

FAA air traffic controllers at Dulles International Airport, five Air Route Traffic Control Centers (ARTCCs) and the Air Traffic Control (ATC) Command Center in Washington got an unusual workout recently when an SR-71 Blackbird streaked cross-country in a record-breaking 68 minutes.

COORDINATING



The SR-71 Record-Breaking Flight

By Duncan B. Pardue

The aircraft, the world's fastest and highest flying, made the historic flight on the way to ceremonies at Dulles Airport, where it was on its way to becoming part of the Smithsonian's Air and Space Museum exhibit. Previously, it was part of a spy plane fleet that had been operating since the 1960's but had been deactivated in November.

"The 10 minutes of action at Dulles

required weeks of careful planning and coordination with controllers at other facilities, the Air Force, and the Smithsonian," said assistant manager for Plans and Procedures Ray Holland, who coordinated both the landing and the logistics for the associated ceremony.

(Continued on page 2)

Duncan Pardue is contributing editor to the Eastern Region Intercom.

ELT's Signal for Safety

By John Leyden

Maybe you have heard the story about the Emergency Locator Transmitter (ELT) that began broadcasting while the owner was shipping it back to the manufacturer for service. Even when the signal was tracked to a post office, no one could open the package to stop it, because of postal regulations, until the owner's permission was obtained.

Then there was the tale about the frustrated Texas sheriff who was put under pressure from search and rescue personnel to turn off the annoying whine of a broadcasting ELT. He resolved the situation by simply pulling his sidearm and shooting the offending device.

These are just a sample of the thousands of stories about malfunctioning ELT's that have been told since installation of this equipment was required in most general aviation airplanes in the early 1970's. Many of these tales might be considered amusing if it were not for the problems they created. And false alarms are only part of the story.

Even more serious is the fact that ELT's often do not do what they are designed to—that is, activate following an aircraft accident, and signal for help. Indeed, they have failed to sound an alarm in two out of every three accidents, although those numbers probably are somewhat misleading, given the broadly destructive forces of the crash in many

(Continued on page 4)

John Leyden is a former newspaper reporter and until recently was manager of the Public and Employee Communications Division of FAA's Public Affairs Office.

In This Issue

- 1 SR-71 Blackbird
- 1 ELT's Signal for Safety
- 6 Air Traffic Awards
- 8 Have Knowledge Will Travel
- 12 Ski Fest/Quality Management Awards
- 10 People
- 11 Retirees

Coordinating the SR-71 from page 1

FAA World

June 1990

Secretary of Transportation

Samuel K. Skinner

FAA Administrator

James B. Busey

Assistant Administrator—

Public Affairs

Hugh O'Neill

Manager—Public & Employee

Communications Div.

Vacant

Editor

Fraser Jones

Art Director

Eleanor M. Maginnis

Staff Editor

Pie Tomaszetti

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

John Clabes—Aeronautical Center

Paul Stenick, Sr.—Alaskan Region

Robert Raynesford—Central Region

Kathleen B. Bergen—Eastern Region

Morton Edelstein—Great Lakes Region

Mike Ciccarelli—New England Region

Richard Meyer—Northwest Mountain Region

Jack Barkis—Southern Region

Gwendolyn Cook—Southwest Region

Holly Baker—Technical Center

Barbara Abels—Western-Pacific Region

Holland was one of an 11-member FAA coordinating team that helped the facilities involved prepare for the unusual flight. The Blackbird, which is capable of altitudes above 80,000 feet, flew above controlled airspace in normal operations. Few controllers had ever seen it, and they had only worked it when it occasionally linked up with a tanker for airborne refueling in controlled airspace.

The March 6 flight was an official run for the cross-country speed record of three hours and 38 minutes set in 1963 by a Boeing 707. Officials of the National Aeronautics Association were posted at ARTCCs in Los Angeles, Kansas City, Indianapolis and Washington to clock the Blackbird's speed through each center's airspace.

The record-breaking flight began with an airborne refueling operation over the Pacific in Oakland ARTCC airspace. The Blackbird made a running start and zipped through each ARTCC's airspace in about ten minutes. After crossing the finish line near Salisbury, MD, it refueled again over Aberdeen, MD, in Washington ARTCC airspace.

The entire flight was tracked on the aircraft situation display screen at FAA Headquarters Air Traffic Control Command Center. The symbol representing the Blackbird zipped across a video map of the United States at the rate of 120 miles every three minutes.

"To give us a clearer picture of its speed, I put 300-mile range rings on screen," said air traffic control specialist Gilbert Branson of the Command Center.

At Dulles, Roger Gilmore, who was working South and West Arrival at the tower TRACON, was expecting a hand-off of the Blackbird from Washington Center.

"Due to a communications problem, the aircraft called Dulles approach sooner than anticipated. I talked to the Center by landline and began bringing the aircraft down through altitudes that in normal operations would have been used by other flights," Gilmore said.

"I was amazed at how quickly the aircraft could lose altitude; it was as though it was free-falling. In less than 20 miles, it lost 8,000 feet," he added.

Meanwhile, local tower controller Ray Claus was told by the Blackbird pilot that he was five miles west and had the airport in site.



Lt. Col. J.T. Vida (left), reconnaissance systems operator and Lt. Col. Ed. Yelding, pilot, stand in front of the SR-71 Blackbird.

"I cleared him for his option and stopped all arrivals and departures so that there was nothing within five miles," Claus said.

News photographers and television cameramen pointed their cameras skyward as the Blackbird swooped down the west side of the airport and crossed mid-field at 700 feet. On a second run at 200 feet, the aircraft made a right turn to the west and then turned east. As it reached the airport, the pilot turned on the after-

burners, roared across midfield and shot skyward to 5,000 feet in order to enter the traffic pattern for Runway 19 Left. When the aircraft neared the cluster of photographers, the pilot popped the drag chute, and the plane came to a stop.



SR-71 Blackbird arrives at its final destination at Dulles International Airport.

Claus, who was also working two helicopters with photographers aboard at the time of the landing, explained afterward, "Somebody sat on my microphone, and I was without a frequency for a couple of minutes. My main concern was that Blackbird had visual contact with the helicopters. It was unnerving, but everything turned out alright."

"It was an exciting and sad day for me," Claus said. "I had seen the airplane when I was in the Air Force, but this was the first and last time I would ever work it as an air traffic controller."

The Blackbird taxied to the main terminal where the crew—Lt. Col. Ed. Yelding, the pilot, and Lt. Col. J. T. Vida, reconnaissance systems officer—presented the aircraft records to Brig. Gen. Harold B. (Buck) Adams, pilot of the same aircraft when it established the world record for non-stop flight from London to Los Angeles in 1974.

General Adams, his voice cracking with emotion, said, "She's retiring as a winner." He then gave the aircraft records to National Air and Space Museum Director Dr. Martin Harwit.

At the ceremony, Virginia's Senator John Warner announced that it is now official that the Air and Space Museum Annex will be at Dulles.

In addition to Ray Holland, the FAA coordination team for the SR-71 flight included team leader Stephen Tison, Los Angeles ARTCC; John Gibbs and Gilbert Branson, ATC Command Center; Bruce Greer, Palmdale Air Traffic Control Tower; Dick Zgorzki, Oakland ARTCC; Dennis G. Mayer and Lauren Harvey, Los Angeles ARTCC; Pete Feigert, Indianapolis ARTCC; Mike Holland and Drew Kassal, Washington ARTCC; and Bob Goss, Washington National Air Traffic Control Tower. Barbara Abels of the Western-Pacific Region coordinated public affairs.

Two weeks prior to the flight, SR-71 pilots briefed air traffic controllers at Dulles, Washington, Los Angeles and Oakland ARTCCs and the coordinators at Kansas City and Indianapolis ARTCCs on the characteristics and capabilities of the airplane. Radio frequency options were reviewed and, to the extent possible, contingency plans were outlined.

"The flight proved, as we expected, that you cannot plan for every contingency," said team leader Tison. ■



Dulles tower controller Ray Claus awaits the arrival of the SR-71 Blackbird.



Dulles TRACON controller Roger Gilmore waits for handoff from Washington Air Route Traffic Control Center.

SR-71 Fact Sheet

The SR-71 was designed in the early 1960's to supplement the U.S. forces' Lockheed U-2 subsonic, high-altitude reconnaissance aircraft, which had become vulnerable to Soviet radar tracking.

SR-71 remains a technological marvel. It was built with a skin of titanium alloy to withstand the temperatures of more than 800 degrees Fahrenheit from friction in the upper atmosphere during sustained Mach 3 flight.

Dimensions:
Wingspan—55 feet, 7 inches
Length—107 feet, 5 inches
Height—18 feet, 6 inches

Speed: More than 2,000 miles per hour

Ceiling: Above 80,000 feet
Maximum Takeoff Weight: 170,000 pounds

Range: More than 2,000 miles at Mach 3, global with aerial refueling

Crew: Two pilots and reconnaissance systems officer
Primary Function: Strategic reconnaissance

Active Service: January 1966 to January 1990, 9th Strategic Reconnaissance Wing, Beale Air Force Base, CA

Primary Contractor: Lockheed Aircraft Corporation

Power Plant/Manufacturer: Two Pratt & Whitney J58 turbojet engines with afterburner

Thrust: In excess of 30,000 pounds each engine with afterburning

Disposition of the Aircraft:

There were thirty-two SR-71 aircraft manufactured under the contract with Lockheed Corporation. Of this total, only twenty aircraft remained in service. The other twelve were de-

stroyed in operational accidents.

Three of the extant aircraft are being loaned to NASA and will be based at the Dryden Flight Center at Edwards Air Force Base, CA.

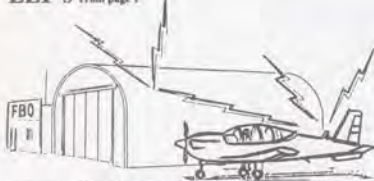
Three will be placed in long-term storage at the Air Force's site 2 at Palmdale, CA.

Eight are going to museums at the following Air Force bases: Wright-Patterson in Ohio; Beale, Edwards, Castle, and March in California; Offutt in Nebraska; Lackland in Texas; and Robins in Georgia.

One is going to the Smithsonian's National Air and Space Museum in Washington, DC.

The remaining five aircraft are already in storage at Palmdale and Beale Air Force Base in California. Among the five are the two trainer variants of the aircraft—an SR-71B and SR-71C.

ELT's From page 1



non-survivable accidents. Similarly, the ELT was not designed to survive a hot fuel fire or submergence in water. Radio equipment designed to withstand all possible crash consequences would be prohibitively expensive.

In essence, ELT's are simple battery-operated transmitters that emit a distinctive warbling signal simultaneously on radio frequencies 121.5 and 243.0 (military frequency) megahertz. They are designed to activate automatically on crash impact of a given magnitude and to continue operating for at least 50 hours over a wide temperature range.

Currently, approved ELT's must be built in accordance with Technical Standard Order (TSO) C91. Most ELT's are designed to be attached to the aircraft as far aft as possible, in order to minimize damage to the transmitter in the event of a crash. (Some portable ELT's are approved for temporary location in the cockpit or cabin.)

Congress mandated ELT carriage as an aid to search and rescue operations in an amendment to the 1970 Occupational Safety and Health Act. The equipment was hailed at the time as the "Mae West of the Airways," referring, of course, to the World War II life vest named after the legendary actress.

FAA followed with an implementing regulation that required installation of ELT's by June 30, 1974, in virtually all general aviation aircraft. The exceptions were aircraft on local training flights, agricultural aircraft engaged in spraying operations, research and development aircraft, single-seat aircraft, rotorcraft, and turboprops.

However, the rush to manufacture equipment that would comply with the new regulation resulted in the introduction of a broad range of new equipment, which led to a number of unexpected problems. Early on, for instance, it was discovered that the lithium/sulphur-dioxide batteries used in several ELT models vented corrosive and sometimes explosive gases. Eventually all were replaced with alkaline or magnesium cells. But other problems resulted from mounting the equipment or its antenna to the fuselage ineffectively, or from failure to use a radio to check for ELT transmissions after a flight, as recommended.

Approved "portable" ELT's have also been manufactured for location inside the cockpit or cabin, with a built-in antenna, which makes for convenient arming and disarming. Portable ELT's also can serve

on double duty as some pilots/mariners take the same piece of equipment on their boats. But transporting an ELT frequently exposes it to inadvertent activation and signaling. Also, unless the ELT is located in the aircraft in precise accordance with the manufacturer's instructions, signal transmission could be obstructed. Such an ELT would be of little value in an emergency, even though it would "test" normal on the aircraft radio receiver.

Consequently, the 15-year history of ELT use has been troubled by a consistently high rate of false alarms and failures to signal as expected. But despite their troubled history, there is one very important thing to bear in mind: *ELT's do save lives.* Statistics compiled by the Air Force Rescue Coordination Center (AFRCC) show that without a transmitting ELT to guide searchers to a remote accident site, the chances of post-crash survival in a remote area are reduced by 43 percent. Moreover, in recent years the ELT's life-saving potential has been greatly improved by the implementation of a joint U.S./Soviet satellite network of receivers now orbiting the earth. These satellites are capable of detecting emergency beacon signals from airplanes at virtually any location in the United States and in most other highly developed nations.

Currently there are three Russian and two U.S. satellites in low orbit around the earth with monitoring equipment that picks up aviation and marine distress signals and relays the information to rescue forces through ground stations in Canada, France, Great Britain, Norway, the Soviet Union and the United States. Ground stations with sophisticated equipment usually can pinpoint the sig-

Approved "portable" ELT's have also been manufactured for location inside the cockpit or cabin, with a built-in antenna, which makes for convenient arming and disarming. Portable ELT's also can serve



Phil Akers, aircraft certification specialist, explains ELT issues to management analyst Terry Broadshaw.

nal source to within five or ten miles of the accident site, and rescue teams of aircraft can "home in" directly to the site. Since the first satellites were commissioned in 1982, they have helped search and rescue forces save more than 600 persons involved in aircraft accidents.

Unfortunately, satellite reception has increased the detection of false alarms, which accounted for almost 97 percent of all detected signals in the 1984-88 time period. The result frequently is to delay the start of search operations while rescue coordinators attempt to determine if a signal is actually a valid distress call. Even so, many unnecessary search and rescue missions are launched every year, at an estimated annual waste of \$3.5 million in federal, state, and volunteer Civil Air Patrol resources.

Of even greater concern to the pilot in distress is the inevitable time lag before a distress call can be identified as genuine and a rescue mission activated. Some emergency calls are handled by local aviation and law enforcement officials, but the great majority of these signals go to the Air Force Rescue Coordination Center (AFRCC) at Scott AFB in Illinois for processing. The Center receives from fifty to sixty thousand such calls every year.

The Center responds initially by attempting to correlate the signal with additional information, derived typically from a successive satellite overpass, an overflying aircraft, or from FAA identification of any overdue aircraft with a flight path in the vicinity of the signal source.

Signals that cannot be correlated after a careful search (about 90 percent of those received) are classified as *non-incidents*. The remaining *incidents* are further investigated by telephone search, which results in the location of some of the aircraft involved. The unresolved incidents then become the object of AFRCC ELT missions, carried out by federally funded aircraft or ground forces.

The time required to establish the need for a rescue mission will vary from several minutes to several hours, depending on such factors as the satellite coverage sequence, existence of a flight plan, etc. In 1988, on the basis of 54,292 signals received, the Center sent out 1,863 missions, resulting in the location of 85 downed aircraft. False alarms are also followed up for the purpose of silencing the signal.

Summary of 1988 AFRCC Activity

Signals received	54,292
Signals correlated (incidents)	5,768
Incidents eliminated by telephone search	3,905
Mission searches	1,863
Signals ceased	410*
Signal sources located by mission	85**

*In most cases, no genuine distress situation.

**Approximately 4.6% of missions launched.

The disturbing false alarm and failure-to-activate statistics have prompted new FAA rulemaking that would require improved ELT's for all "future installations." That means a new generation of ELT's must be installed in all newly manufactured airplanes, as well as acquired to replace existing ELT's as they become unusable or unserviceable, after the effective date of the rule.

FAA issued a notice of proposed rulemaking (NPRM) on new ELT installations April 2, 1990, giving the public 120 days to comment. A final rule probably will not be published until early 1991, with compliance required perhaps six months after the effective date.

The new ELT performance standards are based on work done by the Radio Technical Commission for Aeronautics (RTCA Document No. DO-183) and adapted by the FAA in Technical Standard Order TSO-C91a. Like the ELT's built under TSO-C91, the new equipment will transmit on both the 121.5 and 243.0 megahertz frequencies.

The new standard for C91a ELT activation represents a decrease in the sensitivity of the activation switch to G forces, but includes the effect of the side loads.

The new specifications are expected to sense more than 80 percent of the survivable accidents, while rejecting activations due to flight or ground loads such as turbulence, hard landings and heavy braking.

Another important change in the new TSO-C91a specs is a requirement for an aural or visual monitor in the cockpit to alert pilots when their ELT is transmitting. In conjunction with the monitor would be a switch to allow pilots to arm, test, and reset their ELT's remotely.

Additional proposed changes are aimed at upgrading ELT signal quality, satellite compatibility and crash-survivability characteristics.

The two manufacturers currently producing the new TSO-C91a ELT's are ARNAV Systems of Portland, OR, and Narco of Fort Washington, PA. Their basic units cost about \$400.

In addition, ARNAV has an enhanced version of the C91a ELT for about \$900, which includes such features as a synthesized voice message that gives the aircraft identification number and the time at which the ELT was activated. More-

over, if the ELT is interconnected with a LORAN-C receiver, it will transmit by synthesized voice the latitude and longitude recorded just prior to the crash. This equipment can be installed now by pilots who wish to do so. It would meet the standards of the new ELT rule, notwithstanding any effect of public comments on the rule proposal.

Pending adoption of a new rule and phasing in of the new ELT's, FAA has taken some important steps to improve the reliability and performance of existing equipment. Action Notice 8310.1, distributed to FAA field offices, as well as to the general aviation community, applies both to TSO-C91 and the newly proposed TSO-C91a ELT's.

The notice recommends that FAA Aircraft Certification Offices (ACOs) review manufacturers' instructions for ELT's currently being produced to determine adequacy for continued airworthiness and make appropriate recommendations to the manufacturers. Inspectors are asked to monitor FAR Part 91 operators to ensure that the ELT is included in inspec-

tions for the continued airworthiness of the airplane. A supplemental ELT inspection procedure should be used when there is no adequate specific information available from the manufacturer. Additionally, TSO-C91a specifies that manufacturers of the proposed new ELT must provide specific instructions for periodic maintenance and calibration of all ELT's approved under the proposed standard. This material would assist repair station personnel and other appropriately rated persons in conducting the inspections recommended in Action Notice A 8310.1 and in performing routine maintenance.

FAA also has published and distributed to pilots a pamphlet titled *Attention to ELT's: Insurance to Life*, which describes how pilots, fixed-base operators, and others in aviation can help reduce the problems created by false alarms, particularly at airports where 94 percent of all detected false alarms originate. Among other things, it details procedures for conducting ground searches and tells what to do when a transmitting ELT is located and the searcher does not have access to the aircraft to turn it off.

The Triple Frequency ELT

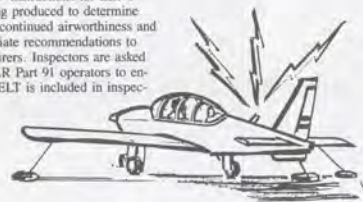
A new 406 MHz ELT, specifically designed to work with the Search and Rescue Satellite-Aided Tracking system, is coming into international use, and a United States standard has been developed for FAA. This ELT transmits short, coded signals every 50 seconds, on a non-communications frequency. It provides specific aircraft identification as well as superior signal margin, position accuracy, global coverage and less susceptibility to interference.

A "stand alone" 406 ELT does not provide a practical means of homing

in on a location, or signal monitoring. Therefore, its development is being encouraged by FAA as an optional adjunct to the 121.5/243.0 MHz ELT. The 406 could be installed to augment an existing 121.5/243.0 MHz ELT, or integrated into a 121.5/243.0/406 MHz ELT. The 406 ELT is expected to cost about twice the price of a 121.5/243.0 MHz ELT and may require the use of lithium chemistry batteries. However, it would offer special advantages for operations over sparsely settled areas of the world or wherever satellite coverage is not fully effective.

One simple method, for example, is to wrap the antenna in aluminum foil to reduce signal strength. FAA should be notified of this action.

The pamphlet cautions that aircraft



been generated by careless handling of ELT's with switches in the armed position.

Monitor 121.5. Pilots can also make important contributions to the success of the ELT program during routine flights by turning an idle communications receiver to 121.5 MHz, to listen for the distinctive ELT sweep tone. All contacts should be reported to the nearest FAA facility, along with any information that might be useful to search and rescue authorities.

Finally, if all this sounds like an undue hassle, remember that *effective ELT signaling does save lives*. Someday, it might even save yours or that of a close friend or family member. It is worth the effort!

Anyone can obtain a copy of the Notice of Proposed Rulemaking on ELT's by requesting it from FAA, Public Inquiry Center, APA-220, 800 Independence Avenue SW, Washington DC, 20591, or by calling (202) 267-3484. Ask for NPRM number 90-11. Comments should be sent to the Rules Docket, AGC-10, Docket Number 26180 at FAA's Independence Avenue location.

For additional information write or call Phil Akers, Aircraft Certification Service, AIR-120, at the same FAA address. His telephone number is (202) 267-9571. ■

owners and pilots have a responsibility to themselves and their passengers to keep their own ELT's in proper working order and to guard against the transmissions of false alarms. Generally, this can be achieved with a minimum of time and effort. For example:

Battery expiration date. Check the expiration date of the ELT battery. The date should be posted on the outside of the ELT and on the battery pack itself. It also should be noted in the aircraft logbook.

Bench testing. Monitor battery life expectancy. FAA regulations require the ELT batteries to be replaced after one hour of cumulative use or when 50 percent of their useful life has expired. Since it is difficult to keep an accurate record of use, especially if the unit has been inadvertently activated, the only sure method of gauging life expectancy is to have the battery bench tested.

Switch off. Remember, when an ELT is removed from an aircraft, the switch should be placed in the "off" position. Literally, thousands of false alarms have

According to the U.S. Air Rescue Service, the average time required to locate a downed aircraft with a functioning ELT—from initial signal reception to on-site arrival—is 13.7 hours. In contrast, the average time needed to locate an aircraft without an ELT signal is 55.6 hours. The probability of death from serious injuries, while awaiting rescue, is known to increase substantially after 24 hours.

AWARDS

The Best of 1989

At Fort Worth AFSS, assistant manager for training John Bobo (center) discusses training projects with training specialists Jackie Miner and John Moore.



Fort Worth ATCS Ralph Villagomez (left) receives a relief briefing from ATCS Mike Ballard. The master inflight position has a total of 48 frequencies.



ATCS Sam Corlett (right) provides on-the-job instruction to developmental controller Oscar Carrizales. The Fort Worth AFSS provided several thousand hours of training during 1989.



Employees at the Minneapolis, MN, Air Route Traffic Control Center include:



Jack Huber, assistant manager, plans and programs.

Jim Fletcher, flight data supervisor.



Frank Mulkey, enroute flight advisory specialist, provides weather radar information to enroute aircraft. Fort Worth AFSS serves 14 enroute flight advisory service outlets in four states.



Fort Worth AFSS, a 12,000-square-foot building that includes a large operations area and air traffic and airway facilities offices, was commissioned in June 1987.



The ATIS operations floor is spacious with capacity to double the positions presently available. Pre-flight briefers pictured provide pilot weather briefings over a large and complex flight service area.



At Fort Worth, ATCS Robert Coleman plots the position of lost aircraft. Area supervisor Robert Pearson coordinates the aircraft position with other air traffic facilities.



ATCS Ralph Villagomez (back) and ATCS Margaret Sanchez (front) simulate the correct procedures for an on-the-job training evaluation at Fort Worth.

ATCS Harold Rogers (left) and Michael Baicha take information over the phone at the Jacksonville facility.



Emeris E. Smithman (left), manager of Jacksonville FSS, and Sarah Ann Lewis, secretary to the manager, take time out for a photo.



At Jacksonville FSS, developmental controller Theodora Richardson (left) and ATCS Michael Baicha confer on an assignment.



Developmental controller Plezia Sapp (left), and ATCS John Peyton gather data at Jacksonville.

1989's Air Traffic Facility National Winners

Jacksonville, FL, Flight Service Station
Santa Barbara, CA, Flight Service Station
Santa Barbara, CA, Air Traffic Control Tower
California's Oakland Bay Terminal Radar Approach Control
Minneapolis, MN, Air Route Traffic Control Center
Fort Worth, TX, Automated Flight Service Station
Chicago, IL, Air Traffic Control Tower

an additional position, and established expanded visual approaches that increased arrival capacity.

The Minneapolis Center continued to demonstrate unusual excellence in providing air traffic services, winning for the second year in a row.

The facility focused on operational efficiency as a number one priority. This included a cooperative intra-regional review for resolution of traffic problems at O'Hare International and the establishment of an error awareness program, a user effectiveness program, and several very effective training programs.

The 3.8% increase in traffic (including three new peak traffic days) were

handled in an outstanding manner, and the facility additionally achieved an impressive 9% decrease in operational errors.

The Center also had the distinction of having the highest controller morale nationally according to a General Accounting Office survey.

Fort Worth AFSS's accomplishments in 1989 include providing a total of 819,000 services to pilots who operate in the system's largest (640 airports) flight plan area. This amounted to a 25% increase over the previous year's activity. Instructors conducted more than 8,500 hours of training and completed 124 position certifications for 22 developmental specialists. Eighteen recorded flight assists were provided, and a zero operational error rate was maintained.

Chicago Tower was cited for its outstanding accomplishments significantly improving facility operations in 1989, its service to the public, and its overall contributions to the region's mission.

Regional award ceremonies are to be held for the personnel at these facilities to honor them for their exceptional achievements and contributions. ■

Seven air traffic facilities won national honors for their outstanding achievements in operational efficiency, communications, human relations, employee development, employee morale, resource management, professionalism and external relations.

This year there were 37 nominees in the six awards categories. The two winners in the flight service station category were: Florida's Jacksonville and California's Santa Barbara Flight Service Stations (FSSs).

Winners of the two categories for airport traffic control towers were Santa Barbara Tower for level I-III and Oakland Bay TRACON for level IV-V.

Minneapolis Center won the air route traffic control center category, and Fort Worth took the honors as automated flight service station (AFSS) of the year.

Chicago Tower was awarded the Special National Award.

Here's a breakdown of why they won: Jacksonville FSS, which tied for the FSS win, was the busiest level II FSS in the nation, providing some 29,420 flight

services per specialist with no operational errors.

Santa Barbara FSS, with only 62% of its authorized staffing, averaged 20,477 flight services per specialist, conducted an extensive outreach program, implemented a new quality assurance program and developed a disaster preparedness plan.

These and other achievements were accomplished without a single operational error for 1989. Santa Barbara improved 80 percent in the accuracy of weather observations by reducing the number of recorded errors from 50 in 1988 to 10 in 1989.

Santa Barbara Tower, with only 55% of its authorized staffing, excelled in the operational area by controlling a 48% increase in instrument operations while reducing the operational errors by 50%.

This facility participated in more than 35 user and community meetings related to aviation for over 7,500 people. It was recognized for its local community efforts and praised for its service to facilities and organizations including Vandenberg Air Force Base Western Space and Missile Center, the Secret

Service, the U.S. Forest Service, the Special Olympics, and the White House.

Santa Barbara recently completed eight years of ATC support to the Western White House for President Reagan and has been asked to provide its expertise to the development of procedures at Kennebunkport, Maine, for President Bush.

Oakland Bay TRACON had a 4% increase in traffic with only 54% fully qualified staffing and had only three operational errors.

Bay was commended for operations, communications, training, and administration. During and after the San Francisco earthquake, extensive flow control measures were implemented, and temporary flight restrictions were instituted requiring maximum coordination efforts. Bay TRACON personnel maintained their high level of service with minimal delays.

The facility also instituted an airport radar surveillance area (ARSA), added



Kathy Warne, secretary, plans and programs.



Area 3 controllers Terry Fjosne (left) and Doug Clausnitzer.



Area 1 controllers Elliott Dallavalle (left) and John Johnson on assignment.



Cartographer Vicky Pepera.



Area 5 controller John Sheren with Greg Haupt.



SRSA secretary Kim Wadell.

Randall checks data plate on drug aircraft.



Have Knowledge, Will Travel



Aircraft seized for transporting drugs are shown at Nassau International.

Phil Lilly and Nick Scott discuss seminar with chargé d'affaires, American Embassy.



By Roger Myers



Seminar participants pose for a group picture.

On Wednesday evening, December 21, 1988, Pan American flight 103 scheduled to operate between London's Heathrow Airport and New York departed at about 6:25 p.m. local time. The aircraft, a Boeing 747 christened *Maid of the Seas*, had 259 people onboard.

At 7:03 p.m. while the aircraft was in level flight at 31,000 feet over Lockerbie, Scotland, an explosion occurred in the front cargo compartment on the left side of the jumbo jet. Most of the B-747 came down in Lockerbie, which is located just 15 miles north of the Scottish-English border. All 259 people aboard the aircraft perished, and eleven residents of Lockerbie were also killed.

At that moment in time everyone's worst nightmare had occurred. As it subsequently was proved, an explosive device was responsible for the crash of Pan Am 103.

The use of explosive devices by ter-

rorists poses the most serious threat today to civil aviation security. The destruction of Pan Am 103 by an explosive device is a tragic example of the gravity of this threat.

The Federal Aviation Administration is charged with ensuring that American civil aviation operates in as safe an environment as possible with regard to criminal threats and acts. Generally speaking, threats against civil aviation can be classified into three broad categories: attacks using explosives against civil aviation, its facilities, and its personnel.

FAA's implementation of anti-terrorism measures takes many forms. Some of them, by nature of the subject, are too confidential to disclose.

However, the FAA Southern Region's Civil Aviation Security Division has for

a number of years been conducting a series of Civil Aviation Security seminars in countries for which we have responsibility. It has produced some excellent results.

Over the past few years, for instance, there has been an overall decline in reported attacks against civil aviation throughout the world. Increased attention to airport and aircraft security has contributed to this decline.

A typical security seminar was recently held in Nassau in the Bahamas, where Southern Region security personnel, assisted by Washington security personnel, conducted a three-day workshop for individuals in the Bahamian government as well as employees of U.S. and

other airlines operating into and out of the Bahamas.

Those participating in the seminar were professional airmen or associated aviation support personnel. Each was interested in prohibiting further terrorist acts and preserving civil aviation from threats against the freedom of movement that aviation provides citizens of all countries.

As Jackson Smith, manager of the Air Security and Hazardous Materials Branch points out, "These seminars are conducted at the request of the host country. The civil aviation officials of

the respective country usually invite us to come in and share with interested parties a number of topics covering aviation security techniques. Quite frankly, we have been extremely pleased and satisfied with the results of these programs."

At the Nassau seminar, the first day was used to acquaint the participants with an overall view of the problem of threats to civil aviation security worldwide and how to combat this threat.

Principal security inspector Phillip Lilly conducted the all-day seminar and covered a myriad of subjects including a historical overview of aviation security and the current threats, encompassing a rundown on known terrorist groups and their motives. Basic airport security and International Civil Aviation Organization standards were covered. Crisis hijack management techniques were discussed followed by a Drug Investment Support Unit (DISU) presentation.

Lilly explained his multi-media package this way: "We always try to keep our presentation as interesting as possible, yet informative enough so everyone in attendance can come away with an understanding of how critical his or her own job is. While some may think they are not a critical link in the security chain because they may not be on the firing line of the most obvious security process, we emphasize that each person bring his or her own role to the forefront of combating threats to civil aviation."

Special agent Randall Duncan closed out the day with an explanation of FAA's newly formed Drug Investigation Support Program. (See May 1989 *FAA World* for information about this program.) Duncan's presentation was very well received by the attendees who daily work to prevent and detect illegal drug aircraft operators throughout the Caribbean.



Nassau International Airport, serves aircraft coming into and leaving the Bahamas.



An aircraft once used to transport drugs now houses a bird nest in its left engine nacelle.

The next day aviation security inspector Cal Walbert from FAA Headquarters presented the group with information about the latest threats to civil aviation security in the area of attacks using explosives. Walbert's expertise in the area, aided by the fact that he had personally been involved with the Pan Am 103 investigation, added an in-depth dimension to this briefing. Using slides, videotapes, and other graphs, Walbert illustrated to the seminar participants the hidden, yet very serious and dangerous world of international terrorist activities against civil aviation security.

International terrorist activities against civil aviation security.

On day three of the seminar, a comprehensive presentation on the transportation of dangerous and hazardous materials was given by Ralph Tucker, supervisor of the Technical Section Hazardous Materials.

Phillip Powell, Director of Civil Aviation, Bahamian Government, expressed his thanks to the FAAers and let them know that the information was extremely useful and presented in an outstanding manner.

"We often hear the old cliché that we lock the barn door after the horse is gone. Well that's exactly what we are trying to prevent here. The Bahamian Government is very pleased that the FAA took the time to come here and help us keep worldwide civil aviation activities safe."

Chuck Middleton, Southern Region Aviation Security Division manager, put it this way: "Because of civil aviation's

high visibility, airports and aircraft draw individuals with criminal motives like magnets. Anything we can do to help the governments and countries we have responsibility for, then we will do it. If we can teach them how to improve screening technology, use dogs more efficiently, deter, ID, and control activities at airports and train police units and equip facilities with state-of-the-art equipment needed to accomplish this mission, then we are way ahead of the game."

Yes, the Southern Region aviation security inspectors could use as their motto this rephrasing of an old TV series title . . . "Have Knowledge, Will Travel." ■

Roger Myers is the assistant public affairs officer for FAA's Southern Region.

People

Aeronautical Center

Billy J. Edwards, manager, Labor Relations & Occupational Safety Branch, Human Resource Management Div. . . **Sharon E. Ireland**, manager, Employee Development Branch, Human Resource Management Div. . . **Robert C. Finley**, instructor, Airports Section, Airports & Logistics Branch, FAA Academy, promotion made permanent . . . **Rita L. Haley**, asst. manager, Accounting Div., promotion made permanent . . . **Arnold E. Huglas**, executive officer, Aeronautical Research Div. . . **Clifford J. Jones**, manager, Facility Maintenance & Operations Branch, Facility Support Div., promotion made permanent . . . **John A. Lippe**, manager, Purchasing Branch, Acquisition Div. . . **Steven W. McKee**, supervisor, Recruitment & Placement Section, Employment Branch, Human Resource Management Div. . . **Geoffrey W. McLellen**, manager, Airman and Aircraft Registry Div. . . **Glenda R. Warmath**, supervisor, Alaskan & Great Lakes Region Payroll Section, Payroll Branch, Accounting Div. . . **James W. Whitfield, Jr.**, supervisor, Communications & Office Automation Section, Data Services Div.

Alaskan Region

David C. Behrens, asst. manager, airports & procedures, Anchorage ARTCC. . . **Richard D. Floyd**, systems engineer, Anchorage AFS ARTCC. . . **Gerrald L. Flynn**, unit supervisor, South Alaska (Anchorage) AFS, Cordova. . . **Charles A. Hallett, Jr.**, manager, Fairbanks ATCT, promotion made permanent. . . **Frank W. Henrikson**, manager, King Salmon, AK, ATCT, from Kenai ATCT. . . **Charles J. Horack**, unit supervisor, Construction Section, Establishment Engineering Branch, Airway Facilities Div. . . **Claudia E. Horvsten**, manager, Accounting Branch, Resource Management Div. . . **Bruce A. Lohdel**, unit supervisor, Nome AFSFO, North Alaska AFS, Fairbanks, from Cleveland, OH, AFS. . . **Charles E. Moody, Jr.**, asst. manager, Human Resource Management Div. . . **Paul E. Proulx**, asst. manager, military operations/plans & programs, Anchorage ARTCC. . . **Louis W. Roggen**, asst. manager, Anchorage ARTCC. . . **Gary W. Stading**, systems engineer, Anchorage AFS ARTCC.

Central Region

Lewis L. Clark, section supervisor, Kansas City, MO, Flight Standards District Office. . . **William Cravens**, principal maintenance inspector, Kansas City, MO, Flight Standards District Office. . . **William V. Francis**, principal operations inspector, Kansas City, MO, Flight Standards District Office. . . **John W. Jackson, Jr.**,

area supervisor, St. Louis, MO, AFSF, Chesterfield, MO. . . **Teddy S. Mcanally**, principal operations inspector, Kansas City, MO, Flight Standards District Office. . . **Robert W. Norris**, supervisor, Geographic Section, Kansas City, MO, Flight Standards District Office. . . **William R. Peart**, principal avionics inspector, Kansas City, MO, Flight Standards District Office. . . **George A. Redlin**, deputy manager, Airway Facilities Div. . . **Carey D. Rolofson**, area supervisor, Kansas City International Airport ATCT. . . **Larry W. Shields**, unit supervisor, Des Moines, IA, AFS, from Grand Island, NE, AFS. . . **Teresa D. Williams**, supervisor, Contracts & Payables Section, Accounting & Disbursing Branch, Accounting Div.

Eastern Region

Janard E. Ailsman, area manager, Washington National ATCT. . . **Paul A. Arnholdt**, asst. manager, Greater Philadelphia Airport ATCT. . . **Brian I. Blazey**, area supervisor, Rochester, NY, Monroe County Airport ATCT, promotion made permanent. . . **Erwin D. Conley**, group supervisor, New York Flight Standards District Office, Valley Stream, promotion made permanent. . . **Thomas J. Dawson**, asst. manager, Rochester, NY, Monroe County Airport ATCT. . . **Raymond W. Duda**, asst. manager, Capital City Airport ATCT, Harrisburg, PA, from Baltimore, MD, ATCT. . . **Robert A. France**, unit supervisor, Rochester, NY, Flight Standards District Office. . . **George A. Galo**, principal maintenance inspector, Baltimore, MD, Flight Standards District Office, promotion made permanent. . . **John W. Kies**, asst. manager, traffic management, New York TRACON, Garden City. . . **Vincent Marino**, area supervisor, New York TRACON, Garden City, promotion made permanent. . . **James P. Meekins**, supervisor, Systems Operations Section, Facility Operations Branch, Air Traffic Div. . . **Veronica Pacilio**, area supervisor, Buffalo FSS, from Islip, NY. . . **Nelson Soto**, unit supervisor, Rochester, NY, FSDO. . . **Alan C. Vanamburg**, manager, Elmira-Corning Regional Airport ATCT, from New Cumberland, PA.

Great Lakes Region

Wayne E. Baird, unit supervisor, Peoria County (Hanna City) AFSFO, Illinois AFS, Springfield. . . **Roland F. Bator**, unit supervisor, Dayton AFSFO, Ohio AFS, Cleveland. . . **Maureen R. Beharrelle**, AF watch supervisor, Illinois AFS, Springfield, from Peoria County, IL. . . **Dennis R. Billups**, unit supervisor, Pontiac AFSFO, Michigan AFS, Belleville, from Wichita, KS. . . **Marcia M. Bollard**, area supervisor, Detroit Metro Airport ATCT. . . **Ronald Bradley**, area manager, Ret Columbus International Airport ATCT, Columbus, OH. . . **James R. Burton**, unit supervisor, Finley, ND, AFSFO, Dakota AFS, Bismarck, from Rock Island County, IL. . . **John A. Chamberlain**, asst. manager, program support, Wayne County, MI, AFSFO, Michigan AFS,

Belleville, from Romulus, MI. . . **Donald Devine**, manager, Schiller Park, IL, FSDO. . . **Joseph H. Gray**, manager, Rapid City, SD, FSS, promotion made permanent. . . **John R. Guth**, area supervisor, Detroit Metro Airport ATCT. . . **Harry R. Jackson**, unit supervisor, Information Processing Services Branch, Management Systems Div. . . **Phillip B. Lahar, Jr.**, supervisor, Operations Standards Section, Resource & Planning Branch, Airway Facilities Div. . . **Elda D. Mingus**, AF watch supervisor, Romulus, MI, AFSU, Michigan AFS, Belleville, from Wayne County. . . **Roger A. Muggli**, supervisor, Engineering Support Section, Establishment Engineering Branch, Airway Facilities Div. . . **Vincent C. Palmby**, area supervisor, World Chamberlain Airport ATCT, Minneapolis, MN. . . **Roger L. Schade**, area supervisor, Greater Rockford, IL, Airport ATCT, promotion made permanent. . . **Sally M. Weed**, area manager, Indianapolis, IN, ARTCC. . . **Earl W. Wilson**, area supervisor, Greater Rockford, IL, Airport ATCT, promotion made permanent.

New England Region

Robert T. Durpin, area manager, Bridgeport, CT, AFSF, from Washington Headquarters. . . **Earl H. Grand**, area supervisor, Doonest Point, RI, TRACON, from New York TRACON. . . **Warren J. Meelan**, asst. manager, Logan Airport ATCT, Boston, from regional headquarters. . . **Phillip N. Stewart**, area supervisor, Boston ARTCC, Nashua, NH, promotion made permanent.

Northwest Mountain Region

Duane L. Christensen, manager, Salt Lake City, UT, FSDO, from Long Beach, CA. . . **Ronald H. Fracchia**, unit supervisor, Longmont, CO, ARTCC AFS. . . **Donald E. Gonder**, branch manager, Seattle, WA, MIDO, promotion made permanent. . . **William M. Inghrighsen**, manager, Real Estate & Utilities Branch, Logistics Div., promotion made permanent. . . **David J. Kohn**, manager, Seattle, WA, AFSF, from regional headquarters. . . **Adriano J. Paslon**, section supervisor, Seattle Aircraft Certification Office, from regional headquarters. . . **David W. Robinson**, area supervisor, Spokane International Airport ATCT, promotion made permanent. . . **Felix Jareza, Jr.**, asst. manager, Salt Lake City, UT, ATCT, from Baltimore, MD. . . **Arthur G. Walden**, section supervisor, Establishment Branch, Airway Facilities Div. . . **Ralph D. Walters**, area supervisor, Denver ARTCC, Longmont.

Southern Region

John W. Annas, manager, Hickory, NC, FSS, from San Juan, PR, FSS. . . **Kenneth Bellamy**, systems engineer, Atlanta, GA, ARTCC AFS, Hampton, GA, from Miami ARTCC AFS. . . **Michael C. Brownlee**, manager, Warner Robins, GA, AFSFO, Columbia, SC, AFS, promotion made permanent. . . **Theodore J. Clark, Jr.**, asst. manager, Memphis, TN, International Airport ATCT, from regional headquarters. . . **Susan D. Cornell**, manager, Miami, FL, ARTCC, from Washington Center, Leesburg, VA. . . **William M. Corrigan**, section supervisor, Kentucky FSDO, Louisville, promotion made permanent. . . **Terry L. Culbertson**, area supervisor, Miami, FL, ARTCC. . . **Janice W. Deak**, area supervisor, Miami, FL, ARTCC. . . **Robert H. Deese**, area supervisor, Ft. Pierce, FL, ATCT, from Daytona Beach, FL. . . **Julius W. Erichsen III**, systems engineer, Miami, FL, ARTCC AFS. . . **David Garcia**, area supervisor, Miami, FL, ARTCC, promotion made permanent. . . **Therence L. Gardner**, area supervisor, Greensboro, NC, ATCT, from Raleigh-Durham ATCT. . . **James D. Hathecock, Jr.**, area supervisor, Atlanta Hartsfield International ATCT, promotion made permanent. . . **Ronald L. Hubbard**, asst. manager, plans & programs, Aniston, AL, AFSF. . . **Robert H. Johnson**, manager, Systems Management Engineering Branch, Airway Facilities Div. . . **Armando S. Lambert**, manager, Miami AFSFO, Miami (Hub) AFS. . . **Robert E. Maxey**, area manager, Tampa International Airport ATCT, from Atlanta Hartsfield ATCT. . . **Robert W. McAlister**, supervisor, Management Evaluation Section, Evaluation Staff, Airway Facilities Div. . . **Stephen McDuffee**, area supervisor, Aniston, AL, AFSF. . . **Ronald E. Meredith**, unit supervisor, Wilmington, NC, AFSFO, Raleigh, NC, AFS, from Covington, KY, AFS. . . **John W. Ouseley**, section supervisor, Louisville, KY, FSDO, from Houston, TX, FSDO. . . **Shelby J. Perkins**, area supervisor, Atlanta Hartsfield International ATCT, promotion made permanent. . . **George E. Peurtoff, Jr.**, asst. manager, NAS implementation, Hampton, GA, ARTCC. . . **Steve D. Plemmons**, systems engineer, Jacksonville, FL, ARTCC AFS, Hilliard, FL. . . **George L. Priest**, manager, Miami AFSFO, Miami (Hub) AFS, promotion made permanent. . . **Frank B. Rule**, asst. manager, plans & programs, Greensboro, NC, ATCT, from Jackson, TN, AFSF. . . **David G. Short**, manager, Greensboro, NC, ATCT, from regional headquarters. . . **Ossie R. Stanley**, systems engineer, Jacksonville, FL, ARTCC AFS, promotion made permanent. . . **Michael K. Stephens**, asst. manager for training, Louisville, KY, AFSF. . . **Raymond Baker**, Olivia Houston Elizabeth A. Kimberling Carol K. Moon Charles Smith Rex M. Wilson

James P. Sykes, area supervisor, Miami, FL, ARTCC. . . **James F. Webb**, asst. manager for automation, Tampa International Airport ATCT, promotion made permanent. . . **Thomas E. Wharton**, area manager, Tampa International Airport ATCT, from West Palm Beach, FL, ATCT. . . **Gadson H. Woodall**,

staff engineer, Radar Section, Establishment Engineering Branch, Airway Facilities Div. . . **Paul L. Worley, Jr.**, asst. manager, traffic management, Miami, FL, ARTCC. . . **James D. Zeller**, area supervisor, Miami, FL, ARTCC, promotion made permanent.

Southwest Region

Alfred H. Arnold, manager, Procurement Branch, Logistics Div., promotion made permanent. . . **Steven E. Ashmore**, area supervisor, Jonesboro, AR, AFSF, from El Dorado, AR, FSS. . . **Raymond J. Carter**, manager, Oklahoma City AFSFO, Oklahoma City (Bethany) AFS, promotion made permanent. . . **Elaine M. Castevens**, manager, Employment Branch, Human Resource Management Div. . . **David L. Coberly**, supervisor, Enroute Programs Section, Resources & Planning Branch, Airway Facilities Div. . . **Marilyn G. Cox**, supervisor, Network Planning & Engineering Section, Telecommunications & Spectrum Management Branch, Airway Facilities Div. . . **Frederick E. Dryden**, team supervisor, San Antonio, TX, FSDO, promotion made permanent. . . **James E. Gill**, manager, Compensation Branch, Human Resource Management Div. . . **William D. Helm**, manager, Tulsa, OK, AFSFO, Oklahoma City (Bethany) AFS, from El Paso, TX, AFS. . . **Donald A. Horchulsh**, Shreveport, LA, RAPCON, from Corpus Christi, TX. . . **ACT**. . . **Margaret J. Jones**, supervisor, Financial Management Section, Airports Programming Branch, Airports Div. . . **Darwin L. Klontz**, manager, College Station, TX, ATCT, from Lake Charles, LA. . . **Roger A. Mandeville**, area manager, Albuquerque, NM, ARTCC, from Chicago ARTCC. . . **Fred H. Manjula**, supervisor, Albuquerque, NM, FSDO, from Washington Headquarters. . . **Sandra G. Pearson**, area supervisor, Jonesboro, AR, AFSF, from Little Rock, FSS. . . **Carl W. Pfanner, Jr.**, area supervisor, Shreveport, LA, RAPCON, from Longview, TX, ATCT. . . **Gary W. Ray**, supervisor, Terminal Environmental Engineering Section, Establishment Engineering Branch, Airway Facilities Div. . . **Gertrude R. Rhoades**, asst. manager for training, Fort Worth, TX, AFSF. . . **Phillip W. Russell**, area supervisor, Corpus Christi, TX, ATCT. . . **Carlos Saavedra, Jr.**, supervisor, Terminal Electronics Engineering Section, Establishment Engineering Branch, Airway Facilities Div. . . **Kenneth L. Tipton**, team supervisor, San Antonio, TX, FSDO, promotion made permanent. . . **Evelyn J. Washington**, manager, Fort Worth, TX, AFSF.

Technical Center

James D. Clayton, supervisor, Production Section, Plant Services Branch, Plant Engineering & Services Div. . . **Stephen M. Coulombe**, technical program manager, Advanced Automation Systems Branch, Automation Div. . . **Louis A. Dworsky**, technical program manager, Surveillance & Weather Systems Branch, Communications/Navigation/Surveillance Div. . . **Homor C. Harlowe**, manager, Materiel Branch, Logistics Div., promotion made permanent.

Washington Headquarters

Baltasar Bernhardt, manager, NAILS Information Branch, NAILS Program, NAS Transition & Implementation Services, promotion made permanent. . . **Charles M. Carrington**, unit supervisor, Airports Branch, Civil Aviation Security Div., Office of Civil Aviation Security. . . **Benedict D. Castellano**, manager, Airport Safety & Compliance Branch, Airport Safety Operations Div., Office of Airport Standards. . . **Thomas Clabby, Jr.**, chief, Resource Management Staff, Office of the Associate Administrator for Airway Facilities. . . **James W. Edwards**, manager, Technical Standards Branch, Air Transportation Div., Flight Standards Service, promotion made permanent. . . **Charles H. Hall**, asst. man-

ager, operation, Air Traffic Control System Command Center, Office of Air Traffic System Management, from Oakland, CA. . . **Joy Ann Herndon**, deputy staff chief, management staff, Office of the Associate Administrator for Airway Facilities. . . **Ronald L. Page**, manager, Management & Productivity Improvement Branch, Management Analysis Div., Office of Management Systems, promotion made permanent. . . **John J. Reilly**, chief, Management Staff, Office of the Associate Administrator for Airway Facilities. . . **James Michael Upton**, chief, Resource Management Staff, Office of the Associate Administrator for Airway Facilities. . . **Gordon L. Woodhall**, area supervisor, Air Traffic Control System Command Center, Office of Air Traffic System Management. . . **Paul P. Vantchuck**, manager, NAILS Implementation Branch, NAILS Program Div., NAS Transition & Implementation Service.

Western-Pacific Region

Charles B. Aalls, section supervisor, Operations Branch, Air Traffic Div. . . **Douglas L. Booth**, supervisor, Navigation/Landing Program Section, Airway Facilities Div. . . **Ruskin J. Cerretti**, area supervisor, Oakland, CA, ATCT, from Hayward, CA, ATCT. . . **John G. Chancy**, manager, Van Nuys, CA, ATCT, Los Angeles, from Edwards AFB, CA. . . **Jane M. Cox**, area supervisor, John Wayne Airport ATCT, Santa Ana, CA, from Honolulu CERAP. . . **Judith A. Crosby**, chief, Civil Rights Staff, from Central Region headquarters. . . **Lee R. Daniel**, asst. manager for training, Riverside, CA, AFSF. . . **Mark C. Denton**, area supervisor, Burbank, CA, ATCT/TRACON, from FAA Academy. . . **Richard T. Harris**, area supervisor, Oakland, CA, FSS, from regional headquar-

ters. . . **Willoughby E. Henshaw**, regional manager, Air Traffic Div. . . **Daniel S. Hine**, area supervisor, San Jose Municipal Airport ATCT, from Edwards AFB, CA, RAPCON. . . **Benjamin R. Marefo**, manager, Sacramento, CA (Ranch Marieta) AFSF. . . **Marie L. Meyer**, supervisor, Los Angeles, CA, AFS, from regional headquarters. . . **Gregory J. Moore**, area supervisor, Ontario, CA, TRACON, promotion made permanent. . . **Janie E. O'Connell**, area supervisor, Tucson, AZ, ATCT/TRACON, from Phoenix, AZ, TRACON. . . **Christopher J. Overmo**, asst. manager, Oakland, CA, ATCT, promotion made permanent. . . **Vartk K. Patton**, unit supervisor, San Francisco, CA, FSDO. . . **William M. Reidy**, branch manager, Air Traffic Div., from Van Nuys, CA, ATCT. . . **Richard E. Russell**, unit supervisor, Reno, NV, FSDO, from Washington Headquarters.

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

Retirees

AERONAUTICAL CENTER

Stanley R. Adams
Marge L. Clark
Harry R. Collins, Jr.
Raymond Baker
Olivia Houston
Elizabeth A. Kimberling
Carol K. Moon
Charles Smith
Rex M. Wilson

ALASKA REGION

Dorothy M. Blackwell
James W. Burger
Charles L. Cron
John H. Greenwald
Ernest W. Mack
Clarence G. Weber

CENTRAL REGION

Billy E. French
Jack Kelley
John K. Rhoades

EASTERN REGION

Mal H. Clay
James G. Coze, Jr.
Gerald E. Conley
Robert Gibson
Arthur G. Haugh
Denise M. Martinez
William A. Walker
Peter E. Wood

GREAT LAKES REGION

Marjorie A. Gudorf
Delmar L. Heier
Lewis A. Reece

Francis M. Watson
Stephen J. Zamardo

NEW ENGLAND REGION

Julius H. Federico
Allan E. Quinn

NORTHWEST MOUNTAIN REGION

William R. Fincher
Gene E. Leifer
Edward D. McStay, Jr.
Raymond L. Ralff
Wayne E. Rodick

SOUTHERN REGION

Patrick H. Campbell
Raymond S. Carlsbad
Robert L. Hensh
Carl L. Holden
Bobby W. Mison
Edward A. Sink
John R. Stein
Ronald M. Smith

SOUTHWEST REGION

Leland R. Basler
James W. Butler
Lydia G. Gomez
Emelyn G. Holbrooks
Joe W. Meek
James F. Sado
Alan K. Stowe
Roy J. Taylor

WASHINGTON HEADQUARTERS

James M. Davis
William L. McHugh, Jr.
Talmadge J. Morris, Jr.
Robert G. Ross
Paul E. Tiedle

WESTERN-PACIFIC REGION

Robert C. Cook
William D. Coats
Lynn E. Davidson
Karl E. Eakern
Norman E. Henshaw
Edwin T. Henshaw
Philip R. Lee
Richard M. McFadden
Warren Y. Sano



Skifest 1990!

The Seventh Annual Denver Center Skifest was held February 19-24 in Vail, CO. Over 100 center, flight service, and tower personnel, as well as National Weather Service employees, met for a week of skiing, sun and camaraderie.

Participants traveled from as far as Alaska and Puerto Rico to attend, with the state of Virginia sending the most skiers (11), followed closely by Florida with ten skiers.

The 1991 Skifest is being planned for the last full week in February (18-23). The sites under consideration are Keystone and Breckenridge, CO. Contact Anne Hulsey at the Denver Air Route Traffic Control Center for details.



Skifest committee (left to right) evaluation specialist Rich Belmonte; area supervisor Jim Alig; military operations specialist Jim Platz; and traffic management coordinator Anne Hulsey.

Tops in Quality Management



North Dakota's Grand Forks Automated Flight Service Station recently won FAA's first annual "Quality Management Award." The award, sponsored by the Office of Management Systems, recognizes an FAA organization for high levels of quality management accomplishments.

Brooks Goldman, Associate Administrator for Administration, right, presented certificates and a special plaque at the facility to mark the occasion. In the picture, from the left, are: sector field office manager Anthony Kowalewski; controllers Donald Anderson, Stephen Hunter, and Paul McGinn; and air traffic manager Bob Fishman.

In a congratulatory letter, FAA Administrator James Busey said that the 28% boost in total flight services and the number of staff suggestions to improve operational productivity were "impressive."

"Customer satisfaction is a primary consideration in modern-day management," Busey said.

U.S. Department
of Transportation

**Federal Aviation
Administration**

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

**FORWARDING AND RETURN
POSTAGE GUARANTEED**

Official Business
Penalty for Private Use \$300

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

OB 477

FAA air traffic controllers at Dulles International Airport, five Air Route Traffic Control Centers (ARTCCs) and the Air Traffic Control (ATC) Command Center in Washington got an unusual workout recently when an SR-71 Blackbird streaked cross-country in a record-breaking 68 minutes.

COORDINATING



The SR-71 Record-Breaking Flight

By Duncan B. Pardue

The aircraft, the world's fastest and highest flying, made the historic flight on the way to ceremonies at Dulles Airport, where it was on its way to becoming part of the Smithsonian's Air and Space Museum exhibit. Previously, it was part of a spy plane fleet that had been operating since the 1960's but had been deactivated in November.

"The 10 minutes of action at Dulles

required weeks of careful planning and coordination with controllers at other facilities, the Air Force, and the Smithsonian," said assistant manager for Plans and Procedures Ray Holland, who coordinated both the landing and the logistics for the associated ceremony.

(Continued on page 2)

Duncan Pardue is contributing editor to the Eastern Region Intercom.

ELT's Signal for Safety

By John Leyden

Maybe you have heard the story about the Emergency Locator Transmitter (ELT) that began broadcasting while the owner was shipping it back to the manufacturer for service. Even when the signal was tracked to a post office, no one could open the package to stop it, because of postal regulations, until the owner's permission was obtained.

Then there was the tale about the frustrated Texas sheriff who was put under pressure from search and rescue personnel to turn off the annoying whine of a broadcasting ELT. He resolved the situation by simply pulling his sidearm and shooting the offending device.

These are just a sample of the thousands of stories about malfunctioning ELT's that have been told since installation of this equipment was required in most general aviation airplanes in the early 1970's. Many of these tales might be considered amusing if it were not for the problems they created. And false alarms are only part of the story.

Even more serious is the fact that ELT's often do not do what they are designed to—that is, activate following an aircraft accident, and signal for help. Indeed, they have failed to sound an alarm in two out of every three accidents, although those numbers probably are somewhat misleading, given the broadly destructive forces of the crash in many

(Continued on page 4)

John Leyden is a former newspaper reporter and until recently was manager of the Public and Employee Communications Division of FAA's Public Affairs Office.

In This Issue

- 1 SR-71 Blackbird
- 1 ELT's Signal for Safety
- 6 Air Traffic Awards
- 8 Have Knowledge Will Travel
- 12 Ski Fest/Quality Management Awards
- 10 People
- 11 Retirees

Coordinating the SR-71 from page 1

FAA World

June 1990

Secretary of Transportation
Samuel K. Skinner

FAA Administrator
James B. Buckley

Assistant Administrator—
Public Affairs
Hugh O'Neill

Managers—Public & Employee
Communications Div.
Vacant

Editor
Fraser Jones

Air Director
Eleanor M. Maginnis

Staff Editor
Pat Tomasetti

Vacant

Vacant

Vacant

Vacant

Vacant

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

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

Holland was one of an 11-member FAA coordinating team that helped the facilities involved prepare for the unusual flight. The Blackbird, which is capable of altitudes above 80,000 feet, flew above controlled airspace in normal operations. Few controllers had ever seen it, and they had only worked it when it occasionally linked up with a tanker for airborne refueling in controlled airspace.

The March 6 flight was an official run of the cross-country speed record of three hours and 38 minutes set in 1963 by a Boeing 707. Officials of the National Aeronautics Association were posted at ARTCCs in Los Angeles, Kansas City, Indianapolis and Washington to clock the Blackbird's speed through each center's airspace.

The record-breaking flight began with an airborne refueling operation over the Pacific in Oakland ARTCC airspace. The Blackbird made a running start and zipped through each ARTCC's airspace in about ten minutes. After crossing the finish line near Salisbury, MD, it refueled again over Aberdeen, MD, in Washington ARTCC airspace.

The entire flight was tracked on the aircraft situation display screen at FAA Headquarters Air Traffic Control Command Center. The symbol representing the Blackbird zipped across a video map of the United States at the rate of 120 miles every three minutes.

"To give us a clearer picture of its speed, I put 300-mile range rings on screen," said air traffic control specialist Gilbert Branson of the Command Center. At Dulles, Roger Gilmore, who was working South and West Arrival at the lower TRACON, was expecting a hand-off of the Blackbird from Washington Center.

"Due to a communications problem, the aircraft called Dulles approach sooner than anticipated. I talked to the Center by landline and began bringing the aircraft down through altitudes that in normal operations would have been used by other flights," Gilmore said.

"I was amazed at how quickly the aircraft could lose altitude; it was as though it was free-falling. In less than 20 miles, it lost 8,000 feet," he added.

Meanwhile, local tower controller Ray Claus was told by the Blackbird pilot that he was five miles west and had the airport in site.



Lt. Col. J.T. Vida (left), reconnaissance systems operator and Lt. Col. Ed. Yelding, pilot, stand in front of the SR-71 Blackbird.

"I cleared him for his option and stopped all arrivals and departures so that there was nothing within five miles," Claus said.

News photographers and television cameramen pointed their cameras skyward as the Blackbird swooped down the west side of the airport and crossed mid-field at 700 feet. On a second run at 200 feet, the aircraft made a right turn to the west and then turned east. As it reached the airport, the pilot turned on the after-

burners, roared across midfield and shot skyward to 5,000 feet in order to enter the traffic pattern for Runway 19 Left. When the aircraft neared the cluster of photographers, the pilot popped the drag chute, and the plane came to a stop.



SR-71 Blackbird arrives at its final destination at Dulles International Airport.

Claus, who was also working two helicopters with photographers aboard at the time of the landing, explained afterward, "Somebody sat on my microphone, and I was without a frequency for a couple of minutes. My main concern was that Blackbird had visual contact with the helicopters. It was unnerving, but everything turned out alright."

"It was an exciting and sad day for me," Claus said. "I had seen the airplane when I was in the Air Force, but this was the first and last time I would ever work it as an air traffic controller." The Blackbird taxied to the main terminal where the crew—Lt. Col. Ed. Yelding, the pilot, and Lt. Col. J. T. Vida, reconnaissance systems officer—presented the aircraft records to Brig. Gen. Harold B. (Buck) Adams, pilot of the same aircraft when it established the world record for non-stop flight from London to Los Angeles in 1974.

General Adams, his voice crackling with emotion, said, "She's retiring as a winner." He then gave the aircraft records to National Air and Space Museum Director Dr. Martin Harwit.

At the ceremony, Virginia's Senator John Warner announced that it is now official that the Air and Space Museum Annex will be at Dulles.

In addition to Ray Holland, the FAA coordination team for the SR-71 flight included team leader Stephen Tison, Los Angeles ARTCC; John Gibbs and Gilbert Branson, ATC Command Center; Bruce Tower, Palmdale Air Traffic Control Tower; Dick Zgorski, Oakland ARTCC; Dennis G. Mayer and Lauren Harvey, Los Angeles ARTCC; Pete Feigert, Indianapolis ARTCC; Mike Holland and Drew Kassal, Washington ARTCC; and Bob Goss, Washington National Air Traffic Control Tower. Barbara Abels of the Western-Pacific Region coordinated public affairs.

Two weeks prior to the flight, SR-71 pilots briefed air traffic controllers at Dulles, Washington, Los Angeles and Oakland ARTCCs and the coordinators at Kansas City and Indianapolis ARTCCs on the characteristics and capabilities of the airplane. Radio frequency options were reviewed and, to the extent possible, contingency plans were outlined.

"The flight proved, as we expected, that you cannot plan for every contingency," said team leader Tison. ■



Dulles tower controller Ray Claus awaits the arrival of the SR-71 Blackbird.



Dulles TRACON controller Roger Gilmore waits for handoff from Washington Air Route Traffic Control Center.

SR-71 Fact Sheet

The SR-71 was designed in the early 1960's to supplement the U.S. forces' Lockheed U-2 subsonic, high-altitude reconnaissance aircraft, which had become vulnerable to Soviet radar tracking.

SR-71 remains a technological marvel. It was built with a skin of titanium alloy to withstand the temperatures of more than 800 degrees Fahrenheit from friction in the upper atmosphere during sustained Mach 3 flight.

Dimensions:
Wingspan—55 feet, 7 inches
Length—107 feet, 5 inches
Height—18 feet, 6 inches
Speed: More than 2,000 miles per hour

Ceiling: Above 80,000 feet
Maximum Takeoff Weight: 170,000 pounds
Range: More than 2,000 miles at Mach 3, global with aerial refueling

Crew: Two pilots and reconnaissance systems officer

Primary Function: Strategic reconnaissance

Active Service: January 1966 to January 1990, 9th Strategic Reconnaissance Wing, Beale Air Force Base, CA

Primary Contractor: Lockheed Aircraft Corporation

Power Plant/Manufacturer: Two Pratt & Whitney J58 turbojet engines with afterburner

Thrust: In excess of 30,000 pounds each engine with afterburning

Disposition of the Aircraft:

There were thirty-two SR-71 aircraft manufactured under the contract with Lockheed Corporation. Of this total, only twenty aircraft remained in service. The other twelve were de-

stroyed in operational accidents.

Three of the extant aircraft are being loaned to NASA and will be based at the Dryden Flight Center at Edwards Air Force Base, CA.

Three will be placed in long-term storage at the Air Forces's site 2 at Palmdale, CA.

Eight are going to museums at the following Air Force bases: Wright-Patterson in Ohio; Beale, Edwards, Castle, and March in California; Offutt in Nebraska; Lackland in Texas; and Robins in Georgia.

One is going to the Smithsonian's National Air and Space Museum in Washington, DC.

The remaining five aircraft are already in storage at Palmdale and Beale Air Force Base in California. Among the five are the two trainer variants of the aircraft—an SR-71B and SR-71C.

ELT's From page 1



non-survivable accidents. Similarly, the ELT was not designed to survive a hot fuel fire or submergence in water. Radio equipment designed to withstand all possible crash consequences would be prohibitively expensive.

In essence, ELT's are simple battery-operated transmitters that emit a distinctive warbling signal simultaneously on radio frequencies 121.5 and 243.0 (military frequency) megahertz. They are designed to activate automatically on crash impact of a given magnitude and to continue operating for at least 50 hours over a wide temperature range.

Currently, approved ELT's must be built in accordance with Technical Standard Order (TSO) C91. Most ELT's are designed to be attached to the aircraft as far aft as possible, in order to minimize damage to the transmitter in the event of a crash. (Some portable ELT's are approved for temporary location in the cockpit or cabin.)

Congress mandated ELT carriage as an aid to search and rescue operations in an amendment to the 1970 Occupational Safety and Health Act. The equipment was hailed at the time as the "Mae West of the Airways," referring, of course, to the World War II life vest named after the legendary actress.

FAA followed with an implementing regulation that required installation of ELT's by June 30, 1974, in virtually all general aviation aircraft. The exceptions were aircraft on local training flights, agricultural aircraft engaged in spraying operations, research and development aircraft, single-seat aircraft, rotorcraft, and turboprops.

However, the rush to manufacture equipment that would comply with the new regulation resulted in the introduction of a broad range of new equipment, which led to a number of unexpected problems. Early on, for instance, it was discovered that the lithium/sulphur dioxide batteries used in several ELT models vented corrosive and sometimes explosive gases. Eventually all were replaced with alkaline or magnesium cells. But other problems resulted from mounting the equipment on its antenna to the fuselage ineffectively, or from failure to use a radio to check for ELT transmissions after a flight, as recommended.

Approved "portable" ELT's have also been manufactured for location inside the cockpit or cabin, with a built-in antenna, which makes for convenient arming and disarming. Portable ELT's also can serve

on double-duty as some pilots/mariners take the same piece of equipment on their boats. But transporting an ELT frequently exposes it to inadvertent activation and signaling. Also, unless the ELT is located in the aircraft in precise accordance with the manufacturer's instructions, signal transmission could be obstructed. Such an ELT would be of little value in an emergency, even though it would "test" normal on the aircraft radio receiver.

Consequently, the 15-year history of ELT use has been troubled by a consistently high rate of false alarms and failures to signal as expected. But despite their troubled history, there is one very important thing to bear in mind: *ELT's do save lives*. Statistics compiled by the Air Force Rescue Coordination Center (AFRCC) show that without a transmitting ELT to guide searchers to a remote accident site, the chances of post-crash survival in a remote area are reduced by 43 percent.

Moreover, in recent years the ELT's life-saving potential has been greatly improved by the implementation of a joint U.S./Soviet satellite network of receivers now orbiting the earth. These satellites are capable of detecting emergency beacon signals from airplanes at virtually any location in the United States and in most other highly developed nations.

Currently there are three Russian and two U.S. satellites in low orbit around the earth with monitoring equipment that picks up aviation and marine distress signals and relays the information to rescue forces through ground stations in Canada, France, Great Britain, Norway, the Soviet Union and the United States.

Ground stations with sophisticated equipment usually can pinpoint the sig-

nal source to within five or ten miles of the accident site, and rescue teams or aircraft can "home in" directly to the site. Since the first satellites were commissioned in 1982, they have helped search and rescue forces save more than 600 persons involved in aircraft accidents.

Unfortunately, satellite reception has increased the detection of false alarms, which accounted for almost 97 percent of all detected signals in the 1984-88 time period. The result frequently is to delay the start of search operations while rescue coordinators attempt to determine if a signal is actually a valid distress call. Even so, many unnecessary search and rescue missions are launched every year, at an estimated annual waste of \$3.5 million in federal, state, and volunteer Civil Air Patrol resources.

Of even greater concern to the pilot in distress is the inevitable time lag before a distress call can be identified as genuine and a rescue mission activated. Some emergency calls are handled by local aviation and law enforcement officials, but the great majority of these signals go to the Air Force Rescue Coordination Center (AFRCC) at Scott AFB in Illinois for processing. The Center receives from fifty to sixty thousand such calls every year.

The Center responds initially by attempting to correlate the signal with additional information, derived typically from a successive satellite overpass, an overlying aircraft, or from FAA identification of any overdue aircraft with a flightpath in the vicinity of the signal source.

Signals that cannot be correlated after a careful search (about 90 percent of those received) are classified as *non-incidents*. The remaining *incidents* are further investigated by telephone search, which results in the location of some of the aircraft involved. The unresolved incidents then become the object of AFRCC ELT missions, carried out by federally funded aircraft or ground forces.

The time required to establish the need for a rescue mission will vary from several minutes to several hours, depending on such factors as the satellite coverage sequence, existence of a flightplan, etc. In 1988, on the basis of 54,292 signals received, the Center sent out 1,863 and rescue missions are launched every year, at an estimated annual waste of \$3.5 million in federal, state, and volunteer Civil Air Patrol resources.

Summary of 1988 AFRCC Activity

Signals received	54,292
Signals correlated (incidents)	5,768
Incidents eliminated	3,905
- telephone search	1,863
Mission searches	410*
Signal sources located by mission	85**

*In most cases, no genuine distress situation.

**Approximately 4.6% of missions launched.



Phil Akers, aircraft certification specialist, explains ELT issues to management analyst Terry Bradshaw.

The disturbing false alarm and failure-to-activate statistics have prompted new FAA rulemaking that would require improved ELT's for all "future installations." That means a new generation of ELT's must be installed in all newly manufactured airplanes, as well as acquired to replace existing ELT's as they become unusable or unserviceable, after the effective date of the rule.

FAA issued a notice of proposed rulemaking (NPRM) on new ELT installations April 2, 1990, giving the public 120 days to comment. A final rule probably will not be published until early 1991, with compliance required perhaps six months after the effective date.

The new ELT performance standards are based on work done by the Radio Technical Commission for Aeronautics (RTCA Document No. DO-183) and adapted by the FAA in Technical Standard Order TSO-C91a. Like the ELT's built under TSO-C91, the new equipment will transmit on both the 121.5 and 243.0 megahertz frequencies.

The new standard for C91a ELT activation represents a decrease in the sensitivity of the activation switch to G forces, but includes the effect of the side loads.

The new specifications are expected to sense more than 80 percent of the survivable accidents, while rejecting activations due to flight or ground loads such as turbulence, hard landings and heavy braking.

Another important change in the new TSO-C91a specs is a requirement for an aural or visual monitor in the cockpit to alert pilots when their ELT is transmitting. In conjunction with the monitor would be a switch to allow pilots to arm, test, and reset their ELT's remotely.

Additional proposed changes are aimed at upgrading ELT signal quality, satellite compatibility and crash-survivability characteristics.

The two manufacturers currently producing the new TSO-C91a ELT's are ARNAV Systems of Portland, OR, and Narco of Fort Washington, PA. Their basic units cost about \$400.

In addition, ARNAV has an enhanced version of the C91a ELT for about \$900, which includes such features as a synthesized voice message that gives the aircraft identification number and the time at which the ELT was activated. More-

over, if the ELT is interconnected with a LORAN-C receiver, it will transmit by synthesized voice the latitude and longitude recorded just prior to the crash. This equipment can be installed now by pilots who wish to do so. It would meet the standards of the new ELT rule, notwithstanding any effect of public comments on the rule proposal.

Pending adoption of a new rule and phasing in of the new ELT's, FAA has taken some important steps to improve the reliability and performance of existing equipment. Action Notice 8310.1, distributed to FAA field offices, as well as to the general aviation community, applies both to TSO-C91 and the newly proposed TSO-C91a ELT's.

The notice recommends that FAA Aircraft Certification Offices (ACOs) review manufacturers' instructions for ELT's currently being produced to determine adequacy for continued airworthiness and make appropriate recommendations to the manufacturers. Inspectors are asked to monitor FAR Part 91 operators to ensure that the ELT is included in inspec-

tions for the continued airworthiness of the airplane. A supplemental ELT inspection procedure should be used when there is no adequate specific information available from the manufacturer.

Additionally, TSO-C91a specifies that manufacturers of the proposed new ELT must provide specific instructions for periodic maintenance and calibration of all ELT's approved under the proposed standard. This material would assist repair station personnel and other appropriately rated persons in conducting the inspections recommended in Action Notice A 8310.1 and in performing routine maintenance.

FAA also has published and distributed to pilots a pamphlet titled *Attention to ELT's: Insurance to Life*, which describes how pilots, fixed-base operators, and others in aviation can help reduce the problems created by false alarms, particularly at airports where 94 percent of all detected false alarms originate. Among other things, it details procedures for conducting ground searches and tells what to do when a transmitting ELT is located and the searcher does not have access to the aircraft to turn it off.

The Triple Frequency ELT

A new 406 MHz ELT, specifically designed to work with the Search and Rescue Satellite-Aided Tracking system, is coming into international use, and a United States standard has been developed for FAA. This ELT transmits short, coded signals every 50 seconds, on a non-communications frequency. It provides specific aircraft identification as well as superior signal margin, position accuracy, global coverage and less susceptibility to interference.

A "stand alone" 406 ELT does not provide a practical means of homing

in on a location, or signal monitoring. Therefore, its development is being encouraged by FAA as an optional adjunct to the 121.5/243.0 MHz ELT. The 406 could be installed to augment an existing 121.5/243.0 MHz ELT, or integrated into a 121.5/243.0/406 MHz ELT. The 406 ELT is expected to cost about twice the price of a 123.5/243.0 MHz ELT and may require the use of lithium chemistry batteries. However, it would offer special advantages for operations over sparsely settled areas of the world or wherever satellite coverage is not fully effective.

One simple method, for example, is to wrap the antenna in aluminum foil to reduce signal strength. FAA should be notified of this action.

The pamphlet cautions that aircraft

been generated by careless handling of ELT's with switches in the armed position.

Monitor 121.5. Pilots can also make important contributions to the success of the ELT program during routine flights by turning an idle communications receiver to 121.5 MHz, to listen for the distinctive ELT sweep tone. All contacts should be reported to the nearest FAA facility, along with any information that might be useful to search and rescue authorities.

Finally, if all this sounds like an undue hassle, remember that *effective ELT signaling does save lives*. Someday, it might even save yours or that of a close friend or family member. It is worth the effort!

Anyone can obtain a copy of the Notice of Proposed Rulemaking on ELT's by requesting it from FAA, Public Inquiry Center, APA-220, 800 Independence Avenue SW, Washington DC, 20591, or by calling (202) 267-3484. Ask for NPRM number 90-11. Comments should be sent to the Rules Docket, AGC-10, Docket Number 26180 at FAA's Independence Avenue location.

For additional information write or call Phil Akers, Aircraft Certification Service, AIR-120, at the same FAA address. His telephone number is (202) 267-9571. ■



owners and pilots have a responsibility to themselves and their passengers to keep their own ELT's in proper working order and to guard against the transmissions of false alarms. Generally, this can be achieved with a minimum of time and effort. For example:

Battery expiration date. Check the expiration date of the ELT battery. The date should be posted on the outside of the ELT and on the battery pack itself. It also should be noted in the aircraft logbook.

Bench testing. Monitor battery life expectancy. FAA regulations require the ELT batteries to be replaced after one hour of cumulative use or when 50 percent of their useful life has expired. Since it is difficult to keep an accurate record of use, especially if the unit has been inadvertently activated, the only sure method of gauging life expectancy is to have the battery bench tested.

Switch off. Remember, when an ELT is removed from an aircraft, the switch should be placed in the "off" position. Literally, thousands of false alarms have

According to the U.S. Air Rescue Service, the average time required to locate a downed aircraft with a functioning ELT—from initial signal reception to on-site arrival—is 13.7 hours. In contrast, the average time needed to locate an aircraft without an ELT signal is 55.6 hours. The probability of death from serious injuries, while awaiting rescue, is known to increase substantially after 24 hours.

AWARDS

The Best of 1989

At Fort Worth AFSS, assistant manager for training John Bobo (center) discusses training projects with training specialists Jackie Miner and John Moore.



Fort Worth ATCS Ralph Villagomez (left) provides on-the-job instruction to developmental controller Oscar Carrizales. The Fort Worth AFSS provided several thousand hours of training during 1989.



ATCS Sam Corlett (right) provides on-the-job instruction to developmental controller Oscar Carrizales. The Fort Worth AFSS provided several thousand hours of training during 1989.

Employees at the Minneapolis, MN, Air Route Traffic Control Center include:



Jack Huber, assistant manager, plans and programs.

Jim Fletcher, flight data supervisor.



Delos Staff, airspace specialist.

Military operations specialists (left to right) Orville Putzer, Jim Maness and Butch Banning.



Frank Mulkey, enroute flight advisory specialist, provides weather radar information to enroute aircraft. Fort Worth AFSS serves 14 enroute flight advisory service outlets in four states.



Fort Worth AFSS, a 12,000-square-foot building that includes a large operations area and air traffic and airway facilities offices, was commissioned in June 1987.



At Fort Worth, ATCS Robert Coleman plots the position of lost aircraft. Area supervisor Robert Pearson coordinates the aircraft position with other air traffic facilities.

The AFSS operations floor is spacious with capacity to double the positions presently available. Pre-flight briefers pictured provide pilot weather briefings over a large and complex flight service area.



ATCS Ralph Villagomez (back) and ATCS Margaret Sanchez (front) simulate the correct procedures for an on-the-job training evaluation at Fort Worth.

ATCS Harold Rogers (left) and Michael Batcha take information over the phone at the Jacksonville facility.



Emeris E. Smithman (left), manager of Jacksonville FSS, and Sarah Ann Lewis, secretary to the manager, take time out for a photo.



At Jacksonville FSS, developmental controller Theodora Richardson (left) and ATCS Michael Batcha confer on an assignment.

1989's Air Traffic Facility National Winners

Jacksonville, FL, Flight Service Station
Santa Barbara, CA, Flight Service Station
Santa Barbara, CA, Air Traffic Control Tower
California's Oakland Bay Terminal Radar Approach Control
Minneapolis, MN, Air Route Traffic Control Center
Fort Worth, TX, Automated Flight Service Station
Chicago, IL, Air Traffic Control Tower

an additional position, and established expanded visual approaches that increased arrival capacity.

The Minneapolis Center continued to demonstrate unusual excellence in providing air traffic services, winning for the second year in a row.

The facility focused on operational efficiency as a number one priority. This included a cooperative intra-regional review for resolution of traffic problems at O'Hare International and the establishment of an error awareness program, a user effectiveness program, and several very effective training programs.

The 3.8% increase in traffic (including three new peak traffic days) were

handled in an outstanding manner, and the facility actually achieved an impressive 9% decrease in operational errors.

The Center also had the distinction of having the highest controller morale nationally according to a General Accounting Office survey.

Fort Worth AFSS's accomplishments in 1989 include providing a total of 819,000 services to pilots who operate in the system's largest (640 airports) flight plan area. This amounted to a 25% increase over the previous year's activity. Instructors conducted more than 8,500 hours of training and completed 124 position certifications for 22 developmental specialists. Eighteen recorded flight assistants were provided, and a zero operational error rate was maintained.

Chicago Tower was cited for its outstanding accomplishments significantly improving facility operations in 1989, its service to the public, and its overall contributions to the region's mission.

Regional award ceremonies are to be held for the personnel at these facilities to honor them for their exceptional achievements and contributions. ■

Seven air traffic facilities won national honors for their outstanding achievements in operational efficiency, communications, human relations, employee development, employee morale, resource management, professionalism and external relations.

This year there were 37 nominees in the six awards categories. The two winners in the flight service station category were: Florida's Jacksonville and California's Santa Barbara Flight Service Stations (FSSs).

Winners of the two categories for airport traffic control towers were Santa Barbara Tower for level I-III and Oakland Bay TRACON for level IV-V.

Minneapolis Center won the air route traffic control center category, and Fort Worth took the honors as automated flight service station (AFSS) of the year. Chicago Tower was awarded the Special National Award.

Here's a breakdown of why they won: Jacksonville FSS, tied for the FSS win, was the busiest level II FSS in the nation, providing some 29,420 flight

services per specialist with no operational errors.

Santa Barbara FSS, with only 62% of its authorized staffing, averaged 20,477 flight services per specialist, conducted an extensive outreach program, implemented a new quality assurance program and developed a disaster preparedness plan.

These and other achievements were accomplished without a single operational error for 1989. Santa Barbara improved 80 percent in the accuracy of weather observations by reducing the number of recorded errors from 50 in 1988 to 10 in 1989.

Santa Barbara Tower, with only 55% of its authorized staffing, excelled in the operational area by controlling a 48% increase in instrument operations while reducing the operational errors by 50%.

This facility participated in more than 35 user and community meetings related to aviation for over 7,500 people. It was recognized for its local community efforts and praised for its service to facilities and organizations including Vandenberg Air Force Base Western Space and Missile Center, the Secret

Service, the U.S. Forest Service, the Special Olympics, and the White House.

Santa Barbara recently completed eight years of ATC support to the Western White House for President Reagan and has been asked to provide its expertise to the development of procedures at Kennebunkport, Maine, for President Bush.

Oakland Bay TRACON had a 4% increase in traffic with only 54% fully qualified staffing and had only three operational errors.

Bay was commended for operations, communications, training, and administration. During and after the San Francisco earthquake, extensive flow control measures were implemented, and temporary flight restrictions were instituted requiring maximum coordination efforts. Bay TRACON personnel maintained their high level of service with minimal delays.

The facility also instituted an airport radar surveillance area (ARSA), added

ATCS Harold Rogers (left) and Michael Batcha take information over the phone at the Jacksonville facility.



Emeris E. Smithman (left), manager of Jacksonville FSS, and Sarah Ann Lewis, secretary to the manager, take time out for a photo.



At Jacksonville FSS, developmental controller Theodora Richardson (left) and ATCS Michael Batcha confer on an assignment.



Kathy Warne, secretary, plans and programs.



Cartographer Vicky Pepera.

Area 1 controllers Elliott Dallavalle (left) and John Johnson on assignment.



Area 3 controllers Terry Fjone (left) and Doug Clausnitzer.



SRSA secretary Kim Wadell.



Area 5 controller John Sheren with Greg Haupt.

Randa! checks data plate on drug aircraft.



Have Knowledge, Will Travel



Aircraft seized for transporting drugs are shown at Nassau International.

On Wednesday evening, December 21, 1988, Pan American flight 103 scheduled to operate between London's Heathrow Airport and New York departed at about 6:25 p.m. local time. The aircraft, a Boeing 747 christened *Maid of the Seas*, had 259 people onboard.

At 7:03 p.m. while the aircraft was in level flight at 31,000 feet over Lockerbie, Scotland, an explosion occurred in the front cargo compartment on the left side of the jumbo jet. Most of the B-747 came down in Lockerbie, which is located just 15 miles north of the Scottish-English border. All 259 people aboard the aircraft perished, and eleven residents of Lockerbie were also killed.

At that moment in time everyone's worst nightmare had occurred. As it subsequently was proved, an explosive device was responsible for the crash of Pan Am 103.

The use of explosive devices by ter-

rorists poses the most serious threat today to civil aviation security. The destruction of Pan Am 103 by an explosive device is a tragic example of the gravity of this threat.

The Federal Aviation Administration is charged with ensuring that American civil aviation operates in as safe an environment as possible with regard to criminal threats and acts. Generally speaking, threats against civil aviation can be classified into three broad categories: attacks using explosives against civil aviation, its facilities, and its personnel.

FAA's implementation of anti-terrorism measures takes many forms. Some of them, by nature of the subject, are too confidential to disclose.

However, the FAA Southern Region's Civil Aviation Security Division has for

Phil Lilly and Nick Scott discuss seminar with chargé d'affaires, American Embassy.



By Roger Myers



Seminar participants pose for a group picture.

a number of years been conducting a series of Civil Aviation Security seminars in countries for which we have responsibility. It has produced some excellent results.

Over the past few years, for instance, there has been an overall decline in reported attacks against civil aviation throughout the world. Increased attention to airport and aircraft security has contributed to this decline.

A typical security seminar was recently held in Nassau in the Bahamas, where Southern Region security personnel, assisted by Washington security personnel, conducted a three-day workshop for individuals in the Bahamian government as well as employees of U.S. and

other airlines operating into and out of the Bahamas.

Those participating in the seminar were professional airmen or associated aviation support personnel. Each was interested in prohibiting further terrorist acts and preserving civil aviation from threats against the freedom of movement that aviation provides citizens of all countries.

As Jackson Smith, manager of the Air Security and Hazardous Materials Branch points out, "These seminars are conducted at the request of the host country. The civil aviation officials of

the respective country usually invite us to come in and share with interested parties a number of topics covering aviation security techniques. Quite frankly, we have been extremely pleased and satisfied with the results of these programs."

At the Nassau seminar, the first day was used to acquaint the participants with an overall view of the problem of threats to civil aviation security worldwide and how to combat this threat.

Principal security inspector Phillip Lilly conducted the all-day seminar and covered a myriad of subjects including a historical overview of aviation security and the current threats, encompassing a rundown on known terrorist groups and their motives. Basic airport security and International Civil Aviation Organization standards were covered. Crisis hijack management techniques were discussed followed by a Drug Investment Support Unit (DISU) presentation.

Lilly explained his multi-media package this way: "We always try to keep our presentation as interesting as possible, yet informative enough so everyone in attendance can come away with an understanding of how critical his or her own job is. While some may think they are not a critical link in the security chain because they may not be on the firing line of the most obvious security process, we emphasize that each person bring his or her own role to the forefront of combating threats to civil aviation."

Special agent Randall Duncan closed out the day with an explanation of FAA's newly formed Drug Investigation Support Program. (See May 1989 *FAA World* for information about this program.) Duncan's presentation was very well received by the attendees who daily work to prevent and detect illegal drug aircraft operators throughout the Caribbean.



Nassau International Airport, serves aircraft coming into and leaving the Bahamas.



An aircraft once used to transport drugs now houses a bird nest in its left engine nacelle.

The next day aviation security inspector Cal Walbert from FAA Headquarters presented the group with information about the latest threats to civil aviation security in the area of attacks using explosives. Walbert's expertise in the area, aided by the fact that he had personally been involved with the Pan Am 103 investigation, added an in-depth dimension to this briefing. Using slides, videotapes, and other graphs, Walbert illustrated to the seminar participants the hidden, yet very serious and dangerous world of international terrorist activities against civil aviation security.

International terrorist activities against civil aviation security.

On day three of the seminar, a comprehensive presentation on the transportation of dangerous and hazardous materials was given by Ralph Tucker, supervisor of the Technical Section Hazardous Materials.

Phillip Powell, Director of Civil Aviation, Bahamian Government, expressed his thanks to the FAAers and let them know that the information was extremely useful and presented in an outstanding manner.

"We often hear the old cliché that we lock the barn door after the horse is gone. Well that's exactly what we are trying to prevent here. The Bahamian Government is very pleased that the FAA took the time to come here and help us keep worldwide civil aviation activities safe."

Chuck Middleton, Southern Region Aviation Security Division manager, put it this way: "Because of civil aviation's

high visibility, airports and aircraft draw individuals with criminal motives like magnets. Anything we can do to help the governments and countries we have responsibility for, then we will do it. If we can teach them how to improve screening technology, use dogs more efficiently, deter, ID, and control activities at airports and train police units and equip facilities with state-of-the-art equipment needed to accomplish this mission, then we are way ahead of the game."

Yes, the Southern Region aviation security inspectors could use as their motto this rephrasing of an old TV series title . . . "Have Knowledge, Will Travel." ■

Roger Myers is the assistant public affairs officer for FAA's Southern Region.

People

Aeronautical Center

Billy J. Edwards, manager, Labor Relations & Occupational Safety Branch, Human Resource Management Div. . . **Sharon E. Roland**, manager, Employee Development Branch, Human Resource Management Div. . . **Robert C. Finley**, instructor, Airports Section, Airports & Logistics Branch, FAA Academy, promotion made permanent. . . **Rita L. Haley**, asst. manager, Accounting Div., promotion made permanent. . . **Arnold E. Higgins**, executive officer, Aeronautical Research Div. . . **Clifford J. Jones**, manager, Facility Maintenance & Operations Branch, Facility Support Div., promotion made permanent. . . **John A. Lippe**, manager, Purchasing Branch, Acquisition Div. . . **Steven W. McKee**, supervisor, Recruitment & Placement Section, Employment Branch, Human Resource Management Div. . . **Geoffrey W. McLellan**, manager, Aircraft and Aircraft Registry Div. . . **Glenn R. Warmath**, supervisor, Alaskan & Great Lakes Region Payroll Section, Payroll Branch, Accounting Div. . . **James W. Whitfield, Jr.**, supervisor, Communications & Office Automation Section, Data Services Div.

Alaskan Region

David C. Behrens, asst. manager, aircraft & procedures, Anchorage ARTCC. . . **Richard D. Floyd**, systems engineer, Anchorage AFS ARTCC. . . **Gerald L. Flynn**, unit supervisor, South Alaska (Anchorage) AFS, Cordova. . . **Charles A. Balfett, Jr.**, manager, Fairbanks ARTCC, promotion made permanent. . . **Frank W. Henrikson**, manager, King Salmon, AK, ATCT, from Kenai ATCT. . . **Charles J. Horacek**, unit supervisor, Construction Section, Establishment Engineering Branch, Airway Facilities Div. . . **Claudia E. Horveth**, manager, Accounting Branch, Resource Management Div. . . **Bruce A. Lobdell**, unit supervisor, Nome AFSFO, North Alaska AFS, Fairbanks, from Cleveland, OH, AFS. . . **Charles E. Moody, Jr.**, asst. manager, Human Resource Management Div. . . **Paul E. Proulx**, asst. manager, military operations/plans & programs, Anchorage ARTCC. . . **Louis W. Rosen**, asst. manager, Anchorage ARTCC. . . **Gary W. Stidig**, systems engineer, Anchorage AFS ARTCC.

Central Region

Lewis L. Clark, section supervisor, Kansas City, MO, Flight Standards District Office. . . **William Cravens**, principal maintenance inspector, Kansas City, MO, Flight Standards District Office. . . **William W. Francis**, principal operations inspector, Kansas City, MO, Flight Standards District Office. . . **John W. Jackson, Jr.**,

area supervisor, St. Louis, MO, AFSF, Chesterfield, MO. . . **Teddy S. Mcannally**, principal operations inspector, Kansas City, MO, Flight Standards District Office. . . **Robert W. Norris**, supervisor, Geographic Section, Kansas City, MO, Flight Standards District Office. . . **William R. Peart**, principal avionics inspector, Kansas City, MO, Flight Standards District Office. . . **George A. Redlin**, deputy manager, Airway Facilities Div. . . **Cary D. Rolofson**, area supervisor, Kansas City International Airport ATCT. . . **Larry W. Shields**, unit supervisor, Des Moines, IA, AFS, from Grand Island, NE, AFS. . . **Teresa D. Williams**, supervisor, Contracts & Payables Section, Accounting & Disbursing Branch, Accounting Div.

Eastern Region

Janard E. Altman, area manager, Washington National ATCT. . . **Paul A. Arnold**, asst. manager, Greater Pittsburgh Airport ATCT. . . **Brian J. Blazey**, area supervisor, Rochester, NY, Monroe County Airport ATCT, promotion made permanent. . . **Erwin D. Conley**, group supervisor, New York Flight Standards District Office, Valley Stream, promotion made permanent. . . **Thomas J. Dawson**, asst. manager, Rochester, NY, Monroe County Airport ATCT. . . **Raymond W. Duda**, asst. manager, Capital City Airport ATCT, Harrisburg, PA, from Baltimore, MD, ATCT. . . **Robert A. France**, unit supervisor, Rochester, NY, Flight Standards District Office. . . **George A. Gale**, principal maintenance inspector, Baltimore, MD, Flight Standards District Office, promotion made permanent. . . **John W. Kies**, asst. manager, traffic management, New York TRACON, Garden City. . . **Vincent Marino**, area supervisor, New York TRACON, Garden City, promotion made permanent. . . **James P. Meekins**, supervisor, Systems Operations Section, Facility Operations Branch, Air Traffic Div. . . **Veronica Pacillo**, area supervisor, Buffalo FSS, from Islip, NY. . . **Nelson Soto**, unit supervisor, Rochester, NY, FSDO. . . **Alan C. Vanamburg**, manager, Elmira-Corning Regional Airport ATCT, from New Cumberland, PA.

Great Lakes Region

Wayne E. Baird, unit supervisor, Peoria County (Hanna City) AFSFO, Illinois AFS, Springfield. . . **Roland F. Bator**, unit supervisor, Dayton AFSFO, Ohio AFS, Cleveland. . . **Maureen R. Behareille**, AF watch supervisor, Illinois AFS, Springfield, from Peoria County, IL. . . **Dennis R. Billups**, unit supervisor, Pontiac AFSFO, Michigan AFS, Belleville, from Wichita, KS. . . **Marcha M. Bolland**, area supervisor, Detroit Metro Airport ATCT. . . **Ronald Bradley**, area manager, Port Columbus International Airport ATCT, Columbus, OH. . . **James R. Burton**, unit supervisor, Finley, ND, AFSFO, Dakota AFS, Bismark, from Rock Island County, IL. . . **John A. Chamberlain**, asst. manager for program support, Wayne County, MI, AFSFO, Michigan AFS,

Belleville, from Romulus, MI. . . **Donald Devine**, manager, Schiller Park, IL, FSDO. . . **Joseph H. Gray**, manager, Rapid City, SD, FSS, promotion made permanent. . . **John R. Guth**, area supervisor, Detroit Metro Airport ATCT. . . **Harry R. Jackson**, unit supervisor, Information Processing Services Branch, Management Systems Div. . . **Phillip B. Labar, Jr.**, supervisor, Operations Standards Section, Resource & Planning Branch, Airway Facilities Div. . . **Eida D. Mingus**, AF watch supervisor, Romulus, MI, AFSU, Michigan AFS, Belleville, from Wayne County. . . **Roger A. Moggil**, supervisor, Engineering Support Section, Establishment Engineering Branch, Airway Facilities Div. . . **Vincent C. Palmby**, area supervisor, Wolf Chamberlain Airport ATCT, Minneapolis, MN. . . **Roger L. Schaale**, area supervisor, Greater Rockford, IL, Airport ATCT, promotion made permanent. . . **Sally M. Weed**, area manager, Indianapolis, IN, ARTCC. . . **Earl W. Wilson**, area supervisor, Greater Rockford, IL, Airport ATCT, promotion made permanent.

New England Region

Robert T. Durgin, area manager, Bridgeport, CT, AFSF, from Washington Headquarters. . . **Earl H. Grand**, area supervisor, Quonset Point, RI, TRACON, from New York TRACON. . . **Warren J. Meahan**, asst. manager, Logan Airport ATCT, Boston, from regional headquarters. . . **Phillip N. Stewart**, area supervisor, Boston ARTCC, Nashua, NH, promotion made permanent.

Northwest Mountain Region

Duane L. Christensen, manager, Salt Lake City, UT, FSDO, from Long Beach, CA. . . **Ronald H. Fruehlich**, unit supervisor, Longmont, CO, ARTCC AFS. . . **Donald E. Gouder**, branch manager, Seattle, WA, MIDO, promotion made permanent. . . **William M. Ingrightsen**, manager, Real Estate & Utilities Branch, Logistics Div., promotion made permanent. . . **David J. Kohn**, manager, Seattle, WA, AFSF, from regional headquarters. . . **Adrian J. Paulson**, section supervisor, Seattle Aircraft Certification Office, from regional headquarters. . . **David W. Robinson**, area supervisor, Spokane International Airport ATCT, promotion made permanent. . . **Felix Jaenz, Jr.**, asst. manager, Salt Lake City, UT, ATCT, from Baltimore, MD. . . **Arthur G. Walden**, section supervisor, Establishment Branch, Airway Facilities Div. . . **Ralph D. Walters**, area supervisor, Denver ARTCC, Longmont.

Southern Region

John W. Annas, manager, Hickory, NC, FSS, from San Juan, PR, FSS. . . **Kenneth Bellamy**, systems engineer, Atlanta, GA, ARTCC AFS. . . **Hampton, GA, from Miami ARTCC AFS. . . Michael C. Brownlee**, manager, Warner Robins, GA, AFSFO, Columbia, SC, AFS, promotion made permanent. . . **Theodore J. Clark, Jr.**, asst. manager, Memphis, TN, International Airport ATCT, from regional headquarters. . . **Susan D. Corneil**, manager, Miami, FL, ARTCC, from Washington Center, Leesburg, VA. . . **William M. Corrigan**, section supervisor, Kentucky FSDO, Louisville, promotion made permanent. . . **Terry L. Culbertson**, area supervisor, Miami, FL, ARTCC. . . **Janice V. Deak**, area supervisor, Miami, FL, ARTCC. . . **Robert H. Deese**, area supervisor, Ft. Pierce, FL, ATCT, from Daytona Beach, FL. . . **Julius W. Erichsen III**, systems engineer, Miami, FL, ARTCC AFS. . . **David Garcia**, area supervisor, Miami, FL, ARTCC, promotion made permanent. . . **Terrence L. Gardner**, area supervisor, Greensboro, NC, ATCT, from Raleigh-Durham ATCT. . . **James D. Hatcock, Jr.**, area supervisor, Atlanta Hartsfield International ATCT, promotion made permanent. . . **Ronald L. Hubbard**, asst. manager, plans & programs, Aniston, AL, AFS. . . **Robert H. Johnson**, manager, Systems Maintenance Engineering Branch, Airway Facilities Div. . . **Arnaldo S. Lambert**, manager, Miami AFSFO, Miami (Hub) AFS. . . **Robert E. Maxey**, area manager, Tampa International Airport ATCT, from Atlanta Hartsfield ATCT. . . **Robert W. McAlister**, supervisor, Management Evaluation Section, Evaluation Staff, Airway Facilities Div. . . **Stephen McDuffee**, area supervisor, Aniston, AL, AFSF. . . **Ronald E. Meredith**, unit supervisor, Wilmington, NC, AFSFO, Raleigh, NC, AFS, from Covington, KY, AFS. . . **John W. Ouseley**, section supervisor, Louisville, KY, FSDO, from Houston, TX, FSDO. . . **Shelby J. Pennix**, area supervisor, Atlanta Hartsfield International ATCT, promotion made permanent. . . **George E. Pearfloy, Jr.**, asst. manager, NAS implementation, Hampton, VA, ARTCC. . . **Steve D. Plemons**, systems engineer, Jacksonville, FL, ARTCC AFS, Hilliard, FL. . . **George L. Priest**, manager, Miami AFSFO, Miami (Hub) AFS, promotion made permanent. . . **Frank B. Rule**, asst. manager, plans & programs, Greensboro, NC, AFSF, from Jackson, TN, AFSF. . . **Daniel G. Short**, manager, Greensboro, NC, ATCT, from regional headquarters. . . **Ossie R. Stanley**, systems engineer, Jacksonville, FL, ARTCC AFS, promotion made permanent. . . **Michael K. Stephens**, asst. manager for training, Louisville, KY, AFSF. . . **James P. Sykes**, area supervisor, Miami, FL, ARTCC. . . **James E. Webb**, asst. manager for automation, Tampa International Airport ATCT, promotion made permanent. . . **Thomas E. Wharton**, area manager, Tampa International Airport ATCT, from West Palm Beach, FL, ATCT. . . **Gadson H. Woodall**,

staff engineer, Radar Section, Establishment Engineering Branch, Airway Facilities Div. . . **Paul L. Worley, Jr.**, asst. manager, traffic management, Miami, FL, ARTCC. . . **James D. Zeller**, area supervisor, Miami, FL, ARTCC, promotion made permanent.

Southwest Region

Alfred H. Arnold, manager, Procurement Branch, Logistics Div., promotion made permanent. . . **Steven H. Ashmore**, area supervisor, Janelero, AR, AFSF, from El Dorado, AR, FSS. . . **Raymond J. Carter**, manager, Oklahoma City AFSFO, Oklahoma City (Bethany) AFS, promotion made permanent. . . **Elnae M. Castevens**, manager, Employment Branch, Human Resource Management Div. . . **David L. Coberly**, supervisor, Errata Program Section, Resources & Planning Branch, Airway Facilities Div. . . **Marilyn G. Cox**, supervisor, Network Planning & Engineering Section, Telecommunications & Spectrum Management Branch, Airway Facilities Div. . . **Frederic E. Dryden**, team supervisor, San Antonio, TX, FSDO, promotion made permanent. . . **James E. Gill**, manager, Compensation Branch, Human Resource Management Div. . . **William D. Helm**, manager, Tulsa, OK, AFSFO, Oklahoma City (Bethany) AFS, from El Paso, TX, AFS. . . **Donald A. Hoelschulz**, Shreveport, LA, RAPCON, from Corpus Christi, TX, ATCT. . . **Margaret J. Jones**, supervisor, Frontal Management Section, Airports Programming Branch, Airports Div. . . **Darwin L. Klontz**, manager, College Station, TX, ATCT, from Lake Charles, LA. . . **Roger A. Mandeville**, area manager, Albuquerque, NM, ARTCC, from Chicago ARTCC. . . **Fred H. Maupin**, supervisor, Albuquerque, NM, FSDO, from Washington Headquarters. . . **Sandra G. Pearson**, area supervisor, Jamesboro, AR, AFSF, from Little

Rock FSS. . . **Carl W. Pfanner, Jr.**, area supervisor, Shreveport, LA, RAPCON, from Longview, TX, ATCT. . . **Gary W. Ray**, supervisor, Terminal Environmental Engineering Section, Establishment Engineering Branch, Airway Facilities Div. . . **Gertrude R. Rhoades**, asst. manager for training, Fort Worth, TX, AFSF. . . **Phillip W. Russell**, area supervisor, Corpus Christi, TX, ATCT. . . **Carlos Saavindra, Jr.**, supervisor, Terminal Electronics Engineering Section, Establishment Engineering Branch, Airway Facilities Div. . . **Kenneth L. Tipton**, team supervisor, San Antonio, TX, FSDO, promotion made permanent. . . **Evelyn J. Washington**, manager, Fort Worth, TX, AFSF.

Technical Center

James D. Clayton, supervisor, Production Section, Plant Services Branch, Plant Engineering & Services Div. . . **Stephen M. Coulombe**, technical program manager, Advanced Automation Systems Branch, Automation Div. . . **Louis A. Drvrosky**, technical program manager, Surveillance & Weather Systems Branch, Communications/Navigation/Surveillance Div. . . **Homer C. Harlow**, manager, Material Branch, Logistics Div., promotion made permanent.

Washington Headquarters

Balfassar Bernhardt, manager, NAILS Information Branch, NAILS Program, NAS Transition & Implementation Service, promotion made permanent. . . **Charles M. Carrington**, unit supervisor, Airports Branch, Civil Aviation Security Div., Office of Civil Aviation Security. . . **Benedict D. Castellano**, manager, Airport Safety & Compliance Branch, Airport Safety Operations Div., Office of Airport Standards. . . **Thomas Chabty, Jr.**, chief, Resource Management Staff, Office of the Associate Administrator for Airway Facilities. . . **James W. Edwards**, manager, Technical Standards Branch, Air Transportation Div., Flight Standards Service, promotion made permanent. . . **Charles H. Hall**, asst. man-

ager, operation, Air Traffic Control System Command Center, Office of Air Traffic System Management, from Oakland, CA. . . **John J. Reilly**, chief, Management Staff, Office of the Associate Administrator for Airway Facilities. . . **Janie E. O'Connell**, area supervisor, Tucson, AZ, ATCT/TRACON, from Phoenix, AZ, TRACON. . . **Christopher J. Overme**, asst. manager, Oakland, CA, ATCT, promotion made permanent. . . **Varli K. Patton**, unit supervisor, San Francisco, CA, FSDO. . . **William M. Reidy**, branch manager, Air Traffic Div., from Van Nuys, CA, ATCT. . . **Richard E. Russell**, unit supervisor, Reno, NV, FSDO, from Washington Headquarters.

Western-Pacific Region

Charles B. Aalls, section supervisor, Operations Branch, Air Traffic Div. . . **Douglas L. Booth**, supervisor, Navigation/Landing Program Section, Airway Facilities Div. . . **Ruskin I. Cerratti**, area supervisor, Oakland, CA, ATCT, from Hayward, CA, ATCT. . . **John G. Clancy**, manager, Van Nuys, CA, ATCT, Los Angeles, from Edwards AFB, CA. . . **Jane M. Coe**, area supervisor, John Wayne Airport ATCT, Santa Ana, CA, from Honolulu, CERAP. . . **John A. Cron**, Civil Rights Staff, from Central Region headquarters. . . **Lee R. Daniel**, asst. manager for training, Riverside, CA, AFSF. . . **Mark C. Denton**, area supervisor, Burbank, CA, ATCT/TRACON, from FAA Academy. . . **Richard T. Harris**, area supervisor, Oakland, CA, FSS, from regional headquarters.

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

Retirees

AERONAUTICAL CENTER

Stanley R. Adams
Mergie L. Clark
Harry R. Coffin, Jr.
Raymond Hooker
Olivia Houston
Elizabeth A. Kimberling
Carroll K. Moon
Charles Smith
Rita M. Wilson

ALASKA REGION

Dorothy M. Blackwell
James W. Burger
Charles L. Cron
John H. Givensveld
Ernest W. Mack
Clarence G. Weber

CENTRAL REGION

Billy E. French
Jack Kelley
John K. Rhoades

EASTERN REGION

James G. Coe, Jr.
Gerald F. Conley
Robert Gibson
Arthur G. Haught
Denise M. Martinez
William A. Walker
Peter E. Wood

GREAT LAKES REGION

Marjorie A. Guider
Delmar L. Heiter
Lewisa A. Rezac

NEW ENGLAND REGION

Julian H. Federico
Allan E. Quinn

NORTHWEST MOUNTAIN REGION

William R. Fletcher
Cese E. Lohr
Edward D. McGee, Jr.
Raymond L. Ruffi
Wayne E. Rudwick

WESTERN-PACIFIC REGION

Warren Y. Sato

SOUTHERN REGION

Patrick H. Campbell
Raymond S. Carskaddon
Robert L. Heath
Carl E. Holden
Bobby W. Moore
Edward A. Sink
John R. Sloan
Ronald M. Smith

SOUTHWEST REGION

Leland R. Bucher
James W. Butler
Ludya G. Gomez
Evelyn G. Hubbenner
Joe W. Meek
James F. Sachs
Alan K. Stowes
Roy J. Taylor

WASHINGTON HEADQUARTERS

James M. Davis
William J. McLaugh, Jr.
Talmadge J. Morris, Jr.
Robert G. Ross
Paul E. Ruffe

WESTERN-PACIFIC REGION

Robert C. Cook
William D. Crono
Leon E. Davidson
Karl E. Esker
Norman E. Hendrix
Edwin T. Hinshelwood
Philip R. Lee
Richard M. McFadden
Warren Y. Sato



Skifest 1990!

The Seventh Annual Denver Center Skifest was held February 19-24 in Vail, CO. Over 100 center, flight service, and tower personnel, as well as National Weather Service employees, met for a week of skiing, sun and camaraderie.

Participants traveled from as far as Alaska and Puerto Rico to attend, with the state of Virginia sending the most skiers (11), followed closely by Florida with ten skiers.

The 1991 Skifest is being planned for the last full week in February (18-23). The sites under consideration are Keystone and Breckenridge, CO. Contact Anne Hulsey at the Denver Air Route Traffic Control Center for details.



Skifest committee (left to right) evaluation specialist Rich Belmonte; area supervisor Jim Alig; military operations specialist Jim Platz; and traffic management coordinator Anne Hulsey.

Tops in Quality Management



North Dakota's Grand Forks Automated Flight Service Station recently won FAA's first annual "Quality Management Award." The award, sponsored by the Office of Management Systems, recognizes an FAA organization for high levels of quality management accomplishments.

Brooks Goldman, Associate Administrator for Administration, right, presented certificates and a special plaque at the facility to mark the occasion. In the picture, from the left, are: sector field office manager Anthony Kowalewski; controllers Donald Anderson, Stephen Hunter, and Paul McGinn; and air traffic manager Bob Fishman.

In a congratulatory letter, FAA Administrator James Busey said that the 28% boost in total flight services and the number of staff suggestions to improve operational productivity were "impressive."

"Customer satisfaction is a primary consideration in modern-day management," Busey said.

U.S. Department
of Transportation

**Federal Aviation
Administration**

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

**FORWARDING AND RETURN
POSTAGE GUARANTEED**

Official Business
Penalty for Private Use \$300

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

06 n/c