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Fire Safety

FAA tests solutions to diverse problem

No One Blew Out the Candles

On FAA's 25th birthday—President Eisenhower signed the Federal Aviation Act on Aug. 23, 1958—Washington headquarters had a morning birthday party in the cafeteria.

Administrator Helms spoke briefly about the agency's development over the past quarter-century and complimented all agency employees for their outstanding dedication during FAA's worst moment two years ago.

With the assistance of Deputy Administrator Fenello, Helms presented mementos in the form of flight progress strips and paperweights with names inscribed to those current headquarters employees who had been with FAA since its inception.

Above, with Mr. Fenello alongside, the Administrator cuts the main birthday cake. Many other red, white and blue cakes were provided for the hundreds in attendance.

"FAA's mission is to promote the safe and efficient use of the nation's airspace, facilities and the vehicles that travel the airways. To achieve this objective, we should control but not constrain aviation; we should regulate but not interfere with free enterprise of competitive purpose; and we should recognize that most air travelers do so by means of scheduled air carriers. We have a responsibility to consider their priority but not to the extent that it excludes the single individual from enjoying man's greatest achievement—solo flight. Above all, we must remember that the airspace belongs to the users and not the FAA."

—J. Lynn Helms

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By John G. Leyden
Chief of the Public & Employee Communications Division, Office of Public Affairs, and a former reporter for the *Washington Star.*

Fire Safety a Diverse Problem

FAA Has Many Irons in the Fire for Testing

Although the cause of the June 2 Air Canada fire officially remains a mystery waiting to be defined by the National Transportation Safety Board, the results of the fire sparked an immediate renewed interest in the problem of aircraft fires and what the Federal Aviation Administration was doing about it.

Yet, the Air Canada accident was a rarity in commercial aviation—that is, an in-flight fire that involved fatalities. Normally, in-flight fires are controlled by means of design features, fire extinguishing equipment and crew training.

The only parallel in U.S. aviation history was a mysterious in-flight fire that killed all 39 persons aboard a United Air Lines Viscount near Parrottsville, Tenn., in July 1964. Accident investigators were never able to pinpoint the source of that fire and the probable cause was listed as "an uncontrollable fire of undetermined origin . . . which resulted in the loss of control of the aircraft."

Foreign carriers had recorded two serious in-flight fires prior to the Air Canada accident—one involving Varig Airlines in July 1973 and the other, Saudi Airlines in August 1980. Together they claimed over 400 lives.

The Varig accident apparently resulted from a discarded cigarette in the lavatory wastepaper compartment and prompted FAA to order the fire-hardening of these compartments and to ban smoking in the lavatories. The Saudi fire began in the cargo hold and led to a recommended change in the liner material used in all L-1011 aircraft.

Historically, fuel fires have posed the greatest threat to passengers and crew in otherwise survivable accidents. Over the past 15 years, fatalities on U.S. air carriers due to post-crash fire or its effects have averaged just under 30 a year. However, there has been a downward trend in these accidents—and in accidents generally—and U.S. air carriers had experienced no impact- or fire-related deaths in survivable accidents since 1980.

"America's aviation industry places great stock in aircraft safety, and the FAA intends to help lead the way."

This trend reflects improvements in both aircraft structural design and the materials used in the passenger cabin. In 1972, for example, FAA adopted new flammability standards for cabin materials that upgraded their fire tolerance.

The agency also pioneered the development of aluminized evacuation slides that resist the thermal radiation of fuel fires better than did previous models and took the lead in proving the effectiveness of hand-held Halon 1211 fire extinguishers in fighting cabin fires. Both now are in use in the air carrier fleet.

Other actions that have resulted from the agency's crashworthiness and fire safety programs include the issuance of new standards for flight-attendant seats, aircraft tires and wheels, child-restraint systems and life preservers.

Currently, the agency is giving top priority to improving aircraft seats and restraint systems to increase occupant survivability, testing fuel additives to reduce the potential for post-crash fires and developing less-flammable materials to make aircraft cabins more fire-resistant.

Other significant projects involve toxic-gas and smoke analysis, burn-through-resistant windows, protective breathing devices, emergency lighting, in-flight smoke venting and cargo compartment fire protection.

Much of the FAA's current fire safety research follows the recommendations contained in the June 1980 report of the Special Aviation Fire and Explosion Reduction (SAFER) Committee. The report was the work of approximately 150 top technical experts who spent more than a year examining the factors that affect passenger survival in aircraft accidents.

Fire trucks work to extinguish the blazing Air Canada DC-9 at Greater Cincinnati Airport last June, following the outbreak of an in-flight fire in the lavatory.
Black Star photo by Tim Smith

Perhaps the most pertinent recommendation in the SAFER report in relation to the Air Canada accident has to do with fire-blocking layers for passenger and crew seats. The report found that "this modification may produce a substantial reduction in fire-spread combustion products and would provide more time for egress."

Aircraft seat cushions typically are constructed of fire-retardant polyurethane and an outer upholstery covering, all of which must pass a small-scale Bunsen burner test prescribed in the Federal Aviation Regulations. However, the seat cushions cannot withstand the intense heat of a prolonged, full-scale crash fire. The polyurethane foam, which has a petrochemical base, liquifies and burns, spreading the flames and producing potentially lethal smoke, combustible gases and toxic gases.

The fire-blocking-layer concept involves the use of a thin layer of highly fire-resistant cloth or foam material to encapsulate and protect the polyurethane cushions. Tests conducted by the FAA Technical Center and the National Aeronautics and Space Administration indicate that an aluminized fabric offers the best protection with the least weight penalty, although other materials also were found suitable.

In a demonstration of ongoing fire safety studies at the FAA Technical Center, an ordinary, non-blocked airliner seat and one incorporating a blocking layer around the foam cushions were set afire. The blocked seat took longer to ignite.

FAA estimates that fire-blocking layers could delay the critical "flashover" point in a typical cabin fire by 40 to 60 seconds, as well as reduce the emissions of lethal smoke and gases.

Flashover is the point where flammable vapors trapped near the ceiling of the cabin will suddenly ignite and propagate the fire the length of the cabin, consuming the oxygen and producing a non-survivable environment.

Since this occurs shortly after two minutes, a delay of 40-60 seconds would represent a significant improvement in the time available to passen-

At the Technical Center's wing spillage facility, conventional fuel ignited as it spilled from a wing in an induced wind produced a huge fireball (top). In the same setup, anti-misting kerosene (AMK) fuel produced minimal burning (above).

gers and crew to evacuate an aircraft safely.

Research on the fire-blocking layers was completed at the FAA Technical Center in May, and the data package was forwarded to Washington headquarters for regulatory analysis. Thus, when the Air Canada accident occurred on June 2, the agency already had decided to proceed with rule-making.

The proposed rule will not specify a particular material for the fire-blocking layer. Instead, it will establish performance criteria keyed to the average weight loss of the material as the result of thermal decomposition when subjected to a high-intensity flame for two minutes. This standard will permit airline operators to use a variety of commercially available materials that meet their particular needs. The proposed deadline for compliance is three years from the effective date of the final rule.

Concurrent with the action on fire-blocking layers, the agency also plans to issue an NPRM that would require the installation of a new emergency light/marking system. Full-scale fire tests conducted by the Technical Center found that smoke from burning cabin materials could obscure overhead emergency lighting and hinder the evacuation process. Therefore, the committee endorsed additional emergency lighting at or below armrest level to guide passengers out of a burning aircraft.

The FAA NPRM would establish a performance standard for "floor-proximity emergency escape path marking," rather than designate a particular system. Agency tests have shown that there are any number of acceptable combinations of point lighting, floor lighting, strip lighting, markers, signs, reflecting material and other components that could do the job.

A Tech Center employee extinguishes an airline seat fire with a new Halon 1211 extinguisher which does the job faster and at greater range than other types.

Operators, thus, would have considerable flexibility in choosing the most efficient and economical system for their aircraft fleets. Compliance would be required within two years of the adoption of the final rule.

But the major recommendation of the SAFER report was for FAA to expedite the investigation and validation of anti-misting kerosene (AMK). The report noted that AMK technology, if successful, "could provide the single most significant safety improvement to reduce the post-crash fire hazard."

All too often, an otherwise survivable accident has become a disaster when fuel spewing from a ruptured wing tank is misted in the airstream and contacts a crash-generated spark. The result is a fireball that can engulf the aircraft as it comes to rest and, being fed by fuel still being spilled, can trap the passengers inside the cabin.

For years, FAA and industry have worked to develop a fuel with anti-misting characteristics. Experiments with gelled and emulsified fuels showed early promise, but eventually they proved to be incompatible with aircraft engines and fuel systems.

Then, in the late 1970s, FAA in partnership with NASA and the United Kingdom began experimenting with a new fuel modifier called FM-9. This is a so-called long-chain polymer that, when mixed in small amounts with jet kerosene, counters the fuel's tendency to mist when tanks are damaged and the fuel is exposed to the high-speed air stream during crash landings.

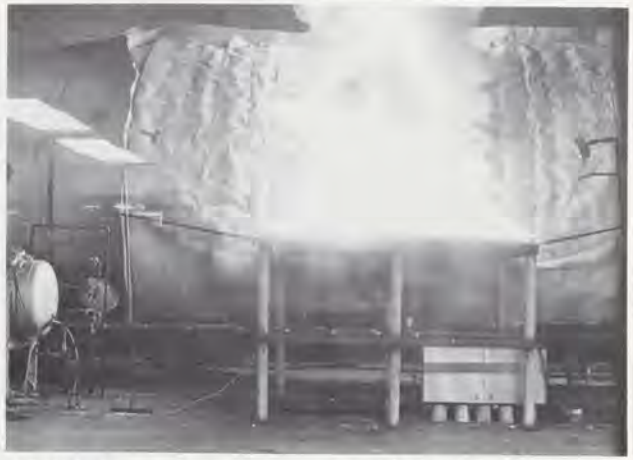
The evaluation of AMK has been underway for several years at the FAA Technical Center, using a unique wing-spillage test facility constructed especially for that purpose. There also have been

With a fireman in readiness as an extra measure of safety, a Tech Center employee uses a carbon dioxide extinguisher on an airline seat fire.

simulated crashes of surplus aircraft fueled with AMK at the Navy's Lakehurst, N.J., Air Engineering Center catapult tracks.

Present plans call for the AMK test program to be concluded with a controlled-impact demonstration in California's Mojave Desert in July 1984. In a joint project with NASA, FAA will load a four-engine jet with AMK, and NASA will fly it by remote control into the desert floor along a computer-derived flight profile that will result in an impact-survivable crash. In conjunction with other flight tests, this test will allow FAA to demonstrate concurrently both the operational performance characteristics of the modified fuel and its anti-misting properties.

In addition to providing what will amount to a final exam for AMK, the Mojave demonstration also will include various other experiments related to FAA's crashworthiness and fire safety programs. Among them will be an evaluation of various passenger seats and restraint systems. Some of these seats will contain instrumented dummies to measure the forces of impact on the human body. Also, the aircraft's fuselage, wings and floor will be wired with sensors to collect data on the overall response of the structure at impact.



A C-133 fuselage is used to test the flammability characteristics of cabin interiors. Here, a table with a pan of fuel is ignited in front of an open door under a controlled wind to test cabin materials.

The full scope of the agency's crashworthiness and fire safety programs was outlined by Administrator Helms to the news media on June 28 at the Technical Center. Included in the briefing were actual tests of AMK and fire-blocking layers, as well as a full-scale fuel fire involving a C-133 fuselage configured like a typical wide-body jet.

The Administrator also used the occasion to spell out the agency's schedule for future rule-making action in the crashworthiness/fire safety area. In addition to the proposed rules on fire-blocking layers and emergency lighting, he noted that FAA plans to issue an NPRM this fall to improve the containment of fires that begin in cargo compartments. Other NPRMs are targeted for late 1984 that will deal with improved seats and restraint systems, more fire-resistant panel materials for aircraft cabins and a requirement for the use of AMK.

"America's aviation industry places great stock in aircraft safety," he said, "and FAA intends to help lead the way. There are problems to be solved, but with the combined ingenuity of science and industry, it's a challenge that can be met." ■

People

Aeronautical Center

■ **William D. Grissom,** group supervisor in the Operations Section, Data Processing Branch, Data Services Div.

■ **Sig A. Illing** (correction), supervisor of the Flight Service Section, FAA Academy.

■ **Jimmie C. Savage,** manager of the Standards Development Branch, Flight Programs Division, Aviation Standards National Field Office, promotion made permanent.

Alaskan Region

■ **Paul S. Donohoe,** manager of the Air Carrier & General Aviation Branch, Flight Standards Division, promotion made permanent.

■ **John J. McLaughlin,** manager of the McGrath Flight Service Station, from the Cold Bay FSS.

Central Region

■ **Sandra D. Bagwell,** area supervisor at the Omaha, Neb., FSS, from the Philadelphia FSS.

■ **Lois M. Gordon,** watch supervisor, National Communications Center.

■ **Roger H. Rodecap,** supervisor of the F&E Installation Unit for Missouri-Kansas, Establishment Engineering Branch, Airway Facilities Division.

■ **Bradley J. Wallace,** supervisor of the F&E Installation Unit for Iowa-Nebraska.

■ **Peter B. Wilkinson,** area supervisor at the Kansas City Downtown Airport Tower, from Kansas City International Tower.

Eastern Region

■ **John D. Depew,** manager of the Huntington, W. Va., Tower, from the Airspace & Procedures Branch, Air Traffic Division.

■ **Charles N. Dudley,** area manager at the Baltimore-Washington International Airport Tower.

■ **Nicholas Luca,** assistant manager of the New York ARTCC Airway Facilities Sector, from the ATC Facilities Section, Electronics Engineering Branch, AF Division.

■ **William F. Wildermuth,** manager of the Camp Springs, Md., AF Sector Field Office, Washington National AF Sector.

Great Lakes Region

■ **Ronald O. Cody,** area supervisor at the Toledo, Ohio, Tower, from the Detroit (Mich.) Metro Tower.

■ **Montee I. Egle,** manager of the La Crosse, Wis., AF Sector Field Office, Minneapolis, Minn., AF Sector, from the Redwood Falls, Minn., AFSFO.

■ **Roscoe I. Ewalt,** unit supervisor in the Minneapolis-St. Paul, Minn., Air Carrier District Office, from the Milwaukee, Wis., Flight Standards District Office.

■ **Timothy E. Halpin,** area manager at the Detroit Metro Tower, from the Terminal Procedures Branch, Procedures Div., headquarters Air Traffic Service.

■ **George G. Hughes,** chief of the Program Section, Plans and Program Branch, Air Traffic Div., promotion made permanent.

■ **George R. Maxey,** area supervisor at the Moline, Ill., Tower.

■ **Robert D. Mitchell,** watch supervisor at the Chicago O'Hare Tower AF Sector, from the Deadhorse, Alaska, AF Sector Field Office, Fairbanks AF Sector.

■ **Jerry A. Morgan,** area supervisor at the Columbus Ohio State University Tower, from the Port Columbus Tower.

■ **David J. Peterson,** area supervisor at the Milwaukee FSS, from the regional communications control center.

■ **George J. Rathbun,** manager of the Chicago AF Sector Field Office, Chicago AF Sector, from the O'Hare Sector.

■ **Phillip M. Reichart,** manager of the Milwaukee Timmerman Tower, from the Mitchell Field Tower, Milwaukee.

■ **Carol L. Veazie,** manager of the Watertown, S.D., FSS, from the Decatur, Ill., FSS.

Reputed to have a legendary recall of aircraft certification details, Maria Deleenaire, who has worked for more than 17 years on FAA's Brussels, Belgium, Aircraft Certification Staff, received the Meritorious Honor Award from U.S. Ambassador Charles H. Price II, as her husband, Jules, watched.

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 branch managers in offices are published. Other changes cannot be accommodated because there are thousands each month.

Metro Washington Airports

■ **Janet T. Mullen,** supervisor of the Vouchers and Payroll Section, Accounting Operations Branch, Administrative Systems Division.

New England Region

■ **John T. Basius,** area manager at the Boston, Mass., ARTCC.

■ **Charles W. Lanphear,** manager of the New Bedford, Mass., Tower, from the Norwood, Mass., Tower.

■ **William F. Mann,** assistant manager for technical support at the Bradley Tower AF Sector, Windsor Locks, Conn., promotion made permanent.

■ **Anthony R. Silva,** manager of the Norwood Flight Standards District Office, from the Aircraft Maintenance Branch, Flight Standards Division.

Northwest Mountain Region

■ **Robert L. Buderus,** assistant manager for automation at the Denver, Colo., ARTCC.

■ **Donald G. Coones,** manager of the Seattle, Wash., AF Sector, from the Spokane, Wash., AF Sector.

■ **William G. Faris,** area supervisor at the Denver ARTCC.

■ **Robert W. Hofferber,** manager of the McChord Air Force Base AF Sector Field Office (Tacoma SFO), from the Fort Lawton (Seattle) ARSR Sector Field Office.

■ **Robert L. Horsley,** manager of the Maintenance Operations Branch, Airway Facilities Div., from the Salt Lake City, Utah, AF Sector.

■ **Harry J. Irwin,** manager of the Structures, Dynamics and Craft Worthiness Section, Airframe Branch, Los Angeles, Calif., Aircraft Certification Office, promotion made permanent.

■ **Jerry A. Johnson,** manager of the Casper, Wyo., Tower, from the Plans and Programs Branch, Air Traffic Division.

■ **Ray S. Lansbery,** area manager at the Denver ARTCC.

■ **Terry K. Oliver,** manager of the Salt Lake City AF Sector, from the Casper, Wyo., AF Sector.

■ **Herbert J. Owsley,** chief of the Planning and Evaluation Staff, Airway Facilities Div., from the Establishment Engineering Branch.

■ **Raymond W. Perry,** manager of the Boise, Idaho, AF Sector, from the Seattle AF Sector.

■ **Eugene E. Porter,** manager of the Manufacturing Inspection Branch, Los Angeles Aircraft Certification Office, from the Long Beach, Calif., Manufacturing Inspection District Office.

■ **Kenneth R. Root,** manager of the Lewistown, Mont., FSS, from the Casper, Wyo., FSS.

■ **Leroy R. Skaug,** manager of the Miles City, Mont., FSS, from the Seattle FSS.

■ **Roger A. Sloan,** area supervisor at the McChord AFB RAPCON, from the Seattle-Tacoma Tower.

■ **Robert E. Waiblinger,** manager of the Establishment Engineering Branch, Airway Facilities Div., from the regional Appraisal Staff.

■ **Gerald A. Wigode,** area supervisor at the McChord AFB RAPCON, from the Yakima, Wash., Tower.

■ **Vernal T. Wood,** systems engineer at the Salt Lake City ARTCC AF Sector.

Southern Region

■ **William D. Buckhalt,** supervisor of the Navaids/Communications Section, Maintenance Program Branch, AF Div.

■ **Betty O. DeLaurentis,** manager of the London, Ky., FSS, promotion made permanent.

■ **Charles W. Foster,** manager of the Albany, Ga., Tower.

■ **John F. Gilmore, Jr.,** area supervisor at the San Juan, Puerto Rico, International Flight Service Station.

■ **Thomas C. Lane,** area supervisor at the Melbourne, Fla., Tower, promotion made permanent.

■ **Francis D. Leonard,** manager of the St. Thomas, Virgin Islands, AF Sector, from the McChord AFB AF Sector Field Office, Wash.

■ **Andrew A. Miller,** supervisor of the Radar/Automation/Frequency Management Section, Maintenance Program Branch, AF Division.

■ **Richard E. Miller,** area supervisor at the Tampa, Fla., Tower, from the San Juan CERAP.

■ **Roger B. Mull,** assistant manager for technical support at the Columbia, S.C., AF Sector, from the National Automation Engineering Field Support Sector at the Technical Center.

■ **Kenneth R. Patterson,** manager of the Kinston, N.C., Tower, from the Florence, S.C., Tower.

■ **Hector Ramirez, Jr.,** unit supervisor in the Orlando, Fla., AF Sector Field Office, Tampa AF Sector, from the Airway Facilities Branch, FAA Academy.

■ **Ronald J. Tokar,** unit supervisor at the Fort Myers, Fla., AF Sector Field Office, Tampa AF Sector, from the Airway Facilities Branch, FAA Academy.

■ **David G. C. Whatley, Jr.,** manager of the Paducah, Ky., FSS, from the Anniston, Ala., FSS.

Southwest Region

■ **Pete V. Aparicio,** area supervisor at the San Antonio, Tex., Tower.

■ **Clarence G. Chrissinger,** area supervisor at the New Orleans, La., FSS, promotion made permanent.

■ **Curtis H. Freeman, Jr.,** manager of the Program & Planning Branch, Airway Facilities Div., from the Electronic Engineering Branch.

■ **George R. Howard, Jr.,** unit supervisor at the Fort Worth, Tex., ARTCC AF Sector.

■ **Robert G. Jarrett,** area manager at the Houston, Tex., Intercontinental Tower.

■ **Thomas J. Lucas,** manager of the Electronic Engineering Branch, AF Division, from the Fort Worth ARTCC AF Sector.

■ **Thomas J. Marshall,** unit supervisor at the Houston ARTCC AF Sector.

■ **Harry L. Mathews,** area supervisor at the San Antonio Tower.

■ **John H. Mayorga,** area supervisor at the Albuquerque, N.M., Tower, from the Dallas-Fort Worth, Tex., Tower.

■ **George R. Naylor,** manager of the Fort Worth ARTCC AF Sector, from the Dallas-Fort Worth Airport AF Sector.

■ **Guillermo R. Rivera,** systems engineer at the Fort Worth ARTCC AF Sector, from the Electronic Engineering Branch, AF Division.

■ **David J. Souder,** manager of the Texarkana, Ark., Tower, from the Radar Training Facility, FAA Academy.

■ **Charles E. Turner,** manager of the Dallas-Fort Worth AF Sector, from the El Paso, Tex., AF Sector.

Technical Center

■ **Richard W. Cleary,** manager of the Advanced Systems Concepts Branch, ATC Systems Technology Division.

■ **James R. Clinton,** manager of the ATC Automation Division, promotion made permanent.

■ **Philip J. Gill,** manager of the Advanced Automation Systems Branch, Engineering Division, promotion made permanent.

■ **Donald J. Laurelli,** manager of the Graphic Arts Branch, Communications Resource Staff, promotion made permanent.

Washington Headquarters

■ **David R. Harrington,** manager of the Commuter & Air Taxi Branch, Air Transportation Div., Office of Flight Operations, promotion made permanent.

■ **Thomas E. McSweeny,** assistant manager of the Aircraft Engineering Div., Office of Airworthiness, from the Certification Procedures & Standards Branch, Aircraft Engineering Div.

■ **James W. Mitchell,** Administrative Officer, Program Management Staff, Systems Engineering Service.

■ **Lester L. Prosser,** manager of the Microwave Landing System Program, Program Engineering & Maintenance Service, from the Approach & Landing Program.

■ **Miles R. Walbrecht,** assistant manager of the Performance Analysis Program, Evaluation Staff.

■ **Carey L. Weigel,** manager of the Flight Service Automation System Program, Engineering & Maintenance Service, from the Flight Information Div.

■ **Howard R. Young,** manager of the Technical Policy & Maintenance Concepts Program, Policy & Standards Div., Systems Engineering Service, from the Indianapolis ARTCC AF Sector.

Western-Pacific Region

■ **Eilif F. K. Andersen,** area manager at the Los Angeles ARTCC, from the Oakland, Calif., ARTCC.

■ **Alfred L. Bailey,** assistant manager of the Los Angeles FSS, from the Thermal, Calif., FSS.

■ **Sheryl D. Becker,** area supervisor at the Los Angeles Tower, from the Hawthorne, Calif., Tower.

■ **Neil B. Bettenhausen,** area supervisor at the Los Angeles Tower.

■ **Victoria J. Biggers,** area supervisor at the Brackett Field Tower, La Verne, Calif.

■ **Joe B. Fowler,** assistant manager for training at the Los Angeles Tower.

■ **Fernando A. Lorenz,** unit supervisor at the Ontario, Calif., AF Sector Field Office.

■ **James Page, Jr.,** area supervisor at the Long Beach, Calif., Tower, from the Hawthorne, Calif., Tower.

■ **Kenneth E. Pender,** area supervisor at the Reno, Nev., Tower, from the Oakland Tower.

■ **Terrell E. Wilson,** assistant manager of the Phoenix, Ariz., FSS, from the Plans Branch, System Programs Div., headquarters Air Traffic Service.

■ **Darrell L. Young,** assistant manager of the Phoenix Tower.

Women on the Rise

Keys to Making It: Education, Opportunity and Guts

In many ways, it's still a man's world—but the arrogance inherent in many sex distinctions is withering. The more that women have been demonstrating their capabilities, the more that jobs are neutered.

FAA is a good example, for it combines the administrative positions that can be found in any Federal agency with a diverse menu of technical professions from which women have been selecting their careers. The appeal of aviation has been sexless from the beginning, but except for the determined pioneers, women have made inroads into these fields only in recent years.

It still takes some determination, a thicker skin and building the credentials that say she's just as good or better. Here are a baker's dozen of FAA women who have made their way.

Aviation safety inspector Marlene Clark from the Dulles International Airport Flight Standards District Office investigates the crash of a light plane near Clinton, Md., last spring.

Washington Post photo by Larry Morris

Indianapolis Star photo by William Oates

Ann Spencer Tovey

Ann Spencer Tovey doesn't necessarily want to be first at everything she does, but she has to do her best—which comes out the same thing.

She is the first woman Airway Facilities communications technician-in-depth (TID) in FAA, holding forth at the Indianapolis, Ind., ARTCC.

From a dental hygienist, she became a medical records clerk in the assistant flight surgeon's office at the FAA center. She opted for the agency's upward mobility program in electronics six years ago, which put her constantly in school—either FAA training schools or the Indiana-Purdue campus, from which she received a bachelor's degree.

Her husband afflicted her with a passion for car racing. While she was studying electronics she also became a race driver, winning now and then in Sports Car Club of America races with her decal-plastered Volkswagen Scirocco or Colt RS. They have seven cars between them.

Ann Tovey follows her own advice in her vocation and her avocation. "My advice to any woman—or any person, for the that matter—is to go for anything you desire, no matter how hard it may appear. Set goals for yourself, and work toward that goal."

She did. Her work as a communications TID requires coordination with AT&T Longlines employees involved in maintaining the reliability of 77 RCAGs (remote communications air-ground) in five states. Such coordination keeps scheduled and unscheduled outages to a minimum.

Each month, she chairs a meeting with FAA center technicians, technicians at the RCAGs, Airway Facilities field office managers and representatives from AT&T, the various Bell Systems and from smaller telephone companies.

As a technician, jeans were her uniform. "I paid my dues," she says, pointing to the fact she can now wear dresses and jewelry. She adds, "There isn't a day in my life that I'm not thankful for the way things have turned out. I really believe that you can achieve anything your mind can conceive."

Irene H. Mields and former FAA attorney Mary Ellen Darin

The first woman in the Office of the Chief Counsel to become a GS-15 senior attorney was Irene H. Mields. Already a supervisory equal employment opportunity specialist in the Office of Civil Rights, she was graduated from the American University School of Law and transferred to the Office of the Chief Counsel, General Legal Services Division, as a GS-12 attorney-adviser.

Her work has brought her promotions, a Special Achievement Award, an Outstanding Performance Rating, two nominations for the Administrator's EEO Award and the U.S. Civil Service Commissioner's Award for Distinguished Service in a Presidential reorganization task force. She also was a participant in the Department's Management Development Program for Women.

She plays a major role in the agency's EEO efforts and works closely on all issues relating to personnel and administrative law.

Betty M. Rogers

Although a pilot, Betty M. Rogers started her Federal career in 1972 as a clerk in another agency—a far cry from her current status as an aviation safety inspector in airworthiness.

She got where she wanted to go—first in a transfer to FAA, then up the ladder through administrative assistant to her current position at the Anchorage, Alaska, Flight Standards District Office.

She believes she was the first woman ever to be hired as an aviation safety inspector, a job that includes accident investigation and enforcement activity and the certification of flight schools and air taxis.

Although she and her husband lived in Alaska in 1955 and again in 1966, they've made it their home since 1970. Husband John is a pilot, flight instructor and rated mechanic, and he encouraged her to improve her aviation skills as well as qualify as an airframe and powerplant mechanic, which paved Betty's way to achieving her goals.

If you want something, you work at it.

S. may be her middle initial, but Bonnie Hrabko's middle name just has to be "helping." Keenly aware of the special problems that face minorities and women, she's always offered a hand up to others, both before and since she became the manager of the Spirit of St. Louis Airport Tower.

She has been successful in helping minority and female developmentals overcome these difficulties. Hrabko also participated in FAA's Air Traffic Control Recruitment Program in St. Louis. She initiated seminars at local high schools and colleges to spread the word about ATC positions, contacted radio stations and newspapers and distributed posters to post offices, libraries, supermarkets and shopping malls.

She also has written an essay on psychological and emotional problems that women encounter in their controller careers and how to deal with them. She hopes to present her ideas to the training staff at the FAA Academy as an aid to forestalling unnecessary losses of female controller candidates.

All this led to her nomination last year for the Administrator's Award for Excellence in Equal Employment

Bonnie S. Hrabko

Opportunity. Also, in 1982, she received a Special Achievement Award and was nominated for the St. Louis Metropolitan Federal Women's Awards Program and for the *St. Louis Globe Democrat* newspaper's "Women's Program Award."

She began as a flight instructor, added advanced and instrument ground instructor ratings and then became interested in air traffic control, joining the then non-Federal Spirit of St. Louis Tower in 1969. In 1974, it became an FAA facility.

Some rules apply no matter who you are, like "education counts." Johnnie Moore came to work at the Aeronautical Center in 1960 as a clerk-stenographer, but with a Bachelor of Business Administration degree in management in her purse.

The following year, she was promoted to inventory manager at the FAA Depot. In 1981, she became the manager of the Systems Development and Analysis Staff.

Moore's staff provides administrative and systems support for 564 employees and a $200 million inventory, a 13-acre storage-transportation facility, a repair program, an FAA cataloguing program and a quality assurance program.

In 1966, she worked on the implementation team for the current supply system, and now she's working on a team for automating the agency's budget process.

"No task is too large for her," comments depot assistant manager John Gamble.

Johnnie Moore

Betty Miller Photo by Victor Barnaba

FAA has its own "Amelia Earhart." While Earhart made the first solo flight of a woman from Honolulu to Oakland, Calif., in 1935, Betty Miller became the first woman to fly solo across the Pacific Ocean, from California to Australia, in May 1963.

For this act, Miller was given the first FAA Exceptional Service Award and was congratulated by President Kennedy.

She served on the FAA Women's Advisory Committee for Aviation, is a member of the Ninety-Nines and the Whirly-Girls (a worldwide organization of women helicopter pilots) and became an aviation safety inspector (Operations) at the Long Beach, Calif., Flight Standards District Office.

Now, she's an airspace system inspection pilot on the Flight Inspection and Procedures Staff of Western's Flight Standards Div.

Bernadette T. Bauer

It all started in 1957 at Lake Charles, La., with an introductory flight lesson in a J-3 Cub. Today, Bernadette T. Bauer is the Operations Unit supervisor at the Lincoln, Neb., General Aviation District Office.

"It was the challenge that got me started in aviation," Bauer says. Bitten deeply by the "flying bug," she bought a Piper PA-17 Vagabond in 1959 to build time toward a commercial pilot certificate. That year, she also enrolled in an aircraft and powerplant mechanic course. "I not only wanted to fly," she comments, "I also needed to know what makes an aircraft tick."

In 1966, after earning her commercial, she went to work as a pilot and mechanic for an FBO in Lincoln and continued to work on more ratings and her A&P certificate.

That same year, she switched to flight instructor and charter pilot for Duncan Aviation, one of the nation's largest FBOs.

After earning an airline transport pilot rating, she was hired by a steel company in 1973 as a captain on a Cessna 421. She added membership on the Nebraska Aeronautics Commission. However, her goal had become that of an FAA inspector, which she accomplished in 1975. In 1979, Bauer earned a Cessna 500 Citation rating. Last year, she was promoted to supervisor.

"Anyone can make it happen," Bauer says. "It just takes perseverance and a lot of hard work."

Bonnie Embry

"When one door is closed," says Bonnie Embry, "you look for another to open." It's a philosophy that has served her well in moving from a Central Region clerk-steno in 1960 to the Western-Pacific Region's regional supply management representative today.

Embry believes she was the agency's first woman in the field logistics program in 1965, although she had been performing the functions before the program was begun. In 1976, she transferred to the Reno, Nev., Airway Facilities Sector as a general supply specialist.

She became involved with the Facilities and Equipment materiel support system in a 1978 promotion to the Materiel Management Branch of the regional Logistics Division, where she also got into administrative equipment, employee housing and logistics evaluation programs. She was gaining an overall knowledge of the program, having dealt with all the facets of logistics in the field—procurement, real estate, supply.

She took a tour as a logistics instructor at the FAA Academy, returning to the regional office last November, followed by a promotion to her present job.

Embry visits facilities to survey their logistics operation—checking files, storage areas, property records and safety of storage areas and taking physical inventories. "I usually try to see things from the facility's standpoint first—to see if there's a reason for deviating from policies and regulations," she explains. "I recognize them for their effort and try to help them make their operation more efficient with the agency's procedures. I like to look at this as an assistance program for them."

Looking at where she's been, Embry said, "I've accomplished things and I feel good about it. I guess I have my dad's philosophy—everyone, boys and girls, had to learn to do everything. He taught us to fight for things you believe in, and if you want something, go for it. I have, although there have been stumbling blocks. Basically, you do have to do a better job as a woman to prove yourself."

Looking forward, she commented, "In the Federal Women's Council, I used to think how great it would be to be able to say I have finally reached my goal." She admits she hasn't reached it, because "every step forward brings another into view. I will always have a new goal ahead."

Rosalyn Asbury

The nine years of Rosalyn Asbury's FAA career have been upward. She began as a journeyman at the Columbia, Mo., and Wichita, Kan., Flight Service Stations.

"I did not feel that I would change the world, but I felt that I could influence changes in the situations closest to me." That philosophy carried her forward to a selection as an area supervisor at the Des Moines FSS, at which time she also served as an executive board member for the National Black Coalition of Federal Aviation Employees.

After a year and a half, she moved to a journeyman's position at the Dallas, Tex., FSS for two years. She returned to the Central Region last year as manager of the Hill City, Kan., FSS.

"Despite the visible changes of women escalating in management, you still encounter traditional attitudes," Asbury says. "So many women, [untapped by] outreach or affirmative action, are capable of providing quality performance."

Asbury adds, "By enhancing my qualifications, I plan to take better advantage of the many career opportunities offered by FAA. I plan to continue my education this fall toward a degree in business and aviation management."

Judi Terrana

Judi Terrana has an energy level that seems to know no bounds. Her drive stems from a very personal commitment to her job as an air traffic control specialist at the Harrisburg, Pa., Flight Service Station.

She has a conviction and a determination to personalize the communications she has with pilots to educate them and to improve the air traffic controller image.

"I get to know the pilots, their occupations and their first names," Terrana says. "Personality comes before bureaucratic regulation. That human element is extremely important. I read a lot in a person's voice. If he sounds hesitant or confused, I ask 'Do you comprehend?' I quickly evaluate the pilot, his experience and the situation and whether we're communicating properly. We're both responsible."

She feels that a major aspect of her job is to interpret technical information on weather, runway conditions and military operations and select specific data to feed to individual pilots for their flight plans.

Her attitude and energy carry over beyond the job. Terrana presides over the Pennsylvania Association of Aviation and Aerospace Education and speaks to large groups of pilots. "These gatherings improve the rapport between flight service specialists and pilots. And we get to explain why we need pilot reports and what we do with the information."

Terrana also served as the first area director of the Professional Women Controllers, which works closely with management on issues such as the need for child care facilities and encourages women to seek careers in air traffic control.

She recently received an award from Eastern Region Director Joseph Del Balzo for her exemplary service to aviation groups and notable performance as an EEO counselor and investigator, for Terrana also has been counseling employees who feel they have been discriminated against.

Then, in her spare time, Terrana relaxes by flying. She has been a flight instructor and member of the Ninety-Nines since 1970 and enjoys practicing aerobatics.

She has great pride and contentment in the knowledge that she is living her childhood dream.

Carolyn E. Hohmann is another person who has made a very long trek through the ranks by dint of hard work and education. Her career in this agency spans almost the entire existence of FAA.

The manager of the Special Examining Division at the Aeronautical Center, she started her career in FAA in August 1959 as a temporary clerk-typist. She advanced to manager of the Employment Branch before reaching her current position in which she directs a nationwide examination and recruitment program for air traffic control specialists, aviation safety inspectors and flight data processors.

Hohmann attributes her success, in part, to her college studies. "I started studying management at South Oklahoma City Junior College in 1972, taking night classes until 1978. I received my Associate Degree in Business, and now I'm only slightly shy of my bachelor's degree."

Carolyn E. Hohmann

Patricia Orcutt

Fumi K. Wong

Aviation wasn't always a part of Pat Orcutt's life. She had studied education and English for her bachelor's degree and education and mathematics at the master's level and was a technical writer-editor for nuclear weapons study materials for the Defense Atomic Support Agency.

But her passion was golf, and she decided to learn to fly to cut down the traveling time to golf tournaments. "Unfortunately," she says, "learning to fly blew both the time spent on golf and the low handicap as well."

She obtained an instrument rating and over the next six years gained 800 hours flying time. Having moved to Hawaii with her husband, who is the captain of a container ship that plies the waters between Hawaii and California, there wasn't work for her in her specialty. She volunteered for the Civil Air Patrol and became Wing Director of Operations and a lieutenant colonel. This led to her being offered a job as an on-call pilot for Dillingham Marine Co.

She was into it now. She flew next for a Part 135 sightseeing tour company and then began teaching in a Part 141 school. Then, Orcutt returned to Civil Service in 1979 as an instrument instructor of Army helicopter pilots in the UH-1H simulator. The following year, she transferred to FAA as an aviation safety inspector (Operations) at the Honolulu Flight Standards District Office.

She is active in the Ninety-Nines and in the General Aviation Council of Hawaii.

She feels that this second career was primarily a case of being in the right place at the right time, although that doesn't help if you can't meet all the requirements. "There are so many qualified pilots looking for work that luck plays a large part in getting a job. And though she held an ATP rating, a flight instructor's certificate, airplane and instrument, and 5,000 hours of flight time, she was told that what tipped the scales in her favor for the FAA job was her technical writing experience and college education.

Joy Lewis discusses pilot papers for certificated craft with Eipper dealer Jim Woods at a "Sun 'n Fun" ultralight fly-in last spring. Lewis is an aviation safety inspector out of the Clearwater, Fla., Flight Standards District Office.

Glider Rider photo by Michael Largent

If anyone needed proof that career advancement is a matter of seizing opportunities, Fumi Wong has it. She started with FAA as a GS-2 clerk-typist; now, she's a GS-12 airport program specialist.

She came aboard the San Francisco Airports District Office in the mid-1960s, abandoning a GS-4 job in another Federal agency. She learned engineering and legal terminology and a great deal about the operation of the ADO as she advanced to a GS-6 secretary.

In the mid-seventies, an opening for a GS-7 project control assistant appeared, and Wong jumped at the chance to move into an administrative position. Few achieve entirely alone—without a mentor, a guide. Wong was no exception. She felt that program officer Milton Lange had given her a lot of support, encouragement and advice—telling her never to be afraid to ask questions; it was the only way to learn. And she felt his loss keenly when he was killed in an air crash in 1975.

ADO chief Fred Isaac encouraged her to expand her career potential by taking classes in real estate and business law, which she did. She obtained a California real estate license and the next year became an airport program specialist.

She administers the grant program for various airport improvement projects under the Airport Improvement Program in northern California and Nevada. She also is a project manager for land-acquisition, reviews and offers technical advice to airport sponsors on airport use agreements and investigates compliance matters at federally obligated airports.

She's come a long way. ■

Q&A

You've tried the normal channels—your supervisor, the personnel management specialist, the regional office—and can't resolve a problem or understand the answers you've gotten. Then ask FAA WORLD's Q&A column. We don't want your name unless you want to give it or it's needed for a personal problem, but we do need to know your region. All will be answered here and/or by mail if you provide a name and address, which will be kept confidential.

In reference to FAA Notice 3120.71, 12/16/82, on radar training, please clarify and define what requirements qualify individuals to be recycled in training. In particular, how are personnel who are recycled distinguished from those who are not? For whom is this notice applicable? Finally, if the basis for this notice is subjective in nature, as opposed to by merit guidelines, how can you assure the avoidance of discrimination?

The Radar Training Facility (RTF) training course described in the cited notice is designed to measure the potential of and provide simulated radar training to developmental controllers. In order to attend the RTF, an individual must be assigned to a radar facility or be tentatively selected for a radar position. All developmentals are required to successfully complete RTF prior to entering field radar training.

Those individuals who do not successfully complete RTF may be recycled once, based on supervisory assessment. This assessment is based on a judgment by the employee's supervisor as to the individual's potential for radar control. This includes the employee's performance on certified positions and the entire record of training. The discrimination-complaints process is available to handle alleged instances of racial or sexual discrimination.

The airport management at my airport will no longer take or disseminate braking-action reports. As a result, the tower procedures manual has been amended so that the controller, at times, must issue two or more unofficial braking action reports. Does this change in the manual increase the legal vulnerability of the FAA in an aircraft incident in which conflicting braking action reports had been issued?

The issuance of an unofficial braking-action report could result in pilot misunderstanding. The recently issued supplement to your Facility Standard Operating Procedures Manual will be reviewed and appropriate changes made to eliminate any potential confusion.

I am confused as to whether the recent reorganization within FAA has resulted in the abolishment of certain jobs—in particular, enroute automation supervisor and assistant manager. What criteria are used to determine whether or not the personnel holding these jobs are eligible for optional retirement? With over 30 years of Federal service, do I have the right to retire because of job abolishment regardless of age? Must I accept another job that I will be unhappy with if offered? What if I am offered an area manager's job in grade, and I can't pass the required physical?

It isn't clear which reorganization is being referred to, but most result in the abolishment of some positions. To be eligible for optional retirement, you must be age 62 with five years of service, age 60 with 20 years of service or 55 with 30 years of service, whether or not your position is abolished.

While you say "optional retirement," we believe you mean "discontinued service retirement." This is where individuals may retire early, provided their jobs are abolished, they are age 50 with 20 years of service or have not received reasonable offers of positions for which they qualify. The last is a written offer of a position that is not more than two grades lower than the employee's current position and is in the employee's same commuting area. These criteria apply to any position. However, if the employee is in a position covered by Public Law 92-297, which provides early retirement for certain air traffic controllers, the employee may be eligible for *optional retirement* sooner.

In a job abolishment situation, whether reduction-in-force or adverse action procedures are appropriate, an employee must accept the reasonable offer or face possible separation, even if it's undesirable to the employee, unless still another assignment mutually agreeable to both the employee and management can be found. The employee must be fully qualified for any offered position, unless an exception is approved for the qualification that is lacking.

Administrator Helms presented DOT Awards for Heroism to Pilgrim Airlines co-pilot Lyle W. Hogg (left) and Capt. Thomas N. Prinster (center) for efforts beyond the limits of human endurance in crash landing their Twin Otter on a frozen reservoir despite a cockpit fire. Both were badly burned in the landing.

New London, Conn., *Day* photo

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