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NAS Plan On Track

One of the lynchpins of the NAS Plan is the new ASR-9 airport surveillance radars being built by Westinghouse. FAA has ordered more than 100 of the dual-channel radars with deliveries scheduled to begin this year.

The Federal Aviation Administration's National Airspace System (NAS) Plan is moving from its initial phase of research, development, engineering, and design toward the actual production and delivery of systems and equipment. From now through the beginning of the twenty-first century, we should see vast safety and reliability improvements in our airspace system facilities.

Given the complexity of the task the agency has undertaken, it is significant that over 70 percent of the approximately 90 NAS Plan projects are now under contract and 14 percent of them have been completed. First deliveries have been made to the field in almost half of the projects with more than 4,400 individual equipment components already shipped or installed.

By the end of the current fiscal year, more than 90 percent of the NAS Plan will be under contract.

One of the most significant NAS Plan milestones to date was the delivery of the new IBM Host Computer System to the Seattle Air Route Traffic Control Center in November 1986. Deliveries of the Host are proceeding at a rate of two per month and will be on site at all 20 domestic centers by December.

This month, the Seattle Center will pass another milestone when the Host Computer System achieves Initial Operational Capability, and the cutover, or Operational Readiness Date, will soon follow. All 20 centers will be operational with the new equipment by the summer of 1988.

Other NAS Plan-related projects designed to enhance enroute center capabilities have been completed or are well on the way to completion. These include the replacement of all tube-type, ground-to-air radios with new solid-state equipment; initial deliveries of the new Flight Data Input/Output equipment that will replace flight strip printers; establishment of Traffic Management Units at all locations; and the completion of building expansion programs.

Additionally, computer memories at all ARTS III terminal sites have been upgraded, and more than 140 of the new Integrated Communications Switching Systems have been delivered to airport control towers and flight service stations.

Also, the FAA is making great strides toward the implementation of what may be the largest civil microwave telecommunications system in the United States.

Another important NAS Plan project which has shown marked progress toward completion has dealt with our defense against wind shear. Low level wind shear alert systems are now in place at 92 airports and all 110 in the program are scheduled to be on line by the end of this fiscal year.

In addition to the progress just described, there are other significant NAS Plan activities that will reach fruition in 1987. We will see delivery of the first ARTS II enhancement packages and re-

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Tigers Help Tame Delays

By Fred Farrar

John R. Ryan (left), Director of the Air Traffic Operations Service, discusses air traffic control problems with Tiger Team members Cal Mann, Clayton Smith and Don Eddy, all of ATO-1110.

They feed on delays, these tigers. And they don't leave until they have done away with as many as possible.

They are the Air Traffic Operation Service's (ATO) "Tiger Teams" who make up mobile strike forces that go where the problems are and help the controllers on the scene to solve them.

Their main targets are the kinds of problems that cause delays and they use their expertise—and innovations developed by the controllers at other facilities they have visited—to help reduce those delays. Last August, for example, they worked with the controllers in the San Francisco, Oakland, and San Jose towers to cut delays by 50 percent in that area.

The tigers' base is the Operations Division's System Performance Branch, ATO-110. Branch manager Paul Strybing is the man in charge and the leader of most of the Tiger Teams.

Strybing notes that the Tiger Teams were established in July 1985 to help with the establishment of the Traffic Management Units (TMUs) in the agency's air route traffic control centers. The TMUs use various traffic management techniques, such as flow restrictions, metering and enroute spacing, to promote efficiency and reduce delays. They also are responsible for weather coordination and military mission coordination.

Since that time, he says, the mandate of the Tiger Teams has been expanded to help any ATC facility solve sticky traffic problems upon request by the facility or the region.

The results of the visits are opened lines of communications and increases in cooperation, the sharing of information and experience, and the identification or problems and solutions.

The members of each team represent a wide range of expertise in air traffic control disciplines. These include experience as controllers or managers in both centers and terminals as well as experience in traffic flow, traffic management, air space procedures, and quality assurance.

And, Strybing continues, each of these teams—which average six members—are tailored to bring the best mix of experience to bear on the particular problem.

None of this means or implies that the Tiger Team members are either more brilliant or gifted then the people assigned to the facility, Strybing says.

"All it means is that we bring an outsider's objective viewpoint to the problem, and, because of this, can see solutions that those who have been there a long time can't see.

"Also, we have the advantage of having visited a lot of different facilities and know what others have done to solve similar problems. In that sense, we function as cross-pollinators."

According to Strybing, a typical Tiger Team visit includes these steps:

First there is an initial briefing on the target facility to familiarize team members with its airspace, traffic flows and problems.

Then the team members observe operations, including monitoring of control positions, and informally interviewing personnel at all levels to get their views and perceptions on the problems and possible solutions.

Next, letters of agreement and procedures are reviewed as necessary and follow-up discussions are held with management and staff personnel to clarify the issues.

The team then caucuses to compare notes and identify problem areas, prepare suggestions and recommendations for the facility to consider, and identify resources or information that the team can seek to provide on its return to headquarters.

The facility management is debriefed, as is the regional air traffic control manager. A detailed report is prepared as soon as possible.

The result is a smoothing of operations and reduction in delays, Strybing notes. This is exemplified by what happened at the San Francisco tower alone following the team visit last August.

Strybing says, "Traffic flows were smoothed, restrictions reduced, and delays slashed by 75 per cent."

The team recommended, among other things, that a second ground control position be established to help speed up and smooth out the flow of aircraft from the gates to the departure runways. It pointed out that this would have the additional advantage of making more gate space available for arriving aircraft.

Another recommendation was the use of a 250-knot speed restriction on all departures climbing above ten thousand feet MSL. The Oakland enroute center had imposed a ten mile in-trail restriction upon the Bay TRACON (terminal radar control facility) because of the overtake situations that frequently developed during the transfer of control and communication from the TRACON to the center.

The 250-knot restriction stabilized the flow of traffic during the critical control/communications transfer process and allowed the center to delete the ten mile in-trail restriction.

This procedure was identified at the February Traffic Management Conference in Houston, TX, as having high potential elsewhere for reducing both delays and operational errors. Many facilities currently are evaluating this procedure, and several have already implemented it.

The team also recommended the establishment of a second ground control position at SFO to expedite and smooth the aircraft flow from the gates to the departure runways. This has the additional advantage of making more gate space available for arriving aircraft.

Other recommendations called for increased use of the airport's long runways—28L & 28R—for departures, and closer coordination between the facilities to assure that a disciplined final approach is maintained and departures can continue to flow during the peak rushes.

To date, Tiger Teams have visited 26 facilities in six regions, Strybing says. The most recent were the Boston Center and the Boston TRACON in January.

As for the future, Strybing believes the Tiger Teams are here to stay. And he would like to have more of them and send them out more often.

They now average about six visits a year, or one every two months. He would like to be able to send them out once a month.

"But that all depends on how goes the budget," he says. "And that is a factor that makes my crystal ball very murky indeed." ■

(Mr. Farrar is a former Chicago Tribune reporter who now serves as the assistant manager of the Public and Employee Communications Division in Public Affairs.)

Visiting the Aerospatiale Helicopter Corp. plant in Grand Prairie, TX, are (from left) Spanish inspectors Emilo Mora and Jose Luis Diaz. Mike Sloat of ASW's Aircraft Certification Division discusses inspection paperwork with them as Aerospatiale employee, Jon Moline, looks on.

FAA Trains Spanish Inspectors

FAA's Southwest Region (ASW) and the Spanish government have completed a unique training program that reflected the historic bonds between America's Great Southwest and its European ancestor.

The training program was conducted by ASW's Aircraft Certification Division and its Manufacturing Inspection Branch. Their subjects were 15 inspectors from Spain's Direccion General de Aviacion Civil (DGAC).

Like many nations around the globe, Spain has based its airworthiness regulations on the FAA model, creating a need for training in the practical application of these standards. Accordingly, Al Asturga of FAA's Civil Aviation Assistance Group in Madrid made a training request to the home office and three FAAers were dispatched to Spain from ASW headquarters in Fort Worth.

They were Charles D. Porter, a flight test pilot with the Helicopter Certification Branch; Mark Schilling, an aerospace engineer in the Aircraft Certification Division; and John Fauntelroy, manager of the Maintenance Inspection Branch.

Inspector Ralph Rodriguez from the Baton Rouge, LA, Flight Standards District Office also was detailed to the project for 30 days.

Following the training session in Spain, three of Spanish inspectors traveled to the United States to see how their FAA counterparts perform in the field. They spent their first week with the Engine Certification people in the new England Region, week two at ASW headquarters and the last week at the San Antonio Manufacturing District Office.

When the final training session ended last November, all of the participants agreed that the program had benefited the aviation professionals of both countries.

Vietnam Memory of Woody Hayes

By Tom Gillette

Editor's Note: The recent death of Ohio State University's legendary football coach Wayne Woodrow "Woody" Hayes at the age of 74 affected many people in many different ways. Here is the way one FAA employee remembers him.

FAA Audio-Visual Specialist Tom Gillette is shown with a group of Vietnamese refugees in this 1967 photo. Gillette was a young Army lieutenant at the time.

Although I am a graduate of Ohio State University, I met Woody Hayes only once. It wasn't after a big OSU game with the victory bell joyously pealing from the corner of the stadium. It wasn't after a rare loss either—who would even think of approaching Woody after a loss?

I met Woody Hayes on a dusty, unbelievably hot day in a place called Phu Loi, Republic of Vietnam. It was 1967 and as Special Services Officer for my unit I had seen that Woody was touring the war zone on a USO tour. As an OSU alumni, I couldn't resist scheduling him for a visit.

Coach Hayes was well received by the troops even though he talked about how proud they should be to wear their country's uniform and defending freedom so far from home. What the men liked, of course, were his stories about football—great players and great teams.

The USO schedule called for him to spend the night with us and to depart by helicopter about nine the next morning. So after he had signed autographs and written down God knows how many names and Stateside phone numbers—I know for a fact that he called many, many families with messages from Phu Loi—some of the officers (rank has its privileges) sat down with Coach Hayes, drank beer and talked about football and war late into the night.

I don't remember much of that conversation. One hundred fifty-five millimeter artillery was firing less than 100 yards away. I just remember thinking that I had to join the Army and travel 10,000 miles to get the chance to meet Woody Hayes.

There *were* two things he said that I remember. First, that he hoped OSU graduate Paul Warfield would do well in the pros, but Woody wasn't sure Warfield could catch a pass. And second, the coach hoped that another of his players, Bob Ferguson, would make it because he was a hell of a back.

The next morning, however, I learned that Woody Hayes was more than the consummate coach and military historian. My unit was trying to help a small village of Vietnamese refugees who were squatting just outside our perimeter. Included were kids, old men and women, but few younger men—they were out fighting against, or maybe even with the Cong.

Wearing his USO fatigues and an Ohio State cap, Woody Hayes toured Vietnam in 1967, creating a lasting memory for FAAer Tom Gillette and many other GIs.

When I mentioned the refugees to Woody, he immediately wanted to go with me for a visit. So as soon as the sun rose on another unbelievably hot day, Coach Hayes and I drove the short distance to the camp—with a couple of armed soldiers as protection. It wouldn't do, you know, for something to happen to a civilian.

We spent about a half hour there. And the picture burned into my mind forever is that of a fifty-four year old man, wearing USO fatigues, playing with a bunch of Vietnamese kids. He didn't speak a word of their language, but he made them laugh and he obviously enjoyed himself. We returned to Phu Loi. I said goodbye to Coach Hayes and he flew off to another group of GIs to talk about war and football. I learned later that when he returned to Columbus he worked to collect clothes and other items for those kids in that village.

I only saw Woody Hayes in person once after that and there were 100,000 others there at the Rose Bowl when the Buckeyes beat Southern Cal and O.J. Simpson in 1969. As any good alumni, I've followed Ohio State football even though I've moved from Ohio. And through the years: the National Championship, the wins and losses, and the Clemson incident, that picture outside Phu Loi remains.

He was a great coach, he loved football and he loved Ohio State. But in my mind Woody Hayes was a caring human being who loved people most of all. ■

(Tom Gillette is an Audio-Visual Specialist in the FAA Public Affairs Office in Washington. He served as an Army Lieutenant in Viet Nam in 1967-68.)

DC-3 Still Flying

By Roland Herwig

Oklahoma City provides a natural setting for FAA's DC-3 "Flying Museum." The plane was built there 42 years ago and currently operates out of the Aeronautical Center

FAA's DC-3—number N-34—is an aircraft with a future as well as a past.

This spring and summer, the 42-year-old military veteran and retired FAA flight check aircraft is again traveling the country to promote aviation education. First stop was a visit to the "Sun and Fun" Fly In at Lakeland, FL, in March.

"We learned much about the air show, static display and aviation education business in our first year of operation," DC-3 program manager Bob Barrigan said. "We did 10 air shows in 1986 and found that people loved us. Now the FAA regions are getting familiar with N-34 and are capitalizing on its visits for their own safety programs."

"The DC-3 has been very popular with young people," Barrigan added. "Those are the ones we especially want to reach. We're still learning to put together educational displays that will hold their attention, but as for interest in the airplane itself, no problem!"

A typical N-34 visit involves a three-person volunteer crew—two to fly the aircraft and an additional person to handle all aspects of the educational display. Finding FAA volunteers is no problem because Barrigan notes, "It is the nature of the project that captivates interest and people want to be part of it."

The N-34 displays include computers that are set up outside the aircraft to provide a hands-on learning experience for the air show visitors. The public may also board the DC-3 to get the feel of a passenger and cargo carrier that made aviation history.

Built in 1945 at the Douglas plant in Oklahoma City, N-34 saw service all over the globe before it was transferred to FAA in 1963 along with 16 other DC-3s to flight-check the accuracy of the agency's navigational and landing aids. It was declared surplus after 23 years service and seemed headed for oblivion.

But employees of the Aviation Standards National Field Office at the Aeronautical Center stepped in with a proposal to preserve the aircraft as a flying museum. They found a sympathetic listener in Administrator Engen and he ordered the restoration of N-34 to the original colors of the Civil Aeronautics Administration (CAA), a predecessor of FAA.

Based in Oklahoma City, its continuing mission now is to document the history of the CAA and FAA, to inform the public about FAA's contribution to domestic and international aviation, to captivate the interest of young people, and to emphasize safety in the National Airspace System. ■

(A newcomer to FAA, Roland Herwig is a writer/editor in the Aero Center Public Affairs Office. He's a former Air Force Public Information Specialist.)

DC-3 Air Show Schedule

FAA's DC-3 is scheduled to participate in twelve air shows in 1987 beginning with the Experimental Aircraft Association's Sun 'N Fun in Lakeland, FL, in March. The remaining shows on the schedule are:

May 8–9	Andrews AFB, MD. Open House and Air Show
May 30–31	Windsor Locks, CT. Aviation Safety Expo
Jun 20–21	Oklahoma City Aerospace America '87
Jul 3–5	St. Louis, MO. Air Show
Jul 25–26	Dayton, OH. Expo and Int'l. Air Show
Jul 31–Aug 3	Oshkosh, WI. Experimental Aircraft Assn. Fly-In
Aug 15–16	Everett, WA. Washington Int'l Air Show
Sep 5–6	Cleveland, OH. Air Show
Sep 17–20	Reno, NV. Nat'l Air Race and Air Show
Sep 26–27	Latrobe, PA. Air Show
Oct 3–11	Albuquerque, NM. Balloon Festival '87

More than 6,000 persons toured FAA's restored DC-3 at the Sun 'n Fun Fly In at Lakeland, FL, in March. Here Macon RAPCON controller Robbie Wallace explains one of the planes educational computers to a young listener.

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placement of TPX-42's with the new ARTS IIA equipment. The initial Next Generation Weather Radar contract will be awarded, first deliveries of more than 100 ASR-9 airport surveillance radars will be made, and shipment of the initial ASDE-3 airport mapping units will begin.

While NAS Plan accomplishments are beginning to be felt at facilities around the country, the future scope and direction of the program is under constant scrutiny by the FAA. Our goal is to find new ways to enhance safety, contain costs, and improve system reliability and performance.

In the spring of 1986, as the mid-point of the NAS Plan approached, FAA Administrator Donald D. Engen mandated a critical review of the program. The review was undertaken by an independent team from the FAA and the Office of the Secretary of Transportation, whose members were not involved in the daily management of the NAS Plan. As expected, the study identified several areas where NAS Plan management needed improvement and as a result, we have made some important internal mid-course adjustments.

One adjustment involved expanding the role of the System Engineering and Integration (SEI) contractor, Martin Marietta. The agency has assigned the contractor technical direction responsibility for six NAS Plan projects in addition to the functions it already performs in the areas of program management, project support, and SEI. These projects include the Terminal Doppler System, Integrated Communications Switching, and National Airspace Radio Emergency System.

Also, with 4,400 equipment components already delivered to the field, and the delivery rate rising, FAA will be required to supplement its Airway Facilities workforce to handle the one time workload associated with site preparation, installation, and testing. Accordingly, the agency plans to award a National Technical Support Services contract to assist it with this task. The contractor will operate under the direction of the regional offices.

FAA is confident that the internal management decisions just highlighted will have a positive impact on the NAS Plan. The critical issue now is funding.

The Reagan Administration recently reaffirmed its confidence and support for the NAS Plan by submitting legislation to the Congress that would reauthorize Trust Fund spending for capital improvement projects through FY 1989. Known as the Airport and Airway Enhancement Act of 1987, it provides for significant increases in the Facilities and Equipment (F&E) budget for both FY 1988 and 1989.

For FY 1988, F&E spending would be pegged at $1.35 billion, which represents a 68 percent increase over FY 1987 appropriations. If enacted, the legislation would provide an additional increase for FY 1989—up to a record $1.5 billion.

In recent Congressional testimony, deputy Secretary of Transportation Jim Burnley emphasized that the reauthorization package "will assure a safe, efficient National Aviation System fully equipped to meet the expanding needs of one of the most dynamic industries in the country."

The FAA expects to issue its fifth update of the NAS Plan this month. For the first time, it will contain a new chapter describing the agency's capital needs outside the NAS Plan. For example, in the near-term, we need to replace the underground fuel tanks for many of our engine generator backup facilities. We also see the need to replace the Tactical Air Navigation radio navigation aid antennas as well as data multiplexing modems.

The NAS Plan will continue to evolve in the years ahead as new requirements are identified and programs are developed to meet those requirements. But its basic purpose will remain unchanged—that is, to ensure that America's air transportation system remains the safest and most efficient in the world.

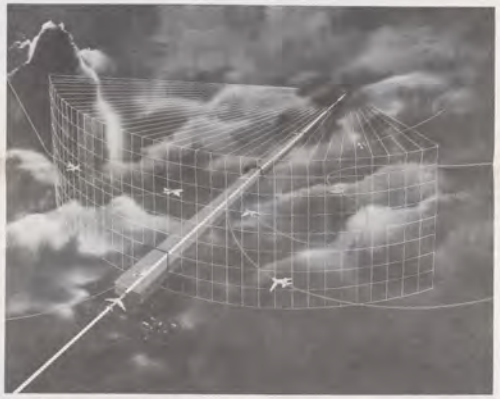
(This article was prepared by a staff writer based on congressional testimony by FAA and DOT officials.)

The cutover from the IBM 9020 to the Host computer systems in the enroute centers will be "transparent" as far as controllers are concerned. They won't really notice any difference on their displays. However, down the line they will be getting new "sector suites," or work stations, as part of the Advanced Automation System.

This view of a Boeing 747 on final approach is now one of the most famous photos in recent aviation history, having graced the cover of the original NAS Plan book and four subsequent updates. It also will be on the 1987 edition that's due out in late May.

Major NAS Plan Contractors

Host Computer	IBM Federal Systems Div.
Advanced Automation System (Competitive Contracts)	IBM Federal Systems Div. Hughes Aircraft
Voice Switch. & Control System (Competitive Contracts)	AT&T Federal Systems Div. Harris Corp.
ASR-9 Airport Radar	Westinghouse Electric Corp.
Airport Surface Detection Equip.	Norden Systems
Mode S. Radar Beacon System (Joint Venture)	Westinghouse UNISYS
NEXRAD Weather Radar (Competitive Contracts)	Raytheon Co. UNISYS
Microwave Landing System	Hazeltine Corp.
FSS Automation	E-Systems
Radio Microwave Link System	AT&T Technology Systems
Systems Engineering & Integration	Martin Marietta



One of the major advantages of the Microwave Landing System over the current Instrument Landing System (ILS) is the wide range of approach paths it will offer pilots. This artist's drawing demonstrates the ultimate possibilities of MLS, including curved approaches, as compared with the straight-on ILS approach path.

Arlene Feldman Is Pace Setter

By Joann Sloane

Where women in the FAA workforce are concerned, Arlene Feldman has emerged as something of a pace setter.

Last month, she was the first of her sex to become the Deputy Director of FAA region, taking over the number two management slot in the Western-Pacific Region.

Previously, she was Deputy Director of the FAA Technical Center in Atlantic City for a year and a half and, as such, the first female to hold that post.

Being "first," in fact, has become almost a habit with Feldman. Prior to taking the Tech Center post, she was the first woman Director of Aeronautics at the New Jersey Department of Transportation, a post she held for three years.

"I like the challenges," the Philadelphia-born Feldman said. "I don't look at things as problems but as challenges to be worked out."

During the time she headed the New Jersey Aeronautics Division, she spearheaded the drive in the State legislature to pass the Airport Safety Act of 1983 which helped to redirect and reorganize her division. The landmark legislation created, for the first time in New Jersey, an aviation trust fund to provide aid to both public—and privately-owned airports.

In addition, the legislation made it possible to eliminate all duplicative regulatory mandates and provide for the promotion and development of aviation in the state. She is very proud of the fact that the new program resulted in a reduction in staff and budget that allowed for better and more efficient use of personnel. The streamlining of the organization gave her the opportunity to help establish an aviation education program that became recognized nationally for its innovative hi-tech aviation career programs.

In 1985, the Aviation Hall of Fame of New Jersey recognized Feldman's outstanding contributions to aviation in the state by honoring her with its distinguished service medal.

Feldman already had a solid aviation background before she took over the New Jersey post. As a young Air Force wife she began taking flying lessons with her husband "for the fun of it" and received her license in 1959.

"I guess the thrill to my husband of working on airplanes kind of rubbed off on me," she said. "In my wildest dreams, I could never have anticipated what would come of it."

After receiving her license, she joined the 99s and flew one year in the Powder Puff Derby. She has remained an active member of the 99s, which is an international organization of women pilots.

After raising a son and daughter, she resumed her education earning a B.A. from Colorado University and then enrolled at the Temple University Law School specializing in aviation law. While still pursuing her J.D. degree, she went to work for the Congressionally-chartered U.S. Railway Association. Following graduation, she become a Supervising Attorney in the Law Department.

Feldman also became closely associated with the FAA during this period. She served as a volunteer Accident Prevention Specialist for several years in the Philadelphia area and provided legal services to the Professional Women Controllers organization. In appreciation, the organization subsequently named her as its first honorary member.

At the Tech Center, Feldman said she worked hard to increase public understanding and appreciation for the important work being done at that facility. "The major thing was to get the aviation community and local interests to understand what FAA is all about," she added.

She also established a more comprehensive aviation education program which now includes an advanced degree coop program. She worked with Rutgers University to bring graduate students into the advanced concepts laboratory on a rotating basis so that FAA could have the benefit of fresh new talent at minimal cost. The students divide their academic year, spending six months working at the Center and six months at the University.

Feldman also is proud of the program she initiated to provide "cross utilization of talent" at the Center. She also emphasized close liaison with the military. "I felt it was important to become more involved with them in the exchange of ideas and in working on mutually beneficial projects," she said.

The Western-Pacific Region job presents her with a whole new series of challenges but she say she is looking forward to them as well as the "adventure of living in California."

She also feels she has special responsibility to other women in the agency who aspire to management positions. They must understand that nothing is beyond their capabilities, she notes. "What seems to be impossible only takes a little bit longer to accomplish." ■

(Ms. Sloane is a former UPI correspondent who now works as Public Information Specialist for FAA.)

Feeling Fit

SUN TIPS

With summer almost here, it's time again to think about catching a few "rays" at the beach, the lake, or the backyard pool.

Well, enjoy yourselves but remember that direct sunlight can be hazardous to your health. Not only does it burn and prematurely age the skin, but it also causes skin cancer in more than 300,000 persons every year. Those with fair complexions need take extra care because their skin lacks sufficient quantities of a pigment, known as melanin, to filter out the sun's most harmful rays.

The American Cancer Society recommends the use of any one of the popular brand name sunscreens that contain PABA (para-aminobenzoic acid). These preparations absorb ultraviolet rays and allow gradual tanning. They are most effective if applied about 45 minutes before exposure, and should be reapplied after swimming or perspiring.

Sun blocking preparations offer another form of chemical protection. It deflects the ultraviolet rays totally and allows no burning or tanning at all. It is most useful in shielding the lips, nose, and other extra-sensitive, or already burned areas. A well-known sun blocking agent is zinc oxide, an opaque white ointment often used by lifeguards. It makes you look strange but that's the price you pay.

A little common sense also goes a long way in avoiding that painful sunburn and the even more serious consequences of overexposure. Here are a few practical tips from the Cancer Society.

- Sun before 10 a.m. and after 3 p.m. when ultraviolet rays are weakest.
- Even with a protective PABA sunscreen, a good general suntanning program is 15 minutes the first day during high radiation hours and 5 minutes more each day thereafter until you have a good base tan.
- If you are moving around, as when playing tennis or riding a bike, you can increase the first exposure to about 45 minutes. A moving target is harder for the rays to find than a motionless one.
- A beach umbrella does not give full protection. Ultraviolet rays are only partially deflected by the umbrella. The rays come at you from every direction, bouncing off sand, water, patio floor, deck, or what have you.
- Don't count on being safe on a cloudy day. Seventy to eighty percent of the ultraviolet rays' burning power penetrates clouds and overcast, and the rays can even reach a person three feet under water. A wet T-shirt can also deceive since water droplets funnel at least half the ultraviolet power to your skin.
- You don't have to be hot to be burning. There is less atmosphere on mountaintops to filter out ultraviolet rays, and snow can reflect as much as 85 percent of the sun's rays.
- Avoid sun reflectors. They expose the most delicate facial areas, under the chin, eyelids, and earlobes.

Ok, now you're on your own!

Faces & Places

FORMER ADMINISTRATOR DIES: Even before he came to FAA in 1965, William F. McKee had made his mark in the world as the first non-pilot to become a full (four-star) Air Force General. McKee, who died earlier this year in San Antonio, Tex., served as FAA Administrator until 1968. A West Point graduate, he was known to friends and intimates from his cadet days as "Bozo" but no one at FAA ever dared ask him why.

SIDE-BY-SIDE: Ronald and Joanne LaBrecque are a married couple who believe in togetherness. They are from the same small town in Maine, graduated from the same high school in the same year, and now work alongside one another as air traffic controllers at Boston's Logan International Airport. The two joined FAA together after the 1981 controllers strike, attended the same Academy class, and then were assigned to Logan. Even a couple this close has to have some rules to insure marital survival, however. One of them is that they don't talk ATC off the job.

OVER THE WAVES: When the Middle Marker (MM) for the Instrument Landing System at San Francisco International Airport needed replacement, the Golden Gate Airway Facilities Sector decided that a helicopter was the quickest and cheapest way to make the switch. But the job wasn't quite as easy as it looks here. Sector personnel first had to make numerous boat trips to the MM site in the middle of San Francisco Bay to carry away equipment in order to reduce the building's overall weight. Logging the most sea time were Technicians George Kolby, Joseph Bettencourt and Charles Taylor.

LIGHTER-THAN-AIR: Riding in the Goodyear blimp, Columbia, is all part of a day's work for Neal Savoy (right) of FAA's Flight Standards District Office in Long Beach, CA. A 24-year FAA veteran, he has been responsible for monitoring the airship's operations for the past decade. Here he checks out the Columbia's chief pilot, Nick Nicolary, on a flight over southern California. The Los Angeles-based Columbia is one of four active Goodyear airships in a program that has carried more than one million people over a period of 60 years without a fatality or injury. Somebody is doing something right!

MEET THE PRESS: When FAA's Alaskan Region recently released a range of materials relating to the reported sighting of an Unidentified Flying Object by a Japan Air Lines pilot, Public Affairs Officer Paul Steucke found himself besieged by a curious media. Adding to his workload were calls from hundreds of out-of-state reporters and requests for materials from UFO followers everywhere. Despite all the furor, FAA did not uncover any evidence to support the alleged sighting but that probably won't make any difference to the True Believers.

ROOM WITH A VIEW: One of the fringe benefits of Ramon Ybarra's job is the spectacular view from his office window of Rio de Janeiro's famed Sugar Loaf mountain. A former controller with 17 years of FAA service, he represents the agency in Brazil, Argentina, Paraguay, Uruguay and Chile, working closely with the host governments and providing technical assistance as required. Although fluent in Spanish and a veteran of two FAA tours in Panama, he still had to take a crash language course before moving to Rio. You see, they speak Portuguese in Brazil.

Controller Chair Saga

By James B. Norton, ATR-130

The new chairs

(An air traffic control specialist in Washington headquarters, Norton was involved in the chair replacement program from start to finish.)

For the most part, air traffic controllers are sitting pretty today but it took a long time and required a great deal of effort for them to get in that position.

Since controllers—especially radar controllers—spend most of their time on the job sitting down, their chairs are as important to them as, oh say, a motorcycle is to a highway patrolman. They want a chair that is simple, comfortable, sturdy and durable among its other characteristics.

But finding just the right chair for the controller workforce was no easy task. In fact, it took almost a decade to get the present chairs into the centers, towers and flight service stations around the country.

Part of the problem was convincing people outside FAA that the chairs needed replacement. When budget cutters started looking for ways to pare the FAA's appropriations, the chair replacement program always seemed expendable. It mattered little that the existing chairs were 12 to 15 years old, were used by as many as 15 different people a day in a very stress-oriented environment where the chair is almost a form of transportation at times.

The replacement program actually got underway in October 1977 with a controller survey to find out what they did and didn't like about their present chairs. This data was used in connection with the testing of 15 candidate chairs offered by different manufacturers at Purdue University in 1979. This was followed by an operational, or ''in use,'' evaluation at the Washington, New York, Chicago, and Fort Worth air route traffic control centers and later at the Fort Worth flight service station, Chicago O'Hare tower, Islip tower and FSS, and the Washington FSS.

The results were published in December 1979 as the Air Traffic Controller Chairs Study. It pointed out that only a few chairs, with the size and shape we required, would be good enough to pass the tests. A second point was that the new chair would not be over-stuffed or overly complicated. It would be a simple and efficient chair.

The next step was to find a manufacturer who could produce the ideal chair for the agency. We found a number of chairs that met about 80 percent of our specifications but the makers were reluctant to change the 20 percent we thought was necessary. We were told, ''Change a winner, disrupt a production line, you must be crazy.'' Still we felt we had narrowed down the field and established that chairs meeting most of our requirements were on the market.

Coming up with the estimated $3 million in operating funds needed to carry out the replacement program proved equally challenging. Although the program had solid support within FAA, it traditionally fared badly farther along in the budget cycle.

Meanwhile the situation continued to deteriorate. Not only were the chairs mechanical nightmares, they also failed to meet the needs of the increasing numbers of female controllers and were costly to maintain in a safe operating condition. We had to produce a list of accident/injuries to justify our need for replacement of the chairs.

Then in 1983, after the replacement effort had again failed to win approval, the FAA Budget Office identified some $3 million in surplus funds that might be used for the program. Procurement Requests were quickly prepared and processed. In fact, there were three PRs with each designed to handle a different contingency.

Because the replacement program had been to Congress so many times before without success, the agency felt obliged to call the appropriate committees and get specific approval to spend the surplus funds on the chairs. The answer came back in the affirmative and the program finally was off the ground.

We now set out to collect as much information as possible to prepare for the procurement process. The preparations involved field testing of some chairs and development of a purchase description.

Testing focused on a chair that fit the controllers notion of what the chair should be—that is, simple, good body support and with automatic height adjustment. The Houston Intercontinental Tower was chosen as the initial test site because it had recently added four new positions and had the money to buy four new chairs. We recommended a chair with a pneumatic height adjustment as a prototype and the Southwest Region followed through. They proved extremely popular with controllers and quickly found their way to the four busiest radar positions and stayed there. They had become a status symbol for the hardest workers.

The old chairs

Following up on the Houston experience, the agency decided to try a larger scale test in another type facility and selected the nearby Houston enroute center. This evaluation involved 144 chairs and produced mixed results. Controllers generally saw an improvement in the new chair, got used to it, forgot about the old chair, but did have to live through a few mechanical problems.

One such problem involved the twin wheel casters that were ordered with the chair. The Houston center has rubber tile in front of the radar positions, carpet up the aisle between the radar positions, and a slightly-elevated, small plastic strip dividing the two surfaces. Whenever a controller would try to roll over the raised plastic strip, the strip put pressure on the inside of the twin wheels of the caster and split them apart, requiring him or her to get a replacement chair. We solved the problem by going to a single-wheel, all-surface caster, which is standard on all the new chairs.

Other tests followed at facilities like the Washington National tower, Buffalo tower, Bridgeport automated flight service station, New Orleans tower, Houma (LA) Tower, and the National Communications Center (NATCOM). All of these results were cranked into a carefully prepared purchase description in the summer of 1983.

Now the program began to pick up speed. Because of time constraints on the obligation of the necessary funds, the agency decided that a ''brand name or equal'' procurement was the best and most expeditious way to go. However, before the process could be completed, GSA's Furniture Commodity Center advised FAA that it was responsible for these kinds of procurements and would make the buy on the agency's behalf. Although we were not thrilled to have a third party involved, it did take the time pressure off the obligation of funds. Accordingly, in September 1983, all the paperwork associated with the chair procurement was forwarded to GSA for action.

Finally in July 1984, the solicitation was released after virtually every chair company in the country had reviewed and commented on the draft. Manufacturers were instructed to submit a proposal on how they would provide the chairs, sample chairs, and test results (essentially the same tests originally run for FAA by Purdue University).

The contract award was made March 8, 1985, to Rudd International, which is located in Washington, DC, with a factory in Herndon, VA. In late 1985, the chairs started going out of the factory at a rate of 200 to 300 a week. Successful introductions were made at 30 or so facilities, including the Chicago center, Atlanta tower, and Leesburg AFSS, by the end of 1985.

Some of the particular features of the chair include:

- an extra wide base for stability so it won't tip over;
- 2½ inch single wheel casters for easy, reliable movement;
- all pneumatic adjustment for easy adjustments for male and female controllers;
- 17–24 inch height adjustment for short and tall controllers;
- a continuously moving seatbed for added comfort.

For all intents and purposes, deliveries were completed in May 1986, marking the end of a nine-year effort. The experience proved again that nothing in government is simple. ■

Million Dollar Idea

By Duncan Pardue

Coming up with a million dollar idea is something everyone dreams about but very few realize. FAA's Saulius Mrozinskas, a System Performance Specialist at the New York air route traffic control center, is one of the exceptions.

Mrozinskas' idea, which permits early utilization of a new generation of flight strip printers, will save the agency more than $1 million a year systemwide in maintenance costs. It also has earned him a $5,000 ''suggestion'' award.

Actually, the 17-year FAA veteran did considerably more than just submit a suggestion. He designed a ''black box'' microprocesser that enables modern electronic dot-matrix printers to be connected to existing IBM 9020 computers in the centers. It replaces the cumbersome, maintenance-intensive, electromechanical Flight Data Strip Printers which have been used for years in the enroute centers and airport towers.

The need for the device became evident when the new Flight Data Input/Output (FDIO) equipment could not be incorporated into the existing 9020 operational program. Without Mrozinskas ''black box,'' the New York center and 19 others throughout the country would have to wait until the host computer systems became operational before they could use the new printers.

Operationally, then, this represents a big ''plus'' because the new printers are simpler, cheaper, faster and require much less maintenance. In fact, two technicians can maintain all 36 of the new FDIO dot matrix printers at the New York center as compared to five for the old equipment.

After installation costs, Mrozinskas' suggestion can save his facility $121,000 a year. Nationwide, the potential savings are well in excess of $1 million a year in the enroute centers alone. Comparable savings are possible in terminal facilities and Mrozinskas currently is working on ways to link tower printers to the center computers by telecommunications.

''You won't believe how long I thought about this or the number of books on computers I read,'' he said. ''I hope it proves that we don't have to go outside the FAA to find people who can solve problems and do the work.''

Mrozinskas also proved that solutions to complex problems don't have to cost a lot of money. He was given $2,000 by New York Center AF Sector Manager Vincent Laurentino to buy parts to build the prototype ''black box.'' He and a coop student did the work. It turned out that parts cost only $700.

When the prototype was finished, he joined a four-member team at the FAA Technical Center to test it and prepare production specifications. The first units were shipped in June 1986.

Born in Vienna after his parents were displaced from Lithuania in World War II, Mrozinskas came to the United States in 1949 at the age of six. Following Air Force service as an electronics technician, he joined FAA in 1969 and moved to the New York center in 1971. He is an expert in both the 9020 hardware and software and has been involved with his award-winning project since 1985. ■

Saulius Mrozinskas shows the ''Black Box'' that won him a $5,000 suggestion award. The microprocessor device will enable modern electronic dot-matrix printers to be connected the present IBM 9020 computers.

(A Public Affairs Specialist in the Eastern Region, Mr. Pardue is Editor of the regional Intercom.

Let's face it, you don't see three women in a jet cockpit every day. That's what makes this "news." Debe Dunfee is the captain, Bonnie Kankaala is the co-pilot and Valerie Ticer is the flight engineer. All three women are Air Carrier Operations instructors at the FAA Aeronautical Center in Oklahoma City. They made history recently when they became the first all-female crew to fly the agency's Boeing 727 (N-40).

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