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U.S. Department
of Transportation
**Federal Aviation
Administration**

FAA World

April 1993



Proposed designs, such as the Initial Sector Suite System (ISSS) supervisor's console shown here, can be "brought to life" through state-of-the-art computer graphics.

Help for the Planner's Nightmare

Story on page 6

F or Y our I nformation . . .

April is **National Alcohol Awareness Month**. This year FAA's Office of Aviation Medicine has targeted April 14 to zero in on alcohol problems within the community and workplace. Awareness and training programs are to be held across the country.

Check with your regional drug program coordinators in the Office of Aviation Medicine for activities taking place in your area.

Copies of "**In Andrew's Path**," a recent historical report on FAA's response to Hurricane Andrew, are being distributed within the Miami hub area by the Miami Tower. Others who wish a copy of this report may contact APA-4 at Headquarters on (202) 267-3478 or -3854.

Interested in forming a national coalition or taskforce for **American Indians and Alaska natives**? Contact John Ogden, AHR-140, (202) 267-7379; or Alrita Simons, ACR-5, (202) 267-5794.

Simons would also like to hear from employees interested in forming a national coalition or taskforce for people with disabilities.

Ken Ten Weekend is the annual summer picnic targeted to all FAA employees in Kentucky and Tennessee—past and present—including personnel at Southern Region headquarters. Other FAA employees from all options are also invited.

This year's event will be held in Nashville from Friday, June 25, to Sunday, June 27. In addition to the picnic, activities will include a day at Opryland, golf tournament, softball and other outdoor sports, and a dinner cruise. Camping is available for those who would prefer to camp instead of stay in a hotel.

Contacts are Milton J. Jones, Jr., (615) 781-5460; and Brad Burtner, (606) 371-5055.



The **National Hispanic Coalition of Federal Aviation Employees** will hold its 1993 national training conference in Oklahoma City from August 17 to 19.

FAAers interested in serving on the conference committee can contact Manny Torres, chair, at (405) 954-6967; or cochair Robert Barajas at (405) 954-5036.

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Secretary of Transportation
Federico F. Peña

FAA Administrator
Joseph Del Balzo, acting

**Assistant Administrator—
Public Affairs**
Bob Buckhorn, acting

**Manager—Public & Employee
Communications Division**
Paul Steucke, Sr.

**Manager—Employee
Communications Branch**
Pat Cariseo

Editor
Pat Tomassetti
(202) 267-3448

Art Director
Michael A. Malden

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Employee Communications Branch
(APA-340) of the Public and
Employee Communications Division,
FAA Office of Public Affairs,
800 Independence Avenue SW,
Washington, DC 20591.

Articles and photos for FAA WORLD
can be submitted directly to APA-340
or to regional FAA public affairs
officers:

John Clabes—Aeronautical Center
Joette Storm—Alaskan Region
Sandra Campbell—Central Region
Bob Fulton—Eastern Region
Morton Edelstein—Great Lakes
Region
Mike Ciccarelli—New England Region
Jane Inaba—Northwest Mountain
Region
Kathleen Bergen—Southern Region
Roger Myers—Southwest Region
Holly Baker—Technical Center
Elly Brekke—Western-Pacific Region

FAA World

FAA's 18th Annual Forecast Conference

The Outlook for Aviation, 1993-2004

Aviation has been through some bad times, but trends in the industry point to an improving economic outlook. According to statistics released at the agency's 18th Annual Aviation Forecast Conference, "moderate growth" is the forecast for the next 12 years. These figures underline that the early 1990s have not been kind to aviation. In fact, 1991 saw worldwide air traffic record its first-ever decline.

Here's more of what was said at the conference about the outlook for aviation, 1993-2004, and ways to alleviate its financial troubles.

concept of an open architecture for our systems and accept the idea of buying our technology off the shelf."



tween \$500 to \$740 million, many times the \$6 million of 1990. "Sales of all GPS products—auto, marine, and aviation—are predicted to reach \$4 billion by the year 2000," Del Balzo said. "Government and industry can and must work as partners to promote our competitive position in world markets."

Today, no single country can expect to be the sole arbiter of aviation standards, Del Balzo said. For a number of years FAA has worked with other countries to establish common rules and procedures for aircraft certification and operation. It's important for the FAA to participate internationally to de-

velop future aviation standards that are in harmony with other country's. If that is not done, "the result would be a growing gap between U.S. standards and those of Europe and the rest of the world. And with that gap would come a loss of influence and weakening of the competitive advantage we now enjoy," said Del Balzo.



Joe Del Balzo

process, he noted.

Already 23 large U.S. airports report more than 20,000 hours of delay annually, and serious delays should spread to 13 more over the next five years. Estimates are that air traffic delays cost passengers \$7 billion annually and will go up another 50 percent in the next 10 years.

'Open architecture'

Del Balzo said that one reform being considered in the modernization is "for the FAA to fully embrace the

That should create incentives for industry to come up with creative technology, cut costs, and curb the government's bias toward bigness. "We should describe what we want to accomplish and let the marketplace do the rest," he said.

Also, he said, FAA will use the procurement strategy of "fast-prototyping"—an award of cost-plus development contracts before entering into a fixed-price production contract—to help "iron out the problems before going to full-scale production."

Transition to satellites

One technology that is revolutionizing air traffic control already is the GPS—Global Positioning System. A year ago the use of satellites for control of civilian air traffic was only theoretical. "Today, the transition to that system is already underway," Del Balzo said.

Because of GPS, annual savings due to fewer delays and more efficient routes are projected to exceed \$100 million for air carrier and business aviation. By 1996 sales of avionic products for GPS should reach be-



James Oberstar

'Leaner' regulations

Along with timely implementation of the CIP and global harmonization of aircraft certification and operation, Del Balzo talked about the continued screening of regulations to cut costs. Though regulatory activity must be responsive to the many stakeholders FAA serves, "in the end, of course, safety, in the public interest, will always take first priority," he said.

Also, he cited the participation of the 61-member Aviation Rulemaking Advisory Committee in proposing new rules and in suggesting revisions to old ones. "Industry participation helps guarantee that our regulatory decisions are made on the best information available so that we can reduce—hopefully eliminate—unnecessary costs," he remarked.

At the FAA we can—and must—"do whatever is required to help the aviation business through this period of hardship," Del Balzo said.

"There is no simple, single cause of the aviation industry's problems today," said Rep. James Oberstar, chair of the House Aviation Subcommittee. In light of the cyclical nature of the industry, Oberstar pointed out that "maybe, just maybe, the future of aviation is ahead of us."

Deregulation advantageous
"Isn't it time to reregulate?" "Isn't it time for the government to decide how aviation is going to fare?" are questions Oberstar is often asked. In response, he named some benefits deregulation of the airline industry has brought—low fares, widely distributed benefits, more markets offering consumers a choice of carriers. Deregulation saves air travelers \$6 billion a year, Oberstar stated. It also gives air carriers the opportunity to fail. Currently the top eight carriers control more than 95 percent of the market, with the top four in control of 68 percent.

After deregulation, development of the infrastructure became inadequate, but all that is turning around, he believes. "The FAA is now being given the tools to do the job it needs to do," said Oberstar.

Review by national commission
Also, a widely representative national commission is being considered to zero in on the cause and treatment of aviation's ills. "The mandate

is to provide a competitive industry as well as a strong industry," said Oberstar.

Describing the economic trends as upbeat, John Rodgers also pointed out that "the airline industry is very



John Rodgers

cyclical and has had three bad years in a row," partly because of an extended recession, and partly because of the Persian Gulf War. Rodgers is director of FAA's Office of Aviation Policy, Plans, and Man-

agement Analysis.

Positive indicators
Although recent aviation statistics looked promising on the surface, growth came from intense price warfare. The result was \$1.9 billion in losses for airlines in fiscal year '92. We should expect an upturn, however, Rodgers said. Evidence for optimism is that:

- Air transport has not exhibited all of the characteristics of a mature industry.
- Its "more seats than passengers" syndrome is not chronic or long term.
- Hubbing is not passé. It is alive and well, Rodgers believes.

Growth to be 'modest'
Even with the proposed fuel tax on petroleum products—which may fall someplace between 8 and 15 cents on a gallon—the airline industry can still attain profits. If the fuel tax is adopted, the cost could be recovered by increasing passenger fares between 2 and 3 percent.

Rodgers added that FAA forecasts are in line with the latest economic indicators.

"An upturn will come," Rodgers stressed. "Modest growth is forecast throughout the industry," he said. *

Giving the Numbers

For fiscal 1993-2004, agency figures say an annual increase of 3.9 percent can be expected in domestic air carrier revenue passenger miles. Internationally the increase should be 6.6 percent annually over the same period. Growth in domestic enplanements will average 3.5 percent annually.

As to workload, activity at FAA towered airports should increase on an average of 1.9 percent annually over the forecast period. In 1998 tower operations are predicted to exceed the 1979 all-time peak of 69 million, reaching 76.6 million by 2004. The mix of aircraft is expected to increase gradually toward larger jets.

At air route traffic control centers, the number of aircraft handled should increase at a rate of 2 percent annually. In absolute numbers, center workload should go from 36.7 million aircraft handled in 1992 to 46.6 million in 2004.

Several factors resulting from automation will tend to dampen the growth in flight service station workload measures as currently defined. Assuming that the consolidation program is completed before fiscal year 1995 total flight services should begin to increase gradually, growing at an average annual rate of 0.6 percent over the remaining nine years of the forecast. Total flight services should reach 39.4 million by 2004.

Forecasts for individual towers, centers, and flight service stations are available from the Statistics and Forecast Branch, Office of Aviation Policy, Plans, and Management Analysis, phone (202) 267-3355.

'Keeping the Public in Public Safety'

By Mary Ann Phillips

Responsible for sponsoring some \$15 million of FAA's 1996 RE&D budget, the Rotorcraft Directorate has come up with a way to involve the public more directly in deciding how to use the money to promote safety. It's thought of as keeping the public in public safety, says James Erickson. Erickson manages the directorate, which is part of the Aircraft Certification Service.

Late last year, over 130 manufacturer, military, academic, and other representatives from around the world met in Fort Worth, Texas, to propose ideas for research, engineering, and development within the rotorcraft industry. The Rotorcraft Directorate organized the meeting in cooperation with the FAA Technical Center, the Civil Aeromedical Institute, and the Vertical Flight Program Office to stimulate new research ideas from private industry.

"A public meeting was the best way to address our responsibilities as sponsors of rotorcraft research," comments Eric Bries, manager of the Rotorcraft Standards Staff. Adds meeting coordinator Mike Mathias, "We wanted a totally free exchange of ideas from industry—both national and interna-



Powered-lift helicopters, such as Bell Helicopter's V-22, were discussed in the noise meeting led by Tom Richter, manager, FAA Policy and Procedures Group.

tional—so we made sure that the FAA was there to facilitate the discussions, not dominate them." Linda Williams, staff secretary, also worked long and hard to set up the event.

General sessions were supplemented by specialized group meetings where brainstorming took place on new RE&D proposals related to structures, noise, electrical and mechanical systems, quality assurance, and flight test standards. Each group was led by an FAA engineer, who acted as a facilitator only, being careful not to "represent" the agency position in the discussion.

Group members submitted proposals from their organizations; then they discussed and prioritized each proposal. Although the priorities may not coincide exactly with FAA's "final cut," proposals from industry and the academic community will be used to determine future research directions.

Here are a few of the proposed ideas for research.

- Exploring air-bag protection for pilots and passengers—an idea the automotive industry has espoused for years.

- Finding a substitute for the fire-extinguisher agent Halon, which is currently in use on rotorcraft and

other modes of transportation. The Environmental Protection Agency says Halon, though not harmful to humans, is damaging the earth's ozone layer. It is due to be removed from use in the United States by the year 2000. According to aerospace engineer Ray Twa, who led the propulsion meeting, the FAA Technical Center in Atlantic City has been researching a substitute.

- Establishing noise regulations and flight profiles for powered-lift, tilt-wing rotorcraft. "Although noise levels are regulated on other helicopters for take-offs, landings, and fly-overs, there are no regulations for the powered-lift types, such as Bell Helicopter's V-22," says Tom Richter, who chaired the meeting aimed at noise control.

Over 124 proposals that affect safety, maintenance, and written directives of rotorcraft were submitted and discussed during the two-day event. About 25 more are expected. The final list, together with those from the Flight Standards Directorate, will be evaluated at FAA Headquarters and compete for funding against other proposals from the regions. The RE&D budget for safety research is presently about \$60 million. Approximately 25 percent of it goes to research related to rotorcraft. *

Mary Ann Phillips is a technical publications writer/editor in the Rotorcraft Directorate's Regulations Group, Fort Worth, Texas.

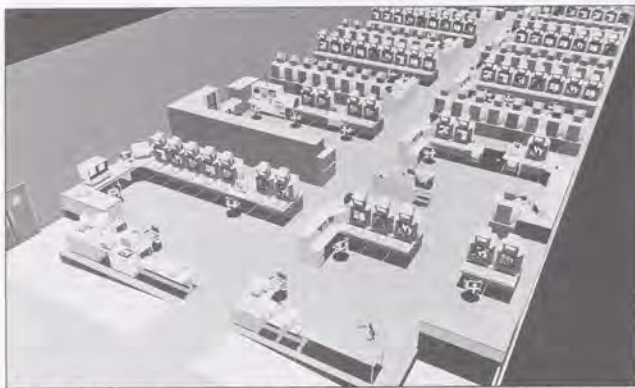


Photo by Paul Smith

Specialized groups discussed proposals at the FAA Rotorcraft Directorate RE&D public meeting. FAA aerospace engineer James Major, standing, leads the structures group.

Getting the Best Fit

Facility Engineering Aims To Reduce Time, Cost of Modernization



Advanced Automation System (AAS) equipment layout in control centers is quickly optimized using the Facility System Engineering Service's computer graphics visualization capability.

Remember the experience of moving your belongings into a new place and then arranging—and continually rearranging—furniture to get a good fit? Trying out different schemes to make rooms “work” takes lots of time and energy, and it’s an undertaking most people don’t like to repeat.

Those who have been part of such backbreaking ordeals will appreciate a new tool developed by FAA’s Facility System Engineering Service (AFE) and its supporting contractor, Martin Marietta. With it, furniture moving and arranging is a breeze. Imagine effortlessly moving thousands of pieces of equipment around a building at the press of some buttons. Knowledge of where wall outlets should be, how much ventilation and heating is needed and generated, and the optimum arrangement of furniture to suit human factor needs are only a few of the benefits the new tool can give.

Cure for the ‘planner’s nightmare’

As the agency’s modernization program progresses, thousands of pieces of new equipment will be deployed to hundreds of facilities across the country—a planner’s nightmare. The new tool developed to provide the optimum match of equipment at facilities is called the Facility System Analysis Tool, or FSAT. It blends the power and speed of computers with state-of-the-art graphics animation so facility engineers and planners can best “fit” equipment in its future home well before a single piece of furniture is moved or even before the design is completed.

Relational Database and Analysis System

One of the tool’s three components is the Relational Database and Analysis System, which relates information about deployment sites to information about the equipment they are scheduled to receive. Programmers are currently developing this “Win-

dows-style” system, which will allow Headquarters and regional users to share information and determine the impact deployment of equipment will have on receiving facilities.

“By using the Relational Database Analysis System, facility employees can conduct ‘what if’ analyses to find out if they will have adequate space, power, heating, ventilation, and air conditioning,” says Mike Singer, an AFE division manager. He pointed out that this system will also help program managers pinpoint—and avoid—equipment and integration problems early in the design and procurement process.

Data the FSAT provides will insure a more consistent, accurate, and timely facility planning process in the regions and at Headquarters, according to Robert Wein, Facility System Engineering Service director. “Overall, the objective is to provide an ‘early warning’ of prob-

‘Changes to a design that had formerly taken weeks to complete have been accomplished in hours with a hard copy of the results available for examination.’

Marty Pozesky
Associate Administrator for System
Engineering and Development

lems facilities may experience in accommodating equipment to be delivered,” says Wein. The Facility System Engineering Service and the NAS Transition and Implementation Service (ANS) have already delivered test copies of the database and analysis software to the Alaskan and Southern regions for evaluation. A “Windows” version of the analysis tool will be available later this year and should be available FAA-wide starting in early 1994, according to the program office.

FAA World

Computer Aided Design System

The second component of the FSAT, the Computer Aided Design (CAD) System, is a computer program that combines the analysis tool data with FAA’s Computer Aided Engineering Graphics System. This can give FAA engineers access to the most current information available on the facilities scheduled to receive new equipment.

“Our engineers will be able to create up-to-date engineering drawings that accurately represent current and planned facility layouts. They can improve space planning by integrating data such as equipment height, width, depth, maintenance clearance, and delivery dates into their computer graphics system,” says Giora Hadar, FSAT program manager.

Engineering Visualization

The third component of the analysis tool is called Engineering Visualization. With the help of Martin Marietta’s computer animators, the Facility System Engineering Service has added to the tool’s capabilities by building in advanced computer graphics, which can show the best way to position new equipment and systems at their future sites. The engineers work their magic by using FSAT engineering data from both the Relational Database and Analysis and the Computer Aided Design systems to “build” three-dimensional models of proposed FAA facilities and equipment installations. The models are then “brought to life” by applying state-of-the-art computer animation and video production technology. They allow facility engineers or planners virtually to “walk through” a synthetic facility, going from room to room and visually examining proposed facility layouts from numerous perspectives.

Program manager Hadar says AFE engineers have already completed “walk-throughs” of three of the agency’s major facilities. They used engineering visualization to show how the Cleveland Air Route Traffic Control Center can make the transition from its current configuration to the implementation of the Advanced Automation System

(AAS) through the use of a temporary platform, or mezzanine. “The animation showed how existing equipment will be installed on the mezzanine to free up space needed during the move to advanced automation,” said Hadar. A “walk-through” of the Seattle Air Route Traffic Control Center’s Initial Sector Suite System (ISSS) was also developed. The animation identified equipment congestion as well as other glitches in the proposed standard layout that would not have been uncovered using traditional methods. With these tools, the FAA can resolve such problems far in advance of implementation dates.

In addition to its application at en route centers, the Facility System Engineering Service used this technique to set up a possible implementation of the tower control computer complex (TCCC) at the Atlanta Tower. This walk-through showed a phased deployment of the tower control complex.

According to Marty Pozesky, Associate Administrator for System Engineering and Development, the Facility System Analysis Tool minimizes the need for costly mock-ups because designers can examine and “tweak” proposals prior to construction—reducing project delays and cost. “Changes to a design that had formerly taken weeks to complete have been accomplished in hours with a hard copy” of the results available for examination,” says Pozesky. The operational and engineering communities have gained a powerful new tool for decisionmaking—one that will help them visualize proposed designs, identify problems early in the planning pro-

cess, and minimize costly rework downstream, according to Pozesky.

Those who have used the new analysis tool agree that animation gives field personnel the capability to check out how their environment will look after modernization and allows them to “re-



At tower cabs, visibility and work environments can be evaluated through computer-generated imaging and walk-throughs.

think” designs, if necessary, before committing expensive resources.

The effort to examine air traffic control tower configurations will provide information needed to design the towers of the future according to Wein. “FSAT has proven to be a very successful tool,” says Wein. “When coupled with sound configuration management practices, it will further decrease the time and cost of facility planning,” he says. *

The Facility System Analysis Tool applies state-of-the-art expertise and computer tools to improving the modernization of air traffic control. The engineering visualization and video production subset of the FSAT will be available to support regional planning on a priority basis.

A demonstration of current and future FSAT capabilities can be set up by contacting Giora Hadar, AFE-100, at (202) 287-8584.

Training Talk

FAA Opts for 'Distance Education'

ing PLATO system and network. Now the introduction of advanced technology CBI equipment promises greatly to increase its use.

Advantages of 'distance education'
Distance education—the process that provides training at an employee's normal workplace—can give consistent, high-quality training without incurring the expense and time of travel to a training site. The right training can easily be delivered to the right person at the right time. As nearly one-third of the fiscal year 1992 national training budget was consumed

enhance learning. Because students can interact with the courseware, they become full participants in the learning process.

Self-paced instruction allows the student to control the time used in absorbing the material.

Tests, which are built into the courseware, show students' level of mastery, and when necessary, material is always ready for their review.

As well as being cost-effective, studies say that multimedia CBI reduces the time required for training as much as 50 percent. Also, students' retention of information increases 30 to 40 percent, adding to its effectiveness as an alternative to classroom instruction. When CBI is available, training can simulate its application in the workplace. Any necessary refresher training is readily accessible.

Courses developed

FAA used the windows/multimedia-based CBI system to conform to standards the aviation industry adopted for computer-based instruction. Off-the-shelf courseware from industry and schools should

become widespread as the multimedia standard becomes more common.

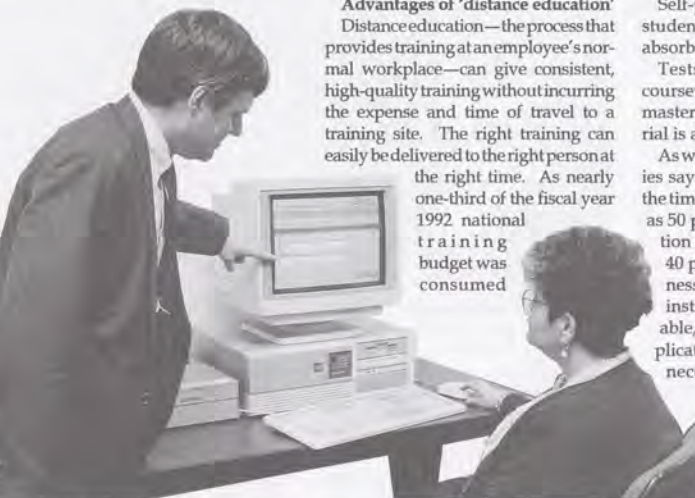
Already some of FAA's technical services are developing and purchasing courseware to use with the new equipment.

The Office of Aviation System Standards (AVN) has developed a number of courses, which will be made available as equipment is delivered. One in particular, the Electronic Flight Instrumentation System, enables students to train on a computer-based simulation of an aircraft. The course shows how to use the equipment and

by travel costs, distance learning technology, in particular computer-based instruction, should reduce those costs for the future.

Interactive features

The new CBI system is based on interactive multimedia—the use of video, text, graphics, data, animation, and sound—to present realistic training environments. The student not only reads materials, but also sees and hears videos, listens to discussions, and looks at animations and pictures of topics to be mastered. Used alone or in combination, these tools



Jack O. Iman, Aeronautical Center staff photographer

Jerry Sparks, CBI Program manager, AMA-121, and Nora Leal, instructional systems specialist, AMA-411, take a look at the new multimedia CBI platform.

A cost-cutting change is in the works for FAA training, forecasts the Office of Training and Higher Education (AHT).

Over the next two years, 1,600 computer-based instruction (CBI) workstations will be distributed throughout the agency. These workstations and the courseware developed for them are the result of a multiyear task to put "distance education" into FAA training.

Technical training at the agency has used CBI for some years. In 1992 alone, over 400,000 hours of computer-based instruction was done through the exist-

'Over the next two years, 1,600 computer-based instruction (CBI) workstations will be distributed throughout the agency.'

allows students to prepare and conduct a computer-simulated flight mission.

Demonstrations of the course, which had been developed for AVN pilots, so impressed other services that it will now also be used to train inspectors of the Flight Standards Service and the Aircraft Certification Service, among others.

Different directions for training

Even though delivery of the multimedia CBI system has hardly begun, new and innovative ways are being found to train with the equipment. AVN is developing a course on the Automated Flight Instrumentation System, which will modify terminals to become part-task trainers. Modification is done by integrating plasma display terminals, along with the

system's keyboards, into the CBI workstation. This configuration reproduces training situations similar to the extremely expensive ones now available only in flight inspection aircraft.

In their SMART project, Airway Facilities will use the CBI platforms to screen students, determine their training needs, and provide basic instruction for new employees. Air Traffic foresees using the platforms in certifying some controllers and flight service specialists.

With CBI, Flight Standards trains employees on how to apply regulations uniformly. The Office of Human Resource Development and the Center for Management Development are developing management and general courses.

Links to industry, academia

In the aviation industry, AHT and the Aviation Industry Computer-Based Training Committee are working to standardize computer-based training. Also being investigated is the extension of CBI into the Aviation Curriculum Program as well as the possibility of a consortium among industry, academia, and the FAA.

There's lots more possibilities to explore, but the aim is that the right training can easily be delivered to the right person, at the right time, and at the right price. *

Joe Caravello is the coordinator for distance learning in the Office of Training and Higher Education's Regulations and Standards Training Program Division, AHT-200.

Naming Names

The multimedia CBI system itself—developed as part of FAA's Capital Investment Plan—results from people throughout the agency working together.

The program is directed by Joe Kisicki, head of the Office of Training and Higher Education (AHT), and AHT's training divisions. They are working closely with people at the FAA Academy—superintendent Dick Rodine, CBI program manager Jerry Sparks, curriculum manager Judy Holcomb, and AMA-121 employees—to develop the system and get it to users. Regional administrators, along with training personnel management officers, are setting up CBI learning centers for their areas.

Procurement of hardware and software for CBI was spearheaded by the Office of Information Technology (AIT) and employees Ellen Cook, manager, AIT-500; Alan Hayes, OATS contracting officer's training representative; and Dave Sitko, AIT-500.

Contracting for CBI equipment was accomplished by the Logistics Service. Jim McNulty, OATS contracting officer, guided the negotiations.

The Executive Committee for Technical Training Oversight is focused on deploying the new multimedia system. As the committee's customer representative to the CBI program, Tom Accardi, the Flight Standards Service's director, set up the CBI Users Forum. Composed of representatives from FAA services, the forum

addresses CBI issues that cut across organizational lines, such as resource allocation and courseware development.

Many have worked for years to bring the multimedia CBI system to the FAA: Kermit Scott and Thelma Stacey of the academy, for instance; and AHT's Larry Blevins, Cathie Mott, and Mary Sand. Training specialists who have provided expertise include Bea Bair, AVN; Gordon Ernst, Office of Air Traffic Program Management; Greg Michael, Flight Standards Service; and Cheryl Veney, Systems Maintenance Service.

Now the CBI program is in place and ready to give added effectiveness to training.

In Remembrance of a Pioneer

Following a brilliant military career, the late Elwood R. Quesada helped to create FAA, then became its first Administrator.



By Ned Preston

On an autumn day in 1958, a crowd including many dignitaries gathered at Washington National Airport for one of the gala ceremonies with which Pan American customarily showcased its achievements—in this case, leading the nation into the age of turbojet transportation. First Lady Mamie Eisenhower christened *Jet Clipper America*, the first Boeing 707 to enter service, by smashing a bottle of water collected from the seven seas. The speakers who followed Mrs. Eisenhower on the program included Elwood "Pete" Quesada, a former Air Force general with a flashing smile and an air of determination.

Quesada stated that the coming jet era would include as many challenges as opportunities, a note of caution that echoed the concerns of many within the aviation community. Technical advances were taking place at whirlwind speed, but was America prepared for them? Much of the answer would depend on Quesada himself, since he was the President's chief

advisor on civil aeronautics and Administrator-designate of the nascent Federal Aviation Agency. Fortunately, the experiences of a remarkable career had prepared him well for this uniquely demanding task.

Early career

A native of the District of Columbia, Quesada was born in 1904 to a Spanish father and an Irish-American mother. He began his college education at Wyoming Seminary in Pennsylvania, transferred to the University of Maryland, and later attended Georgetown University. According to historian John Schlicht, Quesada's introduction to the military came when a lieutenant who watched his performance as Maryland's quarterback recruited him to play for the team of the Army pilot school. Enrolled as a cadet, he broke his leg on the football field but gained a lifelong enthusiasm for flying. He attended advanced flight training, received a reserve commission, and then returned to civilian pursuits that included a brief contract to play base-

ball for the St. Louis Cardinals.

In 1927 a modest Air Corps buildup allowed Quesada to return to active duty with a regular commission. Once back in the Army, his flying skills, mechanical knowledge, and dynamic personality quickly brought him to the attention of senior officers. In 1928 the general commanding the Air Corps chose the young lieutenant to be his personal pilot on a mission to assist the *Bremen*, a German aircraft forced to land in Labrador while making an Atlantic crossing. The success of this venture soon led to Quesada's inclusion in a still more memorable flight.

The Question Mark

A neglected stepchild within the Army establishment of the 1920s, the Air Corps kept itself in the public eye by engaging in speed races and other spectacular flights designed to prove the potential of aviation. The corps used a Fokker C-2A dubbed the *Question Mark* to provide a dramatic answer to the issue of a contemporary aircraft's ultimate range. Beginning on the first day of 1929, the plane shuttled between Los Angeles and San Diego with a five-man crew led by Maj. Carl Spaatz. C-1 biplanes periodically met the Fokker to provide fuel inflight. Besides taking his turn at the controls, Quesada's duties included helping Spaatz when the major reached out through the top of the fuselage to catch the fuel hose. In an incident that highlighted the delicate nature of the operation, a shower of spilled fuel burned Spaatz's skin slightly and caused fumes that temporarily sickened Quesada.

Since radio equipment had been sacrificed to keep the endurance plane light, the crew communicated through such means as attaching notes to the hose and reading messages chalked on the darkened sides of "blackboard planes." (One notice reminded them to overfly a Rose Bowl game.) The mechanic's battle to keep the three

propellers turning included trips along catwalks to service the side engines, but the left power plant failed early on the seventh day. The *Question Mark* landed after a record-breaking 150 hours aloft, having captured the popular imagination and underscored the practicality of midair refueling.

Rising officer

In 1934 Quesada took part in meeting one of the most severe challenges that the Air Corps faced between the wars. Angered by collusion in the bidding process, President Roosevelt canceled the contracts under which private carriers had been transporting air mail. Army pilots gamely attempted to handle the job until new contracts were awarded, but their inappropriate training and equipment resulted in ten fatalities in less than three weeks. One of the few officers with experience in airway operations, Quesada served as chief pilot at Newark Airport and successfully flew night runs between that facility and Cleveland.

Other assignments during the '30s and early '40s offered Quesada opportunities for adventurous flying, such as a solo seaplane journey home from Buenos Aires, while overseas tours accustomed him to working with foreign authorities. Serving as an aide to high officials, both civil and military, brought him important contacts and deepened his experience. Quesada kept close to the center of action, helping to organize the General Headquarters Air Force formed as a response to demands for more unified and independent air power. As foreign liaison officer for Air Corps Chief Henry H. Arnold, he witnessed the German blitz against Britain and played an important part in imple-

menting Lend Lease programs to aid the Royal Air Force. When the Pearl Harbor attack brought America into the conflict, he was commanding a P-40 fighter group at Mitchel Field, New York.

A call to combat

Once hostilities began, Quesada was promoted to colonel and given an assignment in domestic air defense. One of his first actions was to ban the use of searchlights to identify planes after the practice caused a blinded pilot to crash. This triggered a dispute with the general in command of



Quesada briefs Generals Bradley and Eisenhower on activities of his 9th Fighter Command in helping Allied ground forces.

the Army's artillery, who brought charges against Quesada as the result of an angry exchange. Higher authorities decided that Quesada's position was basically correct, however, and he was soon wearing his first star and leading a fighter wing to North Africa. There he assumed control of the 12th Fighter Command and par-

ticipated in many operational flights during the campaigns that culminated in the Allied landings in Italy. This insistence on personal involvement in combat earned him numerous decorations and the nickname "the pilots general."

With the invasion of Italy well established, Quesada transferred to Britain, where he led the 9th Fighter Command and built it to a force of over 1,500 aircraft. He used technical improvisation and innovative training to assist his pilots in achieving superiority over the Luftwaffe and attacking ground targets in France. At a meeting of top leaders shortly before D-day, a confident Quesada gave Churchill the accurate assessment that German planes were no longer able to make an effective challenge to the invasion. On the day after the landings, he set up his command post in Normandy and began directing interdiction strikes to limit the enemy's ability to mass troops against the beachheads. During one of Eisenhower's visits, Quesada took him on a risky aerial tour of the front that resulted in reprimands for both men but strengthened the bond between them.

As the Allied forces reached the base of the Cherbourg peninsula, Quesada shifted much of his attention to close air support missions. Destroying tanks and attacking German strong points, his command cooperated effectively with ground troops as they swept through France, weathered the Ardennes counteroffensive, and finally linked with Soviet forces at the Elbe. General Omar Bradley called Quesada "a peach to work with because he was not only willing to try everything that would help us, but he inspired his whole command with that desire."

Postwar career

Following victory, Quesada helped to bring about the creation of the Air Force as an independent service and organized a Tactical Air Command dedicated to the type of fighting he had pioneered in Europe: operations that were centrally managed, yet closely geared to the needs of surface forces. This effort seemed largely negated when TAC was reduced to headquarters within the nascent Continental Air Command. Declining to take control of this new organization, Quesada turned to other assignments that included the top military role in Operation Greenhouse, the first hydrogen bomb test.

In 1951, Quesada retired from the Air Force with the rank of lieutenant general. Press reports interpreted his departure as a protest against the deemphasis of tactical air power, but other accounts point to the desire of a family man for the rewards of the private sector. Four years earlier, he had married Kate Davis Pulitzer (daughter of noted St. Louis publisher, Joseph Pulitzer), and the couple now had a young son. Quesada accepted a post with Olin Industries, then took over Lockheed's missile division before resigning over a policy dispute. In 1957, a call from Washington brought him into the heart of a growing crisis in civil aviation.

The birth of FAA

As more and faster planes took to the sky in the 1950s, the Civil Aeronautics Administration had struggled to keep pace by upgrading its air traffic control system. The shock of the 1956 Grand Canyon midair collision between two airliners resulted in funding that helped CAA speed im-

provements, but many believed that the agency itself was inadequate to the challenges of the coming jet era. On the urging of special advisor Edward Curtis, President Eisenhower and the Congress moved to create a temporary Airways Modernization Board. A Special Assistant for aviation matters would chair the board, act as the President's chief advisor on aeronautics, and help to resolve fierce disputes over airspace—besides overseeing preparations for a permanent new organization to succeed the CAA. When Curtis himself declined this

airport eventually known as Dulles International. Most importantly, he hammered out plans for an independent agency that would possess the authority to act decisively on the whole gamut of issues that threatened the safety and efficiency of aviation. In trying to bring this vision to life, Quesada faced a battery of entrenched interests, but his arguments for change were bolstered by two fatal collisions between airliners and military planes. With the skillful backing of Oklahoma's Senator Mike Monroney, a bill establishing the Federal Aviation Agency became law on August 23, 1958.

The first Administrator

The FAA was not authorized to assume its responsibilities until 60 days after the appointment of an Administrator as its chief, but the White House had difficulty in finding a suitable nominee—except Quesada himself. Although he much preferred to return to his home, then in California, the Special Assistant feared that further delay might stall the hopeful developments he had helped to set in motion. To comply with the legislative provision that the Administrator be a civilian, Quesada resigned his commission as a retired Air Force officer, an action he termed "the hardest thing I ever did."

On the last day of 1958, the FAA began operations under a leader determined to weld together and energize the new organization. Besides its core of CAA personnel, the agency included officers assigned from the military, technical experts from the Airways Modernization Board, and safety rulemakers from the Civil Aeronautics Board. Preferring a central-

ized style of management, Quesada initiated Project Straight-Line to give bureaus at headquarters direct control over functions in the field. He presided over a great expansion of air traffic control in which FAA assumed many roles previously performed by the military, took early steps in computer automation, and inaugurated positive control on an area basis.

In March 1959 Quesada began an all-out drive to raise safety standards, which he believed were sagging due to industry complacency bred by timid government regulation. Convening a meeting of top regional managers, lawyers, and Flight Standards personnel, he declared that the agency's compliance program must become "firm, fair, fast, and factual." In the first battle of the "4-F" campaign that followed, FAA inspectors began insisting that cockpit crews remain at their duty stations during flight. (The need to reinforce this much-ignored rule had been underlined when autopilot failure sent a Pan Am clipper into a near-fatal dive while the captain chatted with passengers.)

The Airline Pilots Association ridiculed the FAA policy, beginning a well-publicized debate in which Quesada vehemently rebutted union charges that included attacks on the inspectors' competency. Enforcement did not waver, and the agency issued important new regulations such as requirements for airline pilots to take annual electrocardiograms and to retire from flying at age 60. The pilots of two airlines staged a sick-out challenging FAA's very authority to place inspectors in their cockpits, but the action earned only condemnation from a public that welcomed a strict approach to safety rules.

Quesada did not hesitate to cross swords with other powerful groups, showing no partiality to his former comrades in the military and scoring airline management for poor maintenance practices. His decision to revive the requirement that private pilots receive their physicals only from officially designated medical examiners made him the object of an escalating crusade by the Aircraft Owners and Pilots Association, which bitterly resented the perceived highhandedness of the new FAA and its leader. In these quarrels, Quesada defended

Closing a memorable career

After he left government with the outgoing Eisenhower Administration in early 1961, Quesada's status as a retired Air Force general was restored by an act of Congress. While still at FAA, he had been laying plans to return to an enthusiasm of his youth by securing a franchise for an expansion team to replace the original Washington Senators, who were moving to Minnesota. This action staved off the departure of professional baseball from the capital, although the new Senators eventually left the city some years after Quesada's group sold the team in 1963. Quesada next turned to business activities that included presidency of the concern that developed the L'Enfant Plaza complex near the present FAA Headquarters. He spent his final years in retirement in Florida, where he died on February 9 of this year.

Among Quesada's varied achievements, two were outstanding. In World War II, he developed and applied methods of tactical air warfare that were a major factor in defeating one of the most formidable adversaries American troops have ever faced. Later, he launched FAA as an effective force to guard the safety and viability of air transportation. Quesada was not without faults, known for a ready temper as well as charm, and often preferring confrontation to diplomacy. Nevertheless, his was the unflinching leadership needed at what he aptly termed a "dangerous crossroads" in aviation history, and his example in upholding the primacy of the public interest is an enduring legacy. *

Dr. Preston is the FAA Historian.



With President Eisenhower looking on, Quesada takes the oath as FAA's first Administrator.

extraordinary assignment, Eisenhower turned to the man who had piloted him over the battlefields of Normandy.

Becoming Special Assistant in July 1957, Quesada moved with his customary energy to expedite the search for new air traffic control technology. He won greater Air Force cooperation on airspace issues and integration of radar systems, and resolved the longstanding issue of the location of the



Quesada receives the "Man of the Month" plaque from the Aero Club.

Photo Credits

Long-time FAAer Morris Wallace recently retired from his post at the Center for Management Development after 32 years of federal service. He was program manager for support services at the Center for Management Development since joining FAA in 1971.



Wallace helped establish the former

Management Training School at Cameron University in Lawton, Oklahoma. He also played a big part in developing requirements and coordinating the relocation of

the school to Palm Coast, Florida, in 1987. More than 4,000 FAA managers attend CMD classes each year.

Originally from Bangs, Texas, Wallace began work at Fort Worth's WBAP-TV. In 1959 he joined the Texas National Guard and later provided contract electronics instruction and mobile television productions services at several Army facilities. During his career, he has produced more than 1,000 videotape training programs and managed various training-related programs for the Department of Defense and the FAA.

Wallace and wife Rose have three sons and six grandchildren. They plan to remain in Palm Coast.

Hine Junior High School's marchers stepped out smartly during the inaugural parade. In the original photos, the Clinton and Gore families can be seen watching the festivities from the stands.

Hine, a "Blue Ribbon School of Excellence" in Washington, DC, is the Department of Transportation's "adopted" school.



John Mollinet, a member of the initial En Route Weather Advisory Service class, didn't want its graduates to remain nameless. Mollinet, manager of the Troutdale, Oregon, Airport Traffic Control Tower, was able to pair the names to their faces and send them along to *FAA World*. The picture, which had been published in the magazine's January issue, was accompanied by information on the 20 years of "Flight Watch," the vital communication between pilots in the air and flight service station specialists on the ground.

Pictured in this photo dating from 1972 were FAA's first flight advisory specialists: First row, from left, Hugh Snyder, Gemo Yakubovsky, John Parry, John Zimmerman, and Ron Helmke; second row, Fred Kelly, Chuck Doviot, Mike Navarre, Gorden Nail, Wes



Ellet, Ken Dennis, and Foy Pulliam. Standing, from left, are Jim Hipp, Chuck Albert, Jim Keogh, Dick Young, Bud Thorne, Bob Dirks, George Allen, Keith Shippee, Mike Hammer, John

Mollinet, Dick Ridgeway, Ted Hoffman, Dennis Davis, Frank Springer, John Kuntz, and R. L. Renshaw.

By Jean Branit

Off Duty . . . and in Person Pitch a Tepee and They Will Come!

Home base for Jon Wright, electronics technician, is the ACE-450 Mobile Enroute Radar Facility (MERF) site in Parkville, Missouri. But since he pitched a 20-foot tepee near the motel where he, his wife, and three dogs are temporarily staying in central Mississippi, probably everyone in the small town of Kosciusko has either met or heard about him.

Lots of visitors

Wright has been visited by trappers, Boy Scouts, church groups, kindergarten classes, and lots of others. The local newspaper editor came by, took pictures, interviewed Wright for two hours, and published an article and pictures on the front page of the weekly *Star-Herald*.

Packing the tepee

Wright is on a two-year assignment with a national FAA team that is traveling around the country to modify air route surveillance radar (ARSR) at long range radar (LRR) facilities. The team stays about two-and-a-half months at each location and installs the three-level weather (3LW) modification developed in the Central Region. Then Wright packs up his 34-foot motorhome



and his tepee and tows his van to the next location.

But why does Wright need a tepee? That's where he tans hides—following the same methods Indians employed in previous centuries. He uses the tepee for the smoking process.

Historical re-creations

About five years ago Wright started going to "rendezvous"—get-togethers where people recreate arts and crafts trappers, fur traders, mountaineers, and Indians used from the 1800s to the 1840s. Now he is a source of information about tanning and other Indian crafts. For example, he knows how to make thread out of sinew from buffalo and how to use porcupine quills rather than beads as decorations.

A breezy, warm summer day is the best time for tanning, Wright says. The process involves scraping, curing, rinsing, stretching, and scraping again. Once dry, the hides are soft and white or off-white. Smoking gets creosote

around each fiber so that they can be washed without getting stiff. This process produces hides worth \$10 to \$15 per square foot compared to \$3 to \$4 per square foot for those commercially processed.

Teaching the process

Wright, who has written a brochure on tanning, also teaches others the craft. Currently he has enough hides to keep



A Boy Scout troop in Kosciusko, Mississippi, learns how to make buckskin.

him busy for quite awhile. He has calf, beaver, deer, elk, otter, and buffalo hides to show his many visitors.

A canvas tepee like Wright's is worth about \$1,000. If it were made out of buffalo hides, a similar tepee would be valued at about \$13,000. Wright relates that Indians used 20 to 30 hides to make a tepee 20 feet in diameter. The hides were then sewn together with buffalo's sinew.

On to Georgia

The next stop for the FAA team is Georgia. Wright and wife Pauline look forward to meeting lots more new folks there. *

Jean Branit is Central Region *Intercom* editor.

Career Opportunities

These three jobs are available at the International Civil Aviation Organization (ICAO) in Montreal, Canada:



- Technical officer, communications Announcement PC 93/01/P-4.
 - Technical officer, communications, navigation, and surveillance/air traffic management systems implementation. Announcement PC 93/02/P-4.
 - Technical officer, air traffic management. Announcement PC 93/03/P-4.
- The closing date for all three is May 25.

Interested? Contact your FAA personnel officer or the Administrative Systems and Overseas Support Office, API-19, at Headquarters. The phone number is (202) 267-9085.

ICAO offers exciting and career enhancing employment both in Montreal and overseas. *

Survey Scene

Want to keep tabs on what's being done with the agency's employee surveys? Check on how your survey is being used by reading this feature of FAA World.

Here are some updates.

- The national evaluation of the 1991 Survey Feedback Action (SFA) process is in full swing. Evaluation of the Washington Headquarters offices was completed in February and on-site evaluation field visits were finished in March.

Why conduct an evaluation of the 1991 program in 1993? By doing the evaluation 18 months into

the process, survey team members can look at what's been done toward completing the organization's action plan. They can also identify weaknesses in the two-year cycle.

Even if you were not part of the national evaluation, the Headquarters Employee Survey Team, AHD-300, always welcomes comments on the SFA process.

- So, when will we see the Job Satisfaction Survey (JSS) again, you ask? Very soon. The JSS will be mailed to a 15 percent stratified random sample of the FAA work force.

The survey has 156 questions and includes such topics as performance appraisals, training, work schedules,

dependent care, organizational quality and communication, and fairness in the workplace.

Remember, this is the survey that provides senior-level management information for strategic planning and decision making. For those employees selected to participate in the 1992 JSS, here's your opportunity to provide FAA's senior managers with information regarding job satisfaction and the work environment.

For answers to questions about surveys, contact the Employee Survey Staff, AHD-300, 400 7th Street SW, PL 1200, Washington, DC 20590. The FAX number is (202) 366-4440. *



Sexual Harassment Is Turbulence You Can Stop

You Have Rights!
Contact your regional or headquarters Office of Civil Rights

Against Harassment

Posters, like these, are reminders that sexual harassment won't be tolerated. Colorful counterparts are on display at FAA facilities across the country. They are part of the FAA's overall campaign to combat sexual harassment in the workplace.

People

Information in the "People" section is extracted from the Consolidated Personnel Management Information System.

Space permitting, actions of a change of position and/or facility are published.

Aeronautical Center

Perry V. Barker, section supervisor, Operations Information Center, Fleet Support Branch, Aircraft Maintenance & Engineering Div., promotion made permanent ... **Kenneth W. Bomgardner**, manager, Personnel Systems Div. ... **Bill J. Long**, unit supervisor, Aircraft Maintenance Section, Aircraft & Avionics Maintenance Branch, Aircraft Maintenance & Engineering Div. ... **Rick A. Webb**, unit supervisor, Flight Procedures/Inspection Section, Oklahoma City FIF0, promotion made permanent.

Alaskan Region

John L. Aarnink, asst. manager, military operations/plans & programs, Anchorage ARTCC, promotion made permanent ... **Robert E. Arnold**, unit supervisor, Sitka, AK, AFSFO, South Alaska AFS, Anchorage, promotion made permanent ... **Emilio A. Chaviano**, area supervisor, Bethel ATCT, from Fairbanks ATCT ... **David W. Hainline**, unit supervisor, Nome AFSFO, North Alaska AFS, Fairbanks, promotion made permanent ... **Stanley L. Hoffman**, unit supervisor, Fairbanks AFSFO, North Alaska AFS, Fairbanks, promotion made permanent ... **Jean L. Jacobs**, area supervisor, Fairbanks AFS, promotion made permanent ... **Michael S. Melum**, technical program manager, Special Projects Office, Airway Facilities Div.

Central Region

Alvin E. Clark, branch manager, Atlanta Aircraft Certification Office, College Park, GA, promotion made permanent ... **Gerald J. Demuth**, area supervisor, Columbus, NE, AFS, promotion made permanent ... **William A. Feldman**, manager, Labor & Employee Relations

Branch, Human Resource Management Div., promotion made permanent ... **David C. Long**, manager, Wichita, KS, MIDO, from Aeronautical Center ... **Gale A. Shelton**, asst. manager for training, Olathe, KS, ARTCC ... **Cecil L. Tompkins**, asst. manager for training, Aviation Medical Div., promotion made permanent ... **Thomas L. Wray**, asst. manager, operation, Olathe, KS, ARTCC.

Eastern Region

Antonio A. Acosta, aviation safety inspector, Teterboro, NJ, FSDO ... **Donald A. Barnes**, manager, Harrisburg, PA, AFSFO, Susquehanna AFS, from Houston, TX, ARTCC AFS ... **Kevin P. Browne**, asst. manager, programs, Buffalo AFS ... **Michael E. Burline**, area supervisor, Griffiss RAPCON, Rome, NY, promotion made permanent ... **Paul Crisp**, manager, Air/Ground Operation Branch, Civil Aviation Security Div., from New York CASFO ... **Walter Drelick**, manager, Technical Analysis Branch, Flight Standards Div., from New York FSDO ... **Selim Haber**, manager, Maintenance Operations Branch, Airway Facilities Div. ... **John T. Hayes**, area supervisor, Atlantic City ATCT, from Philadelphia ATCT, Tinicum ... **David E. Lecates**, area supervisor, Long Island ATCT, Islip, from New York TRACON, Garden City ... **Anastasios A. Pentheros**, area supervisor, Buffalo AFS ... **James C. Russ**, unit supervisor, Washington Civil Aviation Security Field Office, Arlington, VA ... **Joseph F. Saladino**, area manager, Washington ATCT from Aspen, CO, ATCT ... **Paul J. Sharga**, area supervisor, Allentown, PA, ATCT ... **James E. Siegman**, manager, Rochester, NY, FSDO, from Washington Headquarters ... **Theresa M. Tracy**, asst. manager, New York TRACON, Garden City, promotion made permanent ... **Linda Sue Walden**, area supervisor, Washington ARTCC.

New England Region

James C. Jones, deputy branch manager, Engine & Propeller Standards Staff, Engine & Propeller Directorate ... **John J. McGrail**, area supervisor, Manchester, NH, ATCT, promotion made permanent ... **James C. Morton**, supervisor, System Effectiveness Section, Facility Operations Branch, Air Traffic Div. ... **Michael S. Riso**, unit supervisor, Bangor, ME, AFSFO, Bangor AFS, promotion made permanent ... **Robert B. Snoddy**, asst. manager, Bangor, ME, AFS, from Anchorage ARTCC AFS ... **William A. Tretter**, staff engineer, NAS Program Coordination Staff, Airway Facilities Div. ... **Michael G. Wayne**, asst. manager for program support, Windsor Locks, CT, AFS ... **Thomas A. Welman**, unit supervisor, Bedford, MA, FSDO, Boston.

Northwest Mountain Region

Harlow F. Brown, asst. manager for technical support, Denver AFS ... James P. Brown, asst. manager for automation, Denver AFSS, Longmont, CO, from Washington Headquarters ... Karl B. Lewis, manager, Proceedings & Policy Branch B, Office of Asst. Chief Regional Counsel ... Randall A. Mumm, area supervisor, Colorado Springs ATCT, promotion made permanent ... David W. Robinson, manager, Helena, MT, ATCT, from Spokane International ATCT ... Ronald E. Terry, manager, Grand Junction AFSSO II, Salt Lake City AFS, from regional headquarters ... Richard C. Weinberg, manager, Aspen ATCT, from Albany, NY, ATCT ... Keith T. Werts, area supervisor, Billings, MT, ATCT, from Tacoma Industrial ATCT, Gig Harbor, WA ... Dwight S. Williams, manager, Proceedings & Policy Branch A, Office of Asst. Chief Regional Counsel.

Southern Region

Nils B. Anderson, area supervisor, Miami AFSS, from Tallahassee, FL, FSS ... Jeffery C. Barry, area supervisor, Hilliard, FL, ARTCC ... Leo P. Bowersox, unit supervisor, Jacksonville, FL, AFS, promotion made permanent ... Edward P. Bradley, area supervisor, Anderson, SC, AFSS, from Atlanta, GA, FSS ... Wade T. Carpenter, supervisor, Airspace Section, System Management Branch, Air Traffic Div., from Atlanta FSS ... Craig Chandler, area manager, Orlando, FL, ATCT ... Janet Ellis, area supervisor, Louisville, KY, AFSS, promotion made permanent ... Chauncey E. Ford, area supervisor, Asheville, NC, ATCT, from Greensboro, NC, ATCT ... Donald K. Gallion, traffic management unit supervisor, Hilliard, FL, ARTCC ... Melvin H. George, area supervisor, Florence, SC, ATCT, from Tampa, FL, ATCT ... Carol A. Gettig, asst. manager, quality assurance, Hilliard, FL, ARTCC ... David C. Glover, asst. manager for automation, Jackson, TN, AFSS ... David W. Goodnough, area supervisor, Fayetteville, NC, ATCT, promotion made permanent ... William C. Grissom, area supervisor, Birmingham, AL, ATCT, pro-

motion made permanent ... Charlie M. Hicks, area supervisor, Anderson, SC, AFSS, from Mobile, AL, FSS ... Franz Juran, asst. manager, Ft. Lauderdale FSDO ... Walter M. Krupowicz, unit supervisor, Columbia, SC, AFS, Charlotte, NC, from Baltimore AFSSO, Capital AFS ... Norman J. Magyar, asst. manager, plans & programs, Hilliard, FL, ARTCC, from Jacksonville, FL, ATCT ... Robert S. Mikkelsen, asst. manager for automation, Tampa, FL, ATCT, promotion made permanent ... Howard O'Neal, group supervisor, Aviation Medical Div., promotion made permanent ... Rory J. Reed, manager, Opa Locka, FL, ATCT, from Miami International ATCT ... Robert L. Routh, unit supervisor, Atlanta ARTCC AFS, promotion made permanent ... Michael G. Sapp, manager, Lexington, KY, ATCT ... Clark W. Schadle, branch manager, Technical Evaluation Office, Atlanta, GA ... Harvey J. Schwab, unit supervisor, North Florida FSDO, promotion made permanent ... Gerald C. Smith, area supervisor, Miami, FL, ARTCC, promotion made permanent ... Freeda M. St. John, area supervisor, Raleigh, NC, AFSS, promotion made permanent ... Thomas E. Stryker, area supervisor, Bowman Field, Louisville, KY, ATCT, from Orlando, FL, ATCT ... Kevin M. Sullivan, manager, Pompano Beach, FL, ATCT, from West Palm Beach ATCT ... Donald E. Tulloh, unit supervisor, Myrtle Beach, SC, AFSSO, Raleigh, NC, AFS, from Fayetteville, NC ... Edward J. Wiseman, manager, Myrtle Beach, SC, ATCT, from West Columbia, SC, ATCT ... John R. Woods, unit supervisor, Georgia FSDO, Atlanta, from regional headquarters.

Southwest Region

Jesus J. Aguilera, asst. manager, McAlester, OK, AFSS, from Austin, TX, FSS ... Ronald L. Blair, area supervisor, Ft. Worth, TX, ARTCC ... Philip J. Booker, area supervisor, Ft. Worth, TX, ARTCC ... Franklin J. Breeden, team supervisor, Dallas/Ft. Worth FSDO, from Houston, TX, FSDO ... Brent A. Chance, area supervisor, De Ridder, LA, AFSS, from Little Rock, AR, FSS ... Charles B. Dukes, area supervisor, Ft. Worth, TX, ARTCC ... L. Joe Faulkner, area supervisor, Ft. Worth, TX, ARTCC ... Don L. Isbell, unit

supervisor, El Paso AFS, promotion made permanent ... Stanley J. Massett, asst. manager, New Orleans, LA, Moisant ATCT, promotion made permanent ... Matthew P. McCoy, area manager, Ft. Worth, TX, ARTCC, from regional headquarters ... Mary C. Mervyn, area supervisor, McAlester, OK, AFSS, from Ft. Worth, TX, AFSS ... Gaylon G. Raiden, asst. manager for program support, Oklahoma City AFS, Bethany ... Thomas J. Richter, group supervisor, Policy & Procedures Group, Rotorcraft Standards Staff, Rotorcraft Directorate, promotion made permanent ... Carlos Saavedra, supervisor, DFW Metroplex Engineering Section F&E, Establishment Engineering Branch, Airway Facilities Div. ... Samuel D. Slaton, area supervisor, Dallas/Ft. Worth ATCT, promotion made permanent ... Lacey D. Spriggs, branch manager, Airport Development Office—OK/NM, Airports Div. ... Karen S. Sterling, unit supervisor, Dallas/Ft. Worth AFS, promotion made permanent ... Freddie Sutton, unit supervisor, Ft. Worth ARTCC AFS ... Hector Vela, unit supervisor, Houston, TX, Civil Aviation Security Field Office ... Thomas G. Walenta, unit supervisor, Houston, TX, FSDO ... Otis T. Welch, branch manager, Airport Development Office—TX, Airports Div. ... Robert P. Wheeler, area manager, Ft. Worth, TX, ARTCC ... Oliver F. Whiten, area supervisor, Houston, TX, ARTCC.

Technical Center

Michael J. Chappine, manager, Accounting Branch, Financial Management Div. ... Franklin K. Jones, supervisor, EARTS Section, Terminal Field Support Branch, National Automation Field Support Div. ... James H. Remer, technical program manager, Office of Research & Technology Applications.

Washington Headquarters

Robin C. Burk, team supervisor, Federal Air Marshal Branch, Security Operation Div., Office of Civil Aviation Security Operations, from Chicago CASFO ... Gregory Campbell Carter, manager, Policy & Regional Procurement Branch, Procurement Legal Div., Office of the Chief Counsel ... Joseph A. Conte, man-

ager, Operations Law Branch, Regulations & Enforcement Div., Office of the Chief Counsel ... Richard A. Cox, deputy director, Office of Air Traffic System Management ... Timothy E. Halpin, asst. manager, Procedures Div., Air Traffic Rules & Procedures Service ... Kenneth M. Lauterstein, manager, Air Carrier Policy Branch, Policy & Standards Div., Office of Civil Aviation Security Policy & Planning ... George H. Lewis, manager, Operations Branch, Brussels Civil Aviation Security Div., Office of Civil Aviation Security Operations, from Southwest regional office ... Louw-Shiang Liu, manager, Federal Air Marshal Branch, Security Operations Div., Office of Civil Aviation Security Operations ... David Z. Schwartz, manager, Pricing Staff Branch, Contracts Div., Associate Administrator for Contracting & Quality Assurance ... David W. Tiedge, manager, Foreign Operations Branch, Security Operations Div., Office of Civil Aviation Security Operations, promotion made permanent ... Stephen E. Unthank, plans & programs specialist, Executive Director for Acquisition & Safety Oversight ... John S. White, asst. manager for training, Administration Branch, ATC Systems Command Center, Air Traffic System Management, from Honolulu ARTCC ... Robert J. Zoldos,

manager, Evaluation Branch (IAD), Evaluations Div., Office of Air Traffic System Effectiveness.

Western-Pacific Region

Willis H. Barickman, regional coordinator, Aviation Medical Div., promotion made permanent ... Michael A. Barton, area supervisor, Santa Barbara, CA, ATCT, promotion made permanent ... John A. Byrd, asst. manager, plans & programs, Oakland ARTCC, Fremont, CA, from Washington Headquarters ... John T. Collier, area supervisor, Palomar ATCT, Carlsbad, CA, from John Wayne ATCT, Santa Ana, CA ... Jerry A. Covey, area supervisor, Burbank, CA, TRACON, from Scottsdale, AZ, ATCT ... Rosie M. Elskamp, area supervisor, Burbank, CA, ATCT ... Roberta A. Eling, supervisor, Travel Voucher Section, Travel & Transportation Branch, Accounting Div. ... Vianne G. Fowler, asst. manager, Southern California TRACON AFS, NAS Miramar, CA, from San Diego, CA, AFS ... Edward J. Hatherley, area supervisor, Fullerton, CA, ATCT, from El Toro, CA, TRACON, Santa Ana ... Mark E. Heinrich, area supervisor, High Desert TRACON, Edwards Air Force Base, CA, promotion made permanent ... Thomas B. Huntington, manager, Fresno, CA, ATCT, from NAS Miramar TRACON,

San Diego ... John Kurywchak, area supervisor, Burbank, CA, TRACON, from San Diego Gillespie Field ATCT, El Cajon, CA ... Richard F. Layne, asst. manager for program support, Operations Program Section, Program & Planning Branch, Airway Facilities Div. ... Richard H. Lewis, area supervisor, Fresno, CA, ATCT, from Burbank, CA, TRACON ... Gary E. Logelin, area supervisor, Palm Springs, CA, ATCT, from Phoenix, AZ, TRACON ... David L. Miller, area supervisor, Reno, NV, ATCT, from Burbank, CA, TRACON ... Jarilyn T. Newman, supervisory general supply specialist, Program Support Staff, Establishment Engineering Div., promotion made permanent ... Barry D. Nicol, supervisor, Transportation, Analysis & Reports Section, Travel & Transportation Branch, Accounting Div. ... Katherine D. Raulston, asst. manager, quality assurance, Los Angeles ARTCC, Palmdale ... Harold V. Reid, area supervisor, Ontario, CA, TRACON, promotion made permanent ... Francis T. Torikai, asst. manager for training, McClellan Air Force Base TRACON, Sacramento ... Walter R. C. White, manager, Gillespie Field ATCT, San Diego, from NAS Miramar TRACON, San Diego ... Cheryl L. Winter, area supervisor, Los Angeles ARTCC, Palmdale, from High Desert TRACON, Edwards Air Force Base, CA.

Retirees

Aeronautical Center

Leonard Allen
Gerald V. Goodnight
Frank B. Havens
Weldon H. Hill
Peggy I. Howard
James L. McLean
Stanley E. Sanders
William E. Stephens

Alaskan Region

Robert D. Geisman
Cecil C. Osborne

Central Region

Abram C. Abeyta

Warren Monroe Erickson
George F. Lingenfelter
Arthur W. Nelson
Will H. Trammell
Patricia A. Watson

Eastern Region

George Chopay
Richard L. Fisher
Michael J. Sarli

Great Lakes Region

Gerald R. Akers
Paul J. Barton
James E. Fletcher
Brian D. Maus
Farrell G. Smith

New England Region

Paul F. Murphy
Roger J. Waters

Northwest Mountain Region

Willie P. Griffin
James A. Meuchel
Henry G. Meyer

Southern Region

Fred D. Bogle
Shirley M. Lee
Herbert T. Prince
Mortimer J. Sams
Gary H. Sparr
Vernon K. Yingling

Southwest Region

David Gonzalez
James M. McAllister
Doris G. McDonald
Duane L. Neifert

Technical Center

Helen M. Gramlich
Robert F. Johns
Whitley A. Morrison

Washington Headquarters

George E. Borguno
Owen D. Ross

Western-Pacific Region

Eliif F. K. Andersen
Bernard B. Bronov
Francis D. Gibb

Scholarships, Student Loans for 1993-94 School Year

The Federal Employee Education and Assistance Fund (FEEA) unveiled its 1993 educational program for civilian federal and postal employees and their dependent family members. This year's program includes a scholarship competition and educational loan package that meets the needs of undergraduate, graduate, and professional-level students.

FEEA scholarship applications and student loan brochures can be obtained by sending a self-addressed, stamped envelope to: FEEA, Suite 200, 8441 W. Bowles, Littleton, Colorado 80123-3245.

- **FEEA scholarships.** Since 1987, the FEEA has awarded over \$450,000 in scholarships to civilian federal employees and their dependent family members in every state and overseas.

Winners have represented ev-

ery major federal agency. Last year, the FEEA awarded \$130,000 in scholarships. It anticipates awarding at least \$150,000 in scholarships for 1993.

Scholarship awards are based on merit and range from \$300 to \$1,200 per student. Minimum requirements are at least three years of federal service and a 3.0 grade point average. Applicants may be high school seniors or students continuing their college education. Selection criteria include academic achievement, community service, a recommendation, and an essay.

This year's essay topic asks the applicants to choose a current or former federal employee, living or dead, whom they would pick as their mentor and to explain why.

The application deadline for the 1993-94 school year is June 4, 1993. Awards are made in August in time for the fall term.

- **FEEA student loans.** The FEEA

has arranged for more than \$10 million in student loans to federal families. FEEA's 1993 student loan program has increased loan limits for parents and features a new loan program designed to meet the needs of middle income students.

FEEA student loans offer the lowest guarantee fees and interest rates. They are obtained through Pioneer Financial of Malden, Massachusetts. Loan amounts can range up to the full cost of education (minus other financial aid), and repayment can often be deferred during the in-school period.

For most FEEA student loans, there is no income limit or "needs test" to qualify. There is no minimum GPA, length of federal service, or dependency requirements for students. *

Article from the Western-Pacific Region *Intercom*.



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