denver, Colo., Tower.

■ **Gordon A. Burnet,** manager, Boeing Field Tower, Seattle, Wash., from the Everett, Wash., Tower.

■ **Lawrence J. Cates,** unit supervisor, Seattle Flight Standards District Office.

■ **Walter E. Emmons,** area supervisor, Billings, Mont., Flight Service Station.

■ **Robert E. Greene,** assistant manager, plans and procedures, Denver Tower.

■ **Darrell E. Jefferson,** area supervisor, Boeing Field Tower, Seattle, from the Ogden, Utah, Tower.

■ **Lawrence T. Leonard,** manager, Idaho Falls, Idaho, Tower, from the Sioux City, Iowa, Tower.

■ **Douglas R. Miner,** area supervisor, Salt Lake City Tower, from the Pueblo, Colo., Tower.

■ **Clement H. Monge,** manager, Civil Rights Staff.

■ **John V. Owen,** unit supervisor, Seattle AF Sector.

■ **Daniel A. Piper,** manager, Ogden Tower, from the Salt Lake City Tower.

■ **Richard E. Prang,** manager, Airspace and System Management Branch, Air Traffic Division, from the Spokane, Wash., Tower.

■ **Joseph R. Stromberg,** systems engineer, Salt Lake City ARTCC AF Sector.

■ **Lisa P. Thompson,** manager, Everett Tower.

## Southern Region

■ **Charles B. Benefield,** assistant manager, Jacksonville, Fla., Hub Airway Facilities (AF) Sector, from the regional International Staff.

■ **Thomas G. Christian,** assistant manager, quality assurance, Memphis, Tenn., ARTCC.

■ **Robert L. Cook,** unit supervisor, Atlanta, Ga., Civil Aviation Security Field Office.

■ **Charles F. Criswell,** manager, Miami, Fla., ARTCC.

■ **Ronnie O. Farmer,** manager, Charlotte, N.C., AF Sector, promotion made permanent.

■ **William L. Johnson, Jr.,** area manager, Hebron, Ky., Tower.

■ **Marvin R. Miller,** crew chief, Atlanta ARTCC AF Sector, promotion made permanent.

■ **Mark G. Palazzo,** area supervisor, Miami ARTCC, promotion made permanent.

■ **Johnny M. Phillips,** crew chief, Atlanta ARTCC AF Sector, promotion made permanent.

■ **Michael P. Sheehan,** manager, London, Ky., Flight Service Station, promotion made permanent.

■ **Donald E. Stinson,** area manager, Nashville, Tenn., Tower.

■ **James A. Stuart,** unit supervisor, Montgomery, Ala., AF Sector, promotion made permanent.

■ **Stanley Zylowski,** manager, San Juan, Puerto Rico, Center/RAPCON, from the Air Traffic Division.

## Southwest Region

■ **Frank D. Butler,** area supervisor, Albuquerque, N.M., Tower, promotion made permanent.

■ **Walter E. Garrard, Jr.,** team supervisor, Dallas-Fort Worth, Texas, Flight Standards District Office (FSDO), promotion made permanent.

■ **Michael A. Gonzales,** manager, Albuquerque ARTCC Airway Facilities (AF) Sector, from the Western-Pacific AF Div.

■ **Beverly K. Grisham,** area supervisor, McAlester, Okla., Automated Flight Service Station, promotion made permanent.

■ **Joe G. Hokit,** assistant manager, Corpus Christi, Texas, Tower, from the Houston, Texas, Intercontinental Airport Tower.

■ **Felix D. Nunnery,** team supervisor, Baton Rouge, La., FSDO.

■ **Steven M. Nye,** area supervisor, Tulsa, Okla., Tower, from Houston Intercontinental.

■ **Carroll V. Oliver,** assistant manager for program support, Houston ARTCC AF Sector.

■ **Jack L. Oxford,** manager, Houston AF Sector, from the AF Division.

■ **Gary C. Perrin,** assistant manager, Albuquerque ARTCC, from Kansas City ARTCC.

■ **Hershel E. Rinker,** manager, Clinton-Sherman Tower, Burns Flat, Okla., from the Oklahoma City Tower.

■ **Malcolm H. Roberts,** area supervisor, Riverside Tower, Tulsa, promotion made permanent.

■ **Ruth D. Russell,** chief, Program Analysis and Evaluation Staff, Flight Standards Division.

■ **Cirilo Sanchez,** manager, Laredo, Texas, AF Sector Field Office, San Antonio, Texas, AF Sector, from St. Louis, Mo., AF Sector.

■ **Edward F. Stevens, Jr.,** manager, Santa Fe, N.M., Tower, from Midland, Texas, Tower.

■ **Boyce W. Tate,** area supervisor, Hobby Airport Tower, Houston, from the Houston Intercontinental Tower.

■ **Ronald P. Wegrzyn,** area supervisor, Oklahoma City Tower.

■ **John S. Weingartner,** area supervisor, Tulsa Tower, from Love Field Tower, Dallas.

■ **Loretta M. York,** supervisor, All Other Occupation Employment Section, Compensation & Employment Branch, Human Resource Management Division, promotion made permanent.

## Technical Center

■ **Richard F. Bock,** manager, Concepts Analysis Division.

■ **Janis I. DiFabio,** deputy manager, Human Resource Management Division.

■ **Philip J. Gill,** manager, Automation Div.

■ **Daniel M. Greis,** unit supervisor, Plant Services Branch, Plant Engineering & Services Division.

■ **Howard R. McGlauflin,** deputy manager, Automation Software Division, from the Logan Airport Tower, Boston.

## Washington Headquarters

■ **John R. Carlson,** manager, Facilities Integration Division, Program Engineering Service.

■ **Louis C. Cusimano,** assistant manager, General Aviation & Commercial Division, Office of Flight Standards.

■ **Betty J. Davis,** manager, AVR Resource and Analysis Branch, Resource Management & Analysis Division, Office of Program and Resource Management.

■ **Rondel L. Lipps,** manager, Software & Program Support Program, Navigation/Landing & Monitor Division, Program Engineering Service.

■ **Fanny Rivera,** manager, Human Resource Management Division, Associate Administrator for Human Resource Management.

■ **Henry G. Tinsley,** manager, Special Programs Branch, Technical Programs Division, Office of Flight Standards.

■ **Leo J. Weston,** manager, Repair Station Branch, Aircraft Maintenance Division, Office of Flight Standards.

## Western-Pacific Region

■ **George H. Ackerman,** manager, Hilo, Hawaii, Tower, from the Maui, Hawaii, Tower.

■ **Caroline Carey,** area supervisor, Stockton, Calif., Tower, from the Oakland, Calif., TRACON.

■ **William D. Devlin,** maintenance mechanic foreman, Palmdale, Calif., Field Maintenance Party, promotion made permanent.

■ **Robert G. Green, Jr.,** manager, Maui Tower, from the Detroit Metro Tower.

■ **Kenneth R. Mahorney,** manager, Red Bluff, Calif., Flight Service Station (FSS), from the Fresno, Calif., FSS.

■ **John Mayrhofer,** flight data monitor, Air Traffic Division.

■ **James H. Panter,** manager, El Toro Marine Corps Air Station TRACON, Santa Ana, Calif.

■ **Wayne J. Sandifer,** area manager, Phoenix, Ariz., TRACON, from the Washington ARTCC.

■ **Richard G. Teixeira,** aviation safety inspector, Honolulu, Hawaii, Flight Standards District Office.

## High Honor for Foreign Representative

*Raymond Ybarra (right) FAA representative for Brazil, Argentina, Chile, Paraguay and Uruguay, was recently admitted to the Aeronautical Order of Merit, as an officer, by the Government of Brazil. He was one of only two non-Brazilian recipients for the year. Presented to him by an air force general in Rio de Janeiro, the Order of Merit was given for Ybarra's excellence in all areas of civil aviation.*



The information in this feature is extracted from the Personnel Management Information System (PMIS) computer. Space permitting, all actions of a change of position and/or facility at the first supervisory level and to branch manager in offices are published. Other changes usually cannot be accommodated because there are thousands each month.

## Retirees

AERONAUTICAL CENTER
Homer L. Baze
Billy G. Bowers
Dalton R. Bradley
Arthur W. Breon
James F. Byrne, Jr.
J.C. Champion
Richard F. Chandler
E. Pauline Clement
Alphonso J. DeJesse
Herman W. Duncan
Charles E. Griffin
Albert J. Harvey
J. Charles Herring
Jimmy D. Holcroft
William Jenkins
Robert W. Jermyn
J.D. James Knaird
Aaron W. Mahelona
Hobart D. Mattison
Eual R. McCrite
Earl R. McDow
Donald R. Mizzi
Glendon W. Music
Dale E. O'Brien
Arthur P. Pareene
Leland F. Patterson
Leonard T. Pschirer
James H. Roberts
Calvin E. Rutherford
Mike A. Sanchez
Norwin G. Sanders
Donald L. Smith
Earl M. Sprout
Roy C. Tamanaha
Garold D. Tessman
John E. Weber
Stanley S. Yamamoto
Robert L. Zielny

ALASKAN REGION
John E. Fischback
Carl E. Funsteen
Emery R. Hurley
Donald E. Schultz

CENTRAL REGION
Luther M. Ables
Stephen B. Carter
Charles A. Cox, Jr.
Harold A. Fields
Jerry L. Fisk
Kenneth Gestenslager
Pauline Gieras
Ralph R. Goff
Maurice R. Goodrich, Jr.
Joe H. Heathcot
Alfred A. Hostmeyer
Gordon Lee Jones
Marion L. Jones
Roy F. LeSage
Alfred Milana
Loren D. Newton
Leland T. Notterfield, Jr.
Ralph E. Orr
Clarence E. Pyles
Warren E. Robertson
Allen Sample, Jr.
David A. Smith
Desmond G. Stanton
George A. White
Ivan E. Whitted

EASTERN REGION
William J. Armknecht
Edwin C. Bland, Jr.
William H. Boyer
Donald P. Byrne
David C. Caesar
Benjamin B. Cliffe
Harold J. Cook
Robert H. Davis
James L. Durfee
Charles S. Gammon
Bernard G. Golitsin
Robert M. Hanson
Richard J. Higgins
Robert E. Hoffman
David E. Lynch
James E. McCafferty
Philip Navee
Joel D. Oakley
Merino J. Pesi
William V. Roeder
Paul Shulsinger
George A. Simmons
Robert G. Simon
Wilbur C. Smith
Kenneth E. Snyder
Adolph F. Solonsky
Jerrold N. Tierney
Louis W. Vengilio
John W. Wenderoth
Dale K. Young

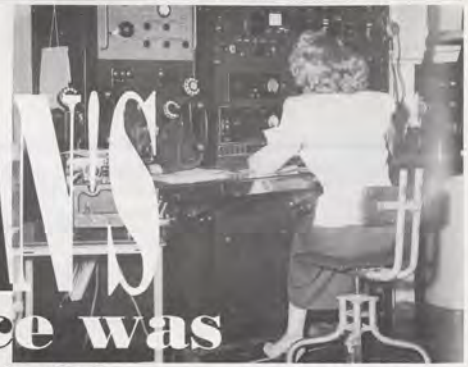
GREAT LAKES REGION
George G.E. Barthel
Lieland C. Bass
Alexander T. Bell
Charles M. Blackman
Abraham H. Bomberger
James Cormican
Michael P. Dalo
Joseph F. Forsthoffer
Eugene J. Hall
James V. Harrison
Albert Hopkins
Paul L. Jackson
Ronald C. Janacek
Robert G. Juenemann
Jack L. Keeler
Kenneth C. Kirchoff
Herman M. Larkom
Melvin B. Laxenberg
Robert L. Miller
John M. Mitchell
Charles R. Murray
James R. Murray
Edna M. Olson
Lawrence D. Rankin
Raymond G. Reed
Willard D. Rogge
Robert C. Rutkoske
Donald A. Sanvi
Joyce Sanvi
Norman E. Sears
Jesse W. Sechrest
Marvin A. Smith
Raymond B. Spann, Jr.
Charles E. Swanson
Gene H. Thomason
Gerald A. Vavruska
William D. Wagner
Richard G. Williams
William A. Wolfe
Clarence R. Yelk
George E. Young

NEW ENGLAND REGION
Wesley C. Beane
David L. Cahill
Marvin S. Carter, Jr.
Phillip E. Colburn
Richard S. Colman
Alfonso M. Craig
Daniel J. Crotty
John C. Donahue
Ronald E. Driscoll
Vernon D. Ellars
Michael R. Grady
Donald W. Holdgate
James A. Jenkins
Alfred J. Manzo
Thomas F. Mazzotti
George McKay
Robert L. McLaughlin
John J. Murphy
Ronald W. Ratt
Harold B. Simpson

*Continued on page 15*

# a WOMAN'S place was in ATC

By Debra Plymate



*The first inroads of women in airway management came in the 1930s as aircraft communicators in the aeronautical communications stations—the forerunners of flight service stations. Their numbers increased greatly during World War II.*

In many respects, World War II was a precursor of the current women's movement. When America's young men went marching off to war following the bombing of Pearl Harbor on Dec. 7, 1941, the nation's women to a great extent took over not only the farms and factories but also the air traffic control system.

Although many of these gains in equal employment opportunity were wiped out upon the return to a peacetime economy, women had proved their point: They belonged in the workplace as well as the home.

Until the United States became involved in World War II, air traffic control was exclusively a male domain. Although women had served as aircraft communicators in aeronautical communications stations (forerunners of modern Flight Service Stations) since the early 1930s, they were systematically excluded from air traffic control work.

As America recovered from Pearl Harbor at the end of 1941, the Civil Aeronautics Administration (CAA), which was FAA's immediate predecessor, operated 15 airway traffic control centers. In addition, the agency in November 1941 had begun to take over from municipalities the job of running airport control towers that had been designated as essential to national defense.

The agency's responsibilities continued to grow with the rise in wartime air traffic. By 1944, the CAA was operating 27 centers and more than 100 airport control towers.

The increased workload together with the loss of CAA employees to the armed services soon created a critical staffing problem. Many aircraft communicators had been drafted into the military since their jobs were rated "non-essential" to the continuation of the war effort on the home front. In addition, many "essential" center and airport traffic controllers were moved by a spirit of patriotism to enlist in the armed services.

That gave women their chance. Early in 1942, the CAA opened their controller training classes to women at its seven regional offices: New York, Chicago, Atlanta, Kansas City, Fort Worth, Seattle and Santa Monica, Calif.

By the end of 1942, 40 percent of the air traffic controller trainees were women. The percentage of female trainees was to go even higher the following year, while the first women graduates were moving from the classroom to the field and becoming involved in actually working air traffic.

By June 1943, the CAA training quota was 1,200 traffic controllers and 1,800 aircraft communicators.

According to John Tighe, one of the original cadre of 15 controllers who established the enroute ATC system, the hiring of women actually began slightly before the Pearl Harbor attack as the CAA began preparing for what appeared to be an unavoidable conflict.

Another of the original 15, Lee Warren, who went on to become the director of the Air Traffic Service, said: "Bringing women into ATC was our response to a short labor market.... The young guys were going to war. Of the people available and the expansion you had, it was a natural way to go."

For controllers, the age limit was 20 to 45, with various combinations of experience and education admissible. Flying experience was not a requirement, but those who had it automatically went to the top of the hiring list. The pay was at a rate of $1,800 a year during training and $2,000 to $2,300 annually when fully qualified.

Applicants for aircraft communicator positions were recruited from the 17-40 age group, the only requirement being that they type at least 40 words per minute. However, preference was given to those who had radio telegraph or aeronautical experience. The pay scale was somewhat lower than that for controllers: an annual salary of $1,440 during training and $1,620 once on the job.

Aircraft communicators were trained as weather observers, teletype operators and radio operators, transmitting and receiving messages by voice and Morse code.

In July 1943, the *Civil Aeronautics Journal* reported on the opportunities being offered to women in CAA communications training schools. It cited the most recent graduating class at the New York regional school in Flushing, which had 25 trainees, 24 of whom were women.

As the end of the war drew closer, women were making an increasingly substantial contribution to air traffic control. In May 1945, the *Civil Aeronautics Journal* pictured two CAA-trained women controllers in the Marine Corps Air Station tower in Santa Barbara, Calif. The photo reflected the close cooperation between civilian and military personnel in this period. In addition to handling civil traffic, CAA controllers provided assistance to Marine fighter and torpedo-bomber pilots in training for operations aboard newly commissioned carriers.

This scene changed abruptly once the war ended. The men returned from the armed services and reclaimed their jobs, and many women soon had their hands filled with what became known as the "baby boom." A review of photos taken in centers and towers in the early 1950s shows them devoid of women. The staffs were almost exclusively men in white shirts, dark ties, and jackets.

Indeed, women controllers had become such a rarity by this time that Ethel B. (Kelly) Callahan from the Honolulu tower was asked to appear on the popular television program, "What's My Line?" She managed to stump the panel of experts. ■

*During World War II (1943), controllers at the first-generation Washington National Airport Airway Traffic Control Center were augmented by an influx of women and military specialists. Intra-facility communications were via pneumatic tubes.*

## Married to a Job

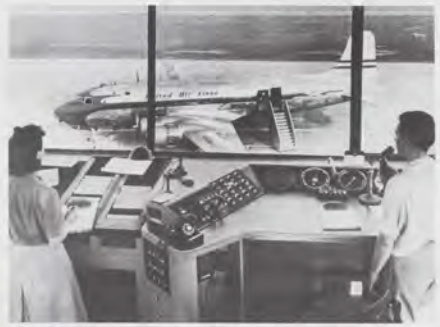
Before the CAA became the FAA in 1958 and training was consolidated in Oklahoma City, the regions had their own training schools. At the training facility in Seattle, the CAA used to train husband and wife teams to run facilities in isolated locations, especially in Alaska. A wife did the same job for the same pay as her husband.

The training involved a six-month course covering communications, navigation, weather, Morse code and radio theory. Life in a remote station required full-time residence. It was a seven-days-a-week job for the couple. Often they worked 10 hours a day each for a year or more without a day off.

Reportedly many of these couples were divorced after they completed a tour, perhaps as a result of too much "togetherness" and the fact that the women now had skills that gave them economic independence. ■

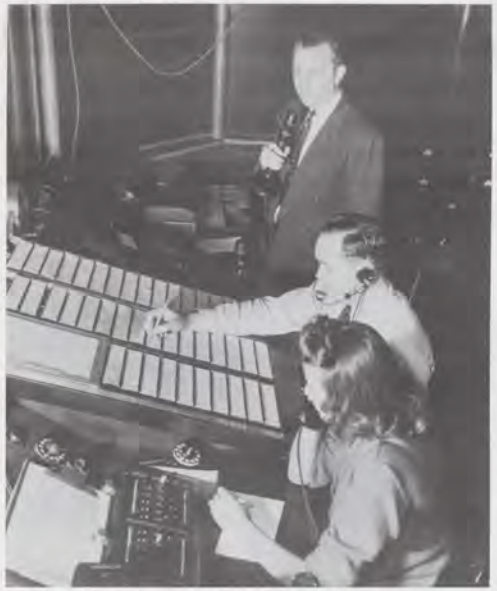
*Ms. Plymate is an air traffic control specialist in the System Plans & Programs Division, Air Traffic Plans and Requirements Service.*





*A woman controller handles a log and the flight strips as a male talks to an aircraft at Chicago Municipal Airport in the early 1940s. On the ramp is a DC-4.*

*Marion Olmsted was the first woman controller at the St. Louis Center in 1958.*



*Operating the Midway Airport tower in Chicago in 1943 were (from the front) Ruth VanEtten, Tom Rigdon and tower Manager George Niles. Women first entered the towers as air traffic control specialists during the war.* —George Niles Collection

*Honolulu's first aeronautical communications station was established in 1941. Here, men and women operate teletypewriter machines under a message-dropoff device.*

## A Black Woman Crosses the Bar

The first black woman to become an air traffic controller is reputed to be Elinor Williams, who began her FAA career in 1965 as a clerk steno in the Alaskan Region's Personnel Staffing Office. She then took the controller entrance exam, scored extremely high and was assigned to the Anchorage International Flight Service Station.

In 1968, Williams became a controller at the Anchorage Air Route Traffic Control Center. After 10 years, she opted for a warmer climate and transferred to the San Juan combined center radar approach control (CERAP) facility in Puerto Rico. That was followed by a tour in the Southern Region headquarters in Atlanta.

In September 1983, she returned to the Anchorage Center in order to be close to her grandchildren. During that time, she received the Administrator's Award for Outstanding Achievement in Equal Opportunity for aiding women and minorities in pursuing successful careers in the Civil Service. Williams now is an Area Manager at the Kansas City Center. ■

# Traffic Light Gets Green Light

By Duncan B. Pardue

Air traffic controllers have at times been called traffic cops. If an experiment at JFK International Airport works out, that appellation may be closer to the truth than ever.

The first red-and-green traffic light system for runways and taxiways in the United States began a one-year test there on January 15.

Red lights are displayed at 15 major JFK runway intersections until green lights are triggered individually by control tower personnel. The green lights revert automatically to red after a 20-second interval—ample time for an aircraft to begin its roll from a taxiway onto a runway.

Verbal clearances, however, are the governing instructions for the pilot. Pilots are expected to advise air traffic control anytime a visual signal is in conflict with a verbal clearance, prior to executing the verbal clearance.

The traffic lights, called a "Stop Bar System," are radio controlled and linked to the computer in the tower for recording their use. They are operated by a controller who listens to the same frequency as the local controller. He or she presses buttons on a keyboard laid out on a map of the intersections. "All that controller is doing is converting voice comnands to visual light signals," says tower manager Ed Trudeau.

Installation of the Stop Bar System followed more than five years of planning and discussion by air traffic controllers, pilots and lighting engineers. The $600,000 system was installed under the jurisdiction of the Port Authority of New York and New Jersey. The prime contractor was Crouse-Hinds of Windsor, Conn., with Motorola as a subcontractor.

The need for the system has been underscored by a number of ground collisions and near collisions at various airports in recent years. The world's worst aviation disaster took place on the ground in 1977 between two Boeing 747s at Santa Cruz de Tenerife in the Canary Islands. It killed 583 persons.

Similar systems are functioning at London's Heathrow and Frankfurt's Main airports. The International Civil Aviation Organization (ICAO) in Montreal has recommended traffic lights to guide both airplanes and airport ground vehicles in bad weather. ✱


*At each runway intersection being controlled are Stop Bar Remote Switching Units, a pair of which are shown here by JFK tower Manager Ed Trudeau (left) and Port Authority Aeronautical Services Manager Jack Gardner.*

"A success with the Kennedy evaluation—measured by cost and reactions from pilots, controllers, maintenance crews and airlines—could lead to Stop Bar Systems being installed at other airports, Eastern Region Administrator Dan Peterson said.

Peterson explained that Kennedy Airport was chosen for the Stop Bar test because of its nine miles of runways, 22 miles of taxiways and scores of foreign pilots whose command of English may not always be as good as controllers would like it to be.

For economic reasons, radio control for the Stop Bar lights was selected instead of electrical wires under the runways, but that decision resulted in unexpected frequency conflicts, which delayed the launching of the test.

"We discovered that the frequency of a radio-controlled runway temperature-sensing system was interfering with the frequency of the Stop Bar System," said Port Authority spokeswoman Julie Edwards. It was resolved by assigning the temperature sensors the same frequency as a similar system at Newark Airport. The Stop Bar now operates on the old sensor frequency.

*A public affairs specialist in the Eastern Region, Mr. Pardue has worked as a reporter for newspapers in the South and in industrial relations for two major corporations.*

*JFK controller Mike Higgiston, who has trained ATCSs on the Stop Bar System, demonstrates the control panel's operation.*



*Each controlled intersection has a red and a green lens on each side of the taxiway, shown here, and three of each color embedded in the pavement.*

*The Stop Bar Mimic Panel, which shows the layout of the taxiways, is about the size of a typewriter keyboard.*

Training controllers to operate the Stop Bar System has been a full-time responsibility for Mike Higgiston, a Kennedy tower controller on special assignment. "All controllers at the level of local controller and above have been checked out on the Stop Bar," he said.

For controller training and preliminary testing, red and green lenses in the lights were temporarily replaced with amber ones. Now, the red and green ones are back and pilots and drivers have to mind them. ■

✱ Although the JFK Stop Bar System is the first use of airport red and green lights for airplanes and the first of any sort in the jet age, they were used at least at one airport in the 1930s to separate automobiles and aircraft.

FAA retiree Robert Brown recalls that when Washington and Hoover airports in Arlington, Va., combined, a paved runway was built that bisected the road that had separated them. A traffic light was installed, activated by a switch in the control tower.

This proved unsatisfactory because motorists were inclined to run the red light when an aircraft was approaching, causing some real "near misses." To remedy this, a controller was stationed at the intersection, walking to the center of the road to stop traffic when the tower turned the light red. Eventually, the road had to be closed. ■

## Retirees

continued from page 11

Joseph A. Tetreault
John E. VanHorn

NORTHWEST MOUNTAIN REGION
Paul R. Bieberstein
Alan Butterworth
John H. Carter
Patrick G. Claxton
Francis E. Davis
Frank V. Day
Gerald L. De Croo
Duaine W. Elg
James R. Franko
Bruce A. Gardiner
David E. Getchel
Richard J. Greisen
Arthur C. Hauer
Richard Henderson
David H. Kidd
Virginia S. Meadows
Frank D. Melton
Robert M. O'Brien
Roger D. Rankin
Helen S. Rees
Kenneth C. Roman, Jr.
Gordon W. Scott
Bryan R. Seare, Jr.
Byron G. Smith, Jr.
Ernest D. Smith
Robert Stagg
Charles R. Taylor
Richard W. Thompson
Donald W. Watt
Stanley E. Welch
James A. Wene
Donald D. Witherspoon

SOUTHERN REGION
James L. Alexander
Ruth T. Anderson
Conner R. Armstrong
Travis M. Atkins
R.C. Baxley, Jr.
Edward S. Bayne
Louis C. Bergmann
William E. Best
Claver J. Blair
Thurmon E. Blalock
Donald K. Boggs
Rebekah S. Brady
Salvatore A. Brocato
James P. Brown
Buford W. Brundage
Allen C. Burroughs
John P. Butler
Dempsey W. Cartwright
Edward B. Cash
Robert H. Chisholm
James D. Clark
John A. Cobb
John P. Copeland
Frederick H. Daniell
Harry E. Davis, Jr.
Rubye P. Davis
Graydon C. DePriest
Larry O. Diggs
James J. Dinkins
Richard D. Dunivant
James E. Edwards
Donald R. Felps
Aubrey L. Ferguson
William T. Gorrell
Bobby G. Gray
James R. Green
Ronald W. Greene
John P. Hagan
William F. Herring
Clelland A. Hickerson
James R. Holyfield
Richard D. Janes
Billy J. King
Harold L. Lacy
Louis H. Lanzilla
Robert C. Lauer
Donald L. Lord
Robert G. Magner
Carl F. Marshall
Elijah T. Mathis, Jr.
Robert N. McDaniel
George A. McKinney
Thomas B. Miller
David L. Morrow
Melville J. Norgart
Thomas E. Passmore
Susan E. Quesenberry
William A. Rhoden
James A. Ricker
Walter L. Rigsbee
Roy E. Rowell
Charles B. Rutherford, Jr.
Donald E. Saunders
Hugh E. Sawyer, Jr.
David R. Shelton
Wilford L. Shotts
William H. Sims, Jr.
Carroll E. Smith
Gilbert B. Stringer
Marie S. Sundh
Ronald D. Thomas
Ellerbe R. Trapp
Ion Wainwright
Arthur K. Weathers
George W. Weimar, Jr.
William H. Wilder
James H. Williamson, Jr.
George S. Wilson, Jr.
John T. Wilson
Sofia R. Young
Carl D. Youngblood

SOUTHWEST REGION
Melvin N. Asher
Jessie D. Beck
James E. Bodgood
Morin E. Blacklock
Ray V. Bush
Mildred T. Cate
Virgil E. Cochran, Jr.
Lowell J. Deal
Edmond P. Dugas
George D. Duncan
Alford G. Easterling
Harold M. Eiswirth, Jr.
Seymour B. Feldman
Richard Y. Flores
Forrestine Galbreath
Harry Gamble
Gail E. Goodin
Jr. Wallace Horne
Dale E. Jones
Edgar D. Jones
Walter L. Kiser
Troy J. Knoten
Dwain L. Lankford
James W. Larwood
Edward J. Maschek
Damon F. McDaniel
Fred L. McDowell, Jr.
Donald W. Mideke
Lawrence E. Miller
Andrew M. Minnick
Billy G. Mohon
Michael Pavlik
Donald E. Riddle
Sam L. Riddles
William E. Robinson
Kenith L. Ross
Billy M. Sawyer
John C. Schmitz, Jr.
Lowell S. Smith
Ann M. Sparks
Helen L. Sweeney
Wayne P. Thompson
Joe G. Turbyfill
Jimmie L. Vaughan
Henry O. Waite
Robert R. Watts
Byron I. Zirkle

TECHNICAL CENTER
Julia A. DeMore
Robert J. Fallon
Gloria C. Fizekas
Edward C. Holt
Lawrence M. Hughes
Wayne W. Leyrer, Jr.
Isabelle M. O'Keefe
Stanley J. Stemik

WASHINGTON HEADQUARTERS
Donald D. Alexander
Joseph F. Bartolo
Robert G. Burns
Frederick E. Castle
Robert A. Christopher
David K. Custis
Bonnie J. Embry
Karl A. Fredrickson
Walter Goody
Fred B. Houston
James A. Jerman
Kirk Lang
James E. Noyes
Dorothy D. Rhatican
Anthony J. Scarfi
Charles W. Schaffer, Jr.
Patricia A. Schumann
Marvin F. Switzer

WESTERN-PACIFIC REGION
Jay R. Adsen
Michael A. Bavuso
John F. Beatty
Thomas V. Bowlin
Nicky Calio
Gilbert L. Ceballos
Angel Cervantes
Henry K.Y. Ching
Thomas S.C. Chun
Floyd Y. Corpus
Marion C. Davis
Richard E. Davis
Henry S. DeCasas
Armon T. Dewberry
Manuel Diaz
Stanley T. Fukuyama
Susumu Furuike
Paul L. Golden
Patricio V. Gomez
Robert M. Goto
Vernon L. Gray
Nicolas L. Hernandez
James E. Kemple
Alfred A. Knieriem
Donald E. Kramer
Robert E. La Bonte
Billy R. Lee
Keith R. Litchfield
Donald F. Loomis
Matthew Z. Markotic
Carl J. McGee
Billie R. McWhirter
Otho H. Mendenhall
Shirley O. Mercer
Donald E. Miller
Richard A. Morris
Noboru Nakao
Ernest T. Noda
Harold W. Norman
John C. Olson
Robert E. Peyton
Donald J. Polito
Edwin Poore
Edwin E. Ray
Joseph G. Reenan
Ronald V. Rudolph
Ruben A. Salazar
Neal P. Savoy
Ernest Y. Sawada
Emerson L. Schenck, Jr.
Erwin F. Stanicek
Richard T. Stevens
James T. Strawn
Jitsuo Sumida
Toshio Takehara
Laurel L. Thompson
Robert L. Varley
Bruce L. Walters
William J. Wintering

# Federal Notebook

## PAY PROSPECTS

The Administration's budget proposal recommends a two percent pay increase for January, while the Congressional Budget Office (CBO) suggests that figure or an actual pay freeze for a year. Another CBO idea is limiting annual increases to two percent below the inflation rate.

There was no mention of the failed pay increase for high-level employees in the State of the Union address, but the House Post Office and Civil Service Committee is working on legislation to sever the connection between congressional and executive salaries and enact an executive raise to forestall recruitment and retention problems.

## WHITHER RETIREMENT

The Administration's budget calls for repealing the lump-sum withdrawal (to save $1 billion the first year), a one-year freeze on civilian and military retiree cost-of-living adjustments (COLAs), but full COLAs for Social Security recipients.

In addition, the Congressional Budget Office has run ideas up the flagpole like a one-year COLA freeze for retirees under age 62, limiting COLAs to one percent below the inflation rate, raising retirement contributions 0.5 percent, basing retirement on high four-year average pay and reducing the government's contribution to the Thrift Savings Plan.

Congress has jumped in, however, with bills in both houses that would guarantee federal retirees the same COLA treatment as Social Security recipients. In addition, bills have been introduced that would require agencies to move 80 percent of all retirement paperwork to the Office of Personnel Management within one month and permit agencies to start the process months in advance of retirement; that would tax-exempt the first $10,000 of annual annuities or pensions for public employees; that would eliminate the spousal pension offset of Social Security benefits; that would narrow the tax exclusion period for annuities so the retiree could recoup his tax-free contributions within 10 years; that would restore the three-year rule; that would give retirees over age 65 the right to combine their years of service in the government and the private sector; that would repeal the taxation of Social Security benefits; and that would eliminate the Social Security earnings test.

## CONFUSION ON THE MEDICAL SCENE

Although it's generally agreed that the health plan (FEHB) is sorely in need of reform, no viable plan has surfaced. Meanwhile, the President's budget is forecasting premium increases for next January, on top of the 26 percent increase this year, as a result premium structure changes. The Administration wants to set the government's premium share on an average of the rates of all participating plans, rather than just the current big-six. The budget also shows increased costs to the elderly for Medicare.

Patchwork FEHB bills have been introduced repeatedly. This session's collection includes bills to increase the cap on the government's share of premiums from 60 to 75 percent; to pay a differential toward the premium of a retiree over 65 who doesn't have Medicare hospitalization coverage; to require dental coverage in all FEHB plans; and to require coverage for nervous, mental and emotional disorders, including alcoholism and drug addiction.

Bills in both houses would cover expenses for treatment for infertility and adoption proceedings.

Long-term-health-care and nursing-home-care bills have been re-launched, including one that permits converting part of employee federal life insurance into long-term-care insurance.

The Family and Medical Leave Act (S-345, HR-770) has been reintroduced. It permits up to 10 weeks unpaid leave for care of a child or seriously ill parent and 13-15 weeks for personal serious illness.

## LIMIT TO DRUG TESTING

Under a bill introduced by Rep. Gary Ackerman (D-NY), unless a pair of supervisors agree that an employee's performance is impaired by drug use, the employee could not be required to be tested for drugs. Excepted are the Central Intelligence and National Security agencies.

## FULL LEAVE-SHARING DEBUTS

Guidelines for leave-sharing authorized by Congress for the next five years have been published by the Office of Personnel Management in the *Federal Register*. They require agencies to accept annual leave from donors working in other agencies, to define which family member emergency qualifies an employee for the program and to respond to a request for leave within 10 days. Until agencies have the programs in place, the current leave-sharing programs are in effect.

U.S. Department
of Transportation

**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

**RETURN POSTAGE GUARANTEED**

Official Business
Penalty for Private Use $300

**BULK MAIL**
POSTAGE & FEES PAID
FEDERAL AVIATION
ADMINISTRATION
PERMIT NO. G-44

bs HW