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Airplane cockpits are becoming more and more automated with increased use of cathode ray tubes (CRTs) to present vital flight information. Advancements in flight deck technology in this 747-400 allow the jetliner to be operated by a two-person crew.

In the early days of aviation, pilots learned about flying by flying. All they needed was an airplane, a brave smile and a cap that was always worn backwards. Goggles were optional equipment.

The author is a former reporter with the Hearst newspapers and public relations specialist with the Aircraft Owners and Pilots Association.

Meeting the Pilot needs of the 90's

By Charles Spence

FAA's John Kern is one of many aviation professionals who are concerned about what has become known as the ''pilot shortage.''

Testifying in August before the Senate Commerce Subcommittee on Aviation, the agency's acting Associate Administrator for Regulation and Certification said, ''We all recognize that we may be facing a shortage in the numbers of adequately trained personnel available to staff our future civil aviation fleet.''

Inclusion of the word ''future'' in his statement is important because most aviation experts believe the pilot ''shortage'' is not a major problem at the present time, although they are concerned that it could become one if corrective actions are not implemented and aggressively pursued.

One of the warning signs cited by Kern is the fact that 1988 was the first year in which U.S. scheduled air carriers hired more pilots from general aviation than from the military services. Even more ominous is the fact that the pool of general aviation pilots also is

(Continued on page 2)

Mysteries

Unlocking the Dark Secrets of Argentina's 'Disappeared Ones'

By James Johnson

Even before he retired from the FAA Civil Aeromedical Institute in Oklahoma City in 1979, Dr. Clyde Snow had built a solid reputation as one of the nation's outstanding forensic anthropologists.

Now his work is known around the world, primarily due to his efforts in identifying the so-called ''desaparecidos'' (the disappeared ones), who were the victims of the now deposed Argentine military junta in the 1970s and 80s. He has been featured on network programs like ''60 Minutes,'' and been the subject of articles in such prestigious publications as the *New York Times Magazine*. A book also is in the works.

During 19 years as an FAA scientist, Dr. Snow's work included identifying air crash fatalities for the agency as well as identifying murder victims for police. Law officers found Snow's revival of a technique for restoring faces to skulls with modeling clay particularly useful. At the time of his retirement, Snow was working 40 to 50 forensic cases annually for police across the nation. FAA was lending Snow's expertise gratis as a community service.

But despite his reputation and successes, Snow's post-retirement future was far from secure. ''For years I had

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James Johnson is an aviation writer for the Daily Oklahoman. *His articles have been published many times in the* FAA World.

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Pilot Needs

from page 1

The coming pilot "shortage" offers unparalleled opportunities for women and minorities. These three women are all FAA employees . . . flying the agency's Boeing 727.

shrinking due primarily to the high cost of training.

Supporting Kern's assessment is a May 1989 report by the Military Airlift Committee of the National Defense Transportation Association. It indicated that U.S. airlines will need to hire 53,000 pilots during the next ten years to meet increased travel demands and replace flight deck retirees. At the present rate of training, only 41,000 pilots will be available. This 12,000 shortfall has many persons and organizations, including FAA, working hard to identify and implement solutions.

For years, the military has been a primary source of commercial pilots, but—as Kern indicated—that well is beginning to run dry. Air Force Assistant Secretary for Manpower Karen Keesling told the Senate panel at the August hearing that her branch of the service is losing pilots faster than it can train replacements and advocated the adoption of additional career incentives to help retain pilots in the military. Any such move, of course, would further reduce the pool available to airlines.

Fewer civilians also are learning to fly despite what Air Line Pilots Association president Henry "Hank" Duffy describes as the "soaring" job opportunities in the airline industry. In the 1978-87 period, FAA figures show significant declines—up to 26 percent—in the numbers of student, private and commercial pilot certificates. This means fewer pilots available to train for airline positions.

Commuter and regional airlines are the most directly affected by this reduction in the general aviation pilot population. According to John Fredericksen of the Regional Airline Association, these carriers depend heavily on general aviation for new hires since pilots with military experience tend to go directly to the major airlines.

The increased need for pilots has increased the role of flight simulators which can provide more in-depth training than can be accomplished in an airplane.

Moreover, the commuters have an even more difficult time retaining pilots than hiring them. As Fredericksen noted, "With regional carriers it's not a shortage of pilots, it's the turnover rate." Industry-wide, 40 percent of commuter pilots must be replaced every year. Some smaller carriers replace as many as 120 percent of their pilots over a twelve-month period.

The large airlines are temporarily keeping up with hiring needs although the experience level of new hires—particularly with regard to jet time—is not as high as it once was. They report informally a pool of about 6,000 job applicants, although conceding that this number may be inflated somewhat as a result of multiple applications. Most experts say the real crunch in pilot availability is two to three years away, leaving precious little time to resolve the problem.

Many initiatives to deal with the perceived future shortage already are underway, however. One example is FAA's establishment this year of the Recreational Pilot's Certificate as a new, lower-cost alternative for obtaining basic flying credentials. The agency projects that as many as 7,000 additional pilots may be encouraged to begin flight training by the availability of this certificate, with some of these moving on to pursue higher ratings.

In the "Roaring 20s," Jack Knight and many other pilots made their reputations flying the U.S. mails. Knight went on to become a highly respected United Air Lines captain.

Another innovation aimed at reducing the high cost of flying is the proposed rule to establish a new category of "primary aircraft" that would be less expensive to build and certificate. Final action on the proposal is expected in 1990.

Kern noted that the agency also has undertaken a sweeping reassessment of pilot training and certification requirements at both the general aviation and commercial levels. He said these efforts are aimed at promoting "innovation and flexibility" in pilot training. He called these "important factors in assuring an adequate pool of qualified pilots."

"We want to make sure our rules are not a hindrance, either to efficiency or effectiveness of training" he said. "With the availability of new training technology, we are asking ourselves, do we still need to be doing the same things we have been doing for the past 20 to 25 years?"

A key area of rule examination is flight hour requirements. In short, are the number of hours in a pilot's log book the only—or even the best—measure of his or her competence? Shouldn't quality of training and experience be given equal weight?

An example of this philosophy is FAA's proposed Advanced Qualification Program for airline pilots that relies heavily on the use of advanced training technology. According to Kern, "The focus of this program is on ensuring actual proficiency in performing tasks, rather than on an arbitrary prescribed number of hours of experience." The program also has a heavy emphasis on cockpit resource management.

The military has always been a prime training ground for pilots. However, few became as famous as World War II Ace Maj. Richard Bong.

The nation's colleges and universities also are stepping in to help fill the pilot training void. Nearly 400 centers of higher education now offer aviation education and/or flight training programs.

FAA also is supporting these efforts through its Airway Science Program. Established in 1983, this program has benefited some 39 schools to date. It helps them fund such projects as the construction of new facilities and the acquisition of instructional equipment in support of their Airway Science Programs.

University-level aviation programs are not new, of course. Many have existed for years and turned out thousands of pilots. Among the familiar names are Parks College, Auburn, Middle Tennessee State, Southern Illinois, Ohio State and Embry-Riddle.

The University of North Dakota (UND) is another school with an active aviation program. In 1987, it set out to create a new ab initio—a Latin term meaning "from the beginning"—pilot training program for Northwest Airlines.

FAA's Bill Shea was involved in the UND aviation program after leaving his post as Associate Administrator for Airports in 1985 and before returning to the agency as aviation education officer in the New England Region earlier this year. He pointed out that the key to this approach "is a structured, disciplined training program." He added, "The day is over when we just trained pilots in flying."

The ab initio training concept has been practiced successfully by the military for many years. Many foreign airlines also have adopted this approach because they lack either the military or general aviation pilot resources that have traditionally supplied U.S. carriers.

Still the cost of pilot training remains a major barrier to young people seeking an aviation career. To quote John Osgood, dean of UND's Center for Aerospace Sciences, "Current training costs are beyond the means of most of the nation's young people. We would suggest that it is in the national interest to make pilot training accessible to all sectors of our society."

Typically, a student will spend at least $25,000 in the basic course and then must face a cap on student loans. This has led Water Coleman, assistant vice president of operations for the Air Transport Association, to suggest the removal of caps on student loans for pilot trainees. He points out that a student working toward a medical degree can get financial help up to $50,000 a year. He says meeting the pilot shortage "is doable, but we may need to get some kind of financial help with a payback plan to get us there."

The pilot shortage isn't the only people problem worrying airline executives these days, however. The maintenance side of aviation suffers from the same shortage of personnel. A survey of 21 of the largest carriers reveals current openings for 4,000 mechanics.

Kern warns that this will become more critical in coming months and years due to the increased maintenance requirements of FAA's aging aircraft programs as well as the agency's requirements for installation of new equipment such as the traffic alert and collision avoidance system (TCAS) and the windshear warning and escape path flight guidance system.

Industry, government and academia all agree there is no panacea for the shortage of pilots and maintenance professionals. However, as Kern told the Senate subcommittee, "FAA is committed to working with the aviation community and the academic community to promote programs which will encourage young people to learn to fly and which offer the best training possible to ensure a highly qualified pilot community." ■

By Herbert Goldstein

Operations Research Shows the Way

A major winter storm was moving out of the Rockies and dumping another load of snow on the Denver area.

A few years earlier this would have caused severe problems for air travelers at Denver's Stapleton Airport, since the field was reduced from a three-runway to a one-runway operation during instrument meteorological conditions (IMC). Even the skiers on their way to Vail, Aspen and the other Colorado resorts would have been unhappy.

Moreover, air traffic delays would have rippled throughout the system with Denver-bound flights being held at places like New York, Chicago, Dallas-Ft. Worth and San Francisco to name just a few. That result: more unhappy air travelers.

But that was then (1989), and this is now (1995). The difference is that the new Denver International Airport is open for business. Although only five of the 12 runways planned for this new superport are operational, it represents a significant improvement over Stapleton. Traffic is able to move smoothly into and out of the airport despite the low ceilings and reduced visibility. The bottom line result: Happy air travelers.

FAA's ability to foresee the Denver scenario and similar scenarios is the result of the agency's decision in 1988 to establish an in-house operations research capability. With the continuing growth of air traffic, the agency decided it needed a mechanism to analyze objectively the nation's major air traffic problems and evaluate potential alternative solutions.

The result was the Operations Research Office (AOR), which was established under the Associate Administrator for Advanced Design and Management Control. It was charged with the responsibility for developing the computer/mathematical models that provide a basis for long-range strategic planning.

Operations research (OR) is a decision-support discipline that originated during World War II with British and U.S. forces who used it to study complex military problems. Since that time, the expanded concept has been widely adopted by the country's major corporations, including the airlines, to address their business problems. Generally, OR is used to identify the best possible allocation of limited resources, such as airport and airspace capacity, in achieving a desired goal.

Computer modeling involves the representation of a "real world" process as an abstraction in a computer. The abstraction usually is accurate and detailed enough to explain observable phenomena and can be used to predict behavior of the "real world" process under a variety of conditions, some perhaps too costly or difficult to implement otherwise.

Administrator James Busey spoke about the September approval of a $60 million FAA grant to begin construction of the major new airport in Denver. This airport will be the first major airport built in the United States since Dallas-Fort Worth opened in 1974.

Air traffic control (ATC) is a field where computer modeling can be particularly effective. ATC is a very large and interactive system, and a change in one element frequently impacts many other elements.

For example, when planners consider adding a new runway to a large hub airport, their goals are to increase capacity, relieve congestion and reduce delays. However, unless these planners also consider how this additional capacity at their airport impacts the total system, the results could be far from satisfying. It could cause saturation of other portions of the ATC system and actually inhibit full utilization of the new runway. Thus, systemwide effects must be considered when attempting to implement any operational or procedural change within the ATC system.

This is where OR comes in. It uses mathematical models and computer-aided tools for the solution of operational problems without interfering with the day-to-day task of separating air traffic. OR techniques currently are being used for strategic issues, such as capacity decisions, as well as tactical issues, such as more efficient routing, in evaluating proposed changes to the ATC system.

Using the National Airspace System Performance Analysis Capability (NASPAC) computer models for evaluation of the systemwide effects of the proposed new Denver Airport is a specific example of how powerful this tool can be. NASPAC was used to analyze the operations of the new airport with its five runways. Results showed that the new airport would substantially increase capacity over present-day operations at Stapleton and its existing configuration.

The basic assumption in this scenario was that the Denver area was socked in by a major snowstorm, which produced instrument meteorological conditions, while the remainder of the continental United States enjoyed visual meteorological conditions (VMC). This scenario was simulated for both Stapleton, which would be reduced to a single runway airport in IMC conditions, and the new Denver airport, which would be capable of operating all of its runways in IMC. Initial results indicate that substantial reductions in delays will be realized at Denver as well as at the interconnecting airports by replacing Stapleton with a new facility.

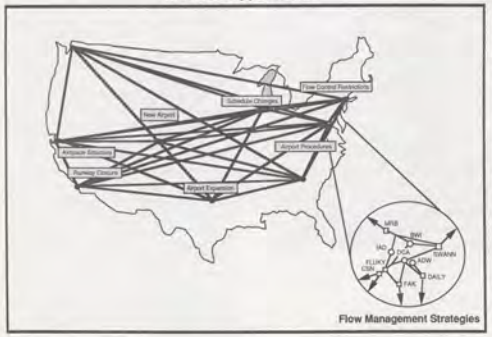
Current efforts underway include the application of NASPAC to detailed studies of the Dallas-Fort Worth Metroplex expansion and its interaction with the new Denver airport. Also on the agenda is a look at how capacity benefits, derived from procedural changes at specific airports, might affect overall system capacity.

The Operations Research Office has completed the validation of the NASPAC model and now is working to enhance the simulation capabilities further and develop additional models to meet the needs of a changing air traffic control system.

The agency also plans to make NASPAC models available to address issues that concern not only FAA but the aviation community at large. Meetings already have been held with airline representatives to discuss the potential benefits of NASPAC and solicit their comments on future applications. These efforts to broaden the use and effectiveness of NASPAC will continue. ■

A 13-year FAA veteran, Mr. Goldstein is manager of the Airspace System Analysis Division in the Operations Research Office.

NASPAC Applications



ASR-9 Installed at Stewart

The first of Eastern Region's ASR-9s, the new radar that gives controllers a clearer picture of air traffic and weather information, has been delivered and installed at Stewart Airport, Newburgh, NY. Pictured is the ASR antenna horn in a stopped position poised over the airport.

Checking the beacon antenna are (from the left) Larry Kittle, Mike Kirk, Joe Lemon, Ed O'Keefe, Larry Nealon and Doug Kata.

Photos by Al Savlowitz
Manager, Poughkeepsie AFSFO

The SGP-1-1 Flies Again

The Rochester, NY, Flight Standards District Office (FSDO) took a step back in history earlier this year when it issued an airworthiness certificate for a one-time flight of the Schweizer SGP-1-1 glider.

The aircraft was built by Ernie Schweizer and a team of volunteers and is a replica of one he put together in 1929 when still in high school. In 1939, he converted his hobby to a business and founded the Schweizer Aircraft Corporation with his brothers, Bill and Paul.

Following its one and only flight, the SGP-1-1 was retired to the Schweizer museum on Harris Hill new Elmira, NY.

The Schweizer brothers pose in the photo at left with Bill Reed, manager of the Rochester FSDO (far left). Next to Reed are Ernie, Bill and Paul in that order.

Secrets of the 'Desaparecidos' Unlocked

from page 1

Some 31 percent of the desaparecidos were women. Many were students, labor leaders, intellectuals, reporters and lawyers. Anyone who disagreed politically with the reigning junta was at risk. Many victims are as yet unidentified and may never be found.

been doing forensic work," he noted. "The natural thing to do in retirement was to work as a consultant. But I would be the first full-time forensic consultant. And up until then, it had never cost anyone anything. What was going to happen when I had to charge them some money for these cases?"

Snow let medical examiners and others know that he was available. In about a month or two the phone started ringing, and it's been ringing ever since. Today a project may involve both bizarre and fascinating subjects. For example, what did Billy the Kid really look like? Old photos of him aren't clear. Another historical question from the Wild West era to which Snow is applying his expertise is—based on scientific evidence—what really happened at the Little Big Horn River in Montana where George C. Custer and his men were annihilated by Indians in 1876?

Snow says his decision to retire from CAMI was difficult. "That was a good place to work for a scientist, especially in the 1960s and 1970s when we had the budget and manpower," he remembered. "It was one of the most exciting places that a scientist could work. The CAMI building had plenty of laboratory space and support. People over there understood the kind of work that scientists do."

In 1984 Snow began his celebrated work of identifying victims of the ousted Argentine military junta at the request of the new government.

"From 1976 until 1983 Argentina was under military rule, and during that period about 30,000 people are said to have disappeared," Snow says. "When they kicked the military out, they wanted to investigate and, if possible, bring the people responsible to trial ... They asked me to put together a team of forensic scientists and go down and spend two weeks in Argentina.

"I wound up spending a month there," he added. "Since then, almost half of my time has been spent in Argentina. In 1987, I also went to the Philippines to put together a similar crew."

Snow said the experience was an eye opener for him, since he had little previous knowledge of the extent of the human rights violations committed by the Argentine military regime. He noted that the military government essentially used left-wing terrorism as a pretext to get rid of anybody who disagreed with it politically.

"I would say that of the desaparecidos, probably 50 percent were students," he added. "There also were labor leaders, intellectuals and a lot of reporters and lawyers. People for almost any reason would disappear."

Snow's own estimate of the victims is in the 12,000 to 15,000 range, some 31 percent of whom were women averaging about 25 years of age. Men averaged a year older.

However, the military bureaucrats failed to cover their tracks in many cases, dumping large batches of victims in the countryside where they were buried as unidentified graves in local cemeteries. Accordingly, Snow's team relied on cemetery records showing large numbers of "John Doe" burials to focus their activities.

"We've got a lot of this computerized now," Snow said. "When the computer kicks out this kind of data we know we have a cemetery with desaparecidos, especially if they're young, even more so if they're female and there is an indication that they died of a gunshot wound."

Techniques used in identifying specific desaparecidos are the same as those used by archaeologists. Dr. Snow and his team exhume the skeletons and perform tests on findings. In the laboratory they match results with medical and dental records. The data amassed is the result of many lengthy trips to Argentina.

Photos courtesy of the American Association for the Advancement of Science

Snow and the team are not out to identify every victim of the military junta. They have gone on the theory that one homicide is as good as a thousand in building a case against a particular official.

"We use the same techniques that archaeologists use," he continued. "We exhume the skeleton and make sure we got every bone, every tooth, every bullet and every hair that we can get out of there. Then we can take that to a laboratory and match them up with medical and dental records.

"Theoretically," he said, "if we have one person that we can establish was in the detention center at the time the person disappeared, and we interview witnesses—people who survived or sometimes even the guards give us information—and then we find that person's body and establish that person died of a gunshot wound in the back of the head, we've got enough to put the responsible official in jail. We can turn that over to the court."

Snow said his work in Argentina is winding down now because the current government is under increasing pressure to grant amnesty and forget what happened under the junta, a policy he doesn't agree with. He noted that the crimes committed against the people of Argentina by their government were quite different from the crimes of individuals he had worked on in the United States.

"What was going on in Argentina was a bunch of guys sitting up there in $500 suits and uniforms, and they're not criminally insane," he added. "They have their families and their grandchildren. They don't beat their wives or abuse their children. But they could sit around a conference table in Buenos Aires and talk about exterminating people in the same way you would talk about exterminating a particularly obnoxious agricultural pest.

"They weren't psychopaths," he said. "To them it's a matter of paperwork and statistics. They've got a problem and they took care of it." ■

Much of Dr. Snow's work is done in the laboratory. Here, he and colleagues are involved in analyzing and identifying findings.

Large numbers of victims of the ousted Argentine military junta are often found in the countryside where they were buried unidentified in local cemeteries. Dr. Snow (second from right) and his team search for possible victims in a targeted cemetery.

(Editor's note: Dr. Snow's life and work is also the subject of *Witnesses from the Grave*, a book by Christopher Joyce and Eric Stover, currently scheduled to be published by Little, Brown and Company in 1990.)

Milestones of 1989
—The Third Quarter

James Busey was publicly sworn in on July 11 as the 11th FAA Administrator by DOT Secretary Sam Skinner. Busey's wife, Jean, holds the Bible.

JULY

James B. Busey was "publicly" sworn in July 11 as the 11th FAA Administrator by Transportation Secretary Sam Skinner. The ceremony followed a private swearing-in at the Aeronautical Center on June 30 with the Secretary again doing the honors.

FAA took two significant security steps in early July. One was a proposed rule to require U.S. airlines to install explosives detection systems for screening checked luggage on international flights. The other was a final rule making airline compliance with security directives mandatory and prohibiting disclosure of information in these documents.

In other actions, the agency issued a report on its study of air traffic control operations in the Northeast Corridor and announced a comprehensive review of its General Aviation compliance and enforcement program.

The low point of the month was the July 19 crash of a United Air Lines DC-10 at Sioux City, IA, with 112 fatalities, despite the valiant attempts of the flightcrew and FAA controllers, working together, to guide the aircraft to a safe landing.

A DC-10 similar to the one pictured crashed at Sioux City, IA, on July 19 despite valiant efforts to prevent a crash landing.

AUGUST

In the wake of the Sioux City accident, Administrator Busey ordered the establishment of a task force to look at ways to reduce aircraft vulnerability to in-flight structural damage. The agency also announced that near midair collision reports during the first six months of 1989 had dropped 25% from the 1988 level, and controller errors were down by 8%.

Other notable events in August were the signing of the Environmental Impact Statement for the new Denver airport, implementation of a Terminal Control Area at Charlotte, NC (the first of nine newly planned TCAs) and the termination of the Hazeltine Microwave Landing System (MLS) contract for default. In addition, the White House announced the establishment of a Presidential Commission on Aviation Security & Terrorism.

Tragedy also struck in August as two U.S. Congressmen—Reps. Larkin Smith and Mickey Leland—died in separate plane accidents.

SEPTEMBER

In another follow-up to the Sioux City accident, FAA issued an airworthiness directive requiring ultrasonic inspections of certain CF-6-6 engines like the one that failed on the UAL DC-10. McDonnell Douglas also announced modifications to the DC-10 hydraulics systems to preclude the loss of all three systems from a single event, as happened in the Sioux City crash.

FAA took additional steps during the month to ensure the continued airworthiness of "aging aircraft" by issuing proposed airworthiness directives to upgrade older McDonnell Douglas jets. Aviation security was enhanced by adoption of a final rule mandating explosives detection systems at designated domestic and foreign airports serving international U.S. carriers. The new Denver airport moved from concept toward reality with the agency's approval of a $60 million grant-in-aid.

However, the airline safety record suffered two more set backs with accidents involving a USAir B737 at LaGuardia with two fatalities on September 20 and a Grand Canyon Airlines sightseeing flight with 11 dead on September 27. ■

TNA Pricetag Misprinted

TNA—the high-tech thermal neutron analysis bomb detecting machine—is expensive, but not as costly as *FAA World* reported in the October issue (page 3). Due to a typographical error, an extra zero was added to the price.

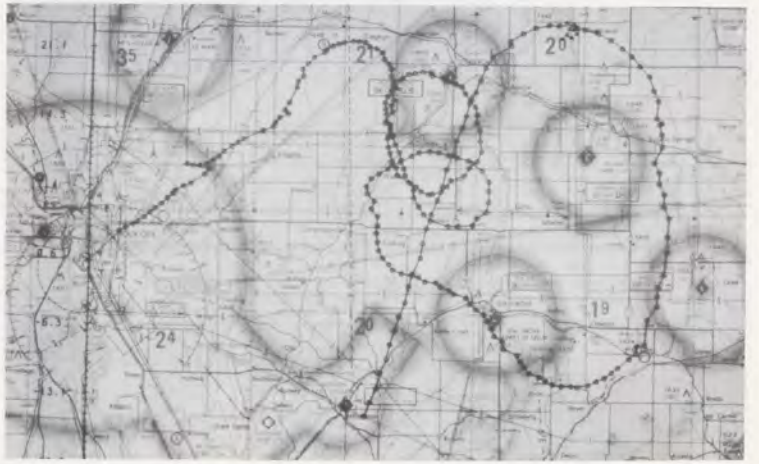
The basic TNA unit price is approximately $750,000, and the associated X-ray device costs another $150,000. By 1992, volume production is expected to bring TNA's cost down to the $500,000 range, and the X-ray equipment down to about $125,000.

Thermal neutron analysis, TNA, devices will enhance aviation security for the public.

These charts show a comparison of airspace incident tracking system statistics for the first six months of the years 1986, 1987, 1988 and 1989. Notice the downward trend in both near midair collision reports and operational errors.

UAL 232 Follow Up

Anyone who read the partial air/ground transcript of the UAL 232 accident in the October *FAA World* probably was confused by the fact that the airplane for a long time was not getting any closer to the Sioux City Airport. This picture, which records the aircraft radar plots, shows the aircraft's course. For the most part, the aircraft could make only right turns.



People

AERONAUTICAL CENTER

William C. Evans, supervisor, Flight Procedures/Inspection Section, Atlanta FIFO ... **Philip L. Fuller,** section supervisor, Quality Assurance Staff, Air Traffic Branch, FAA Academy ... **Roy V. Gowdy,** supervisor, Biodynamics Research Section, Protection & Survival Laboratory, Aeromedical Research Div. ... **Nova L. Green,** supervisor, Renewal Section, Special Issuances Branch, Aeromedical Certification Div. ... **John D. Pearsall, Jr.,** manager, Sacramento, CA, FIFO, from Oklahoma City FIFO ... **Catherine S. Routon,** manager, Major Projects Branch, Acquisition Div.

ALASKAN REGION

Stephen P. Creamer, asst. manager, traffic management, Anchorage ARTCC ... **Richard A. Ericson,** asst. manager, Kenai, AK, AFSS, from Anchorage FSS ... **Jeffry F. Wheeler,** area supervisor, Sitka, AK, FSS, from Anchorage FSS.

CENTRAL REGION

Leon Hogan, asst. manager, Facilities Establishment Branch, Airway Facilities Div., from Olathe, KS, AFS ... **Joseph M. Jirschele,** manager, Downtown ATCT, Kansas City, MO, from Johnson Co. Executive Airport ATCT, Olathe, KS ... **Warren L. Kurtze,** unit supervisor, St. Ann, MO, FSDO-62, from Baltimore, MD, FSDO ... **Stewart R. Morris,** area manager, Olathe, KS, ARTCC ... **Leo J. Tabaka,** manager, Berkeley, MO, AFSFO, St. Louis AFS.

EASTERN REGION

Ellen Jane Bernard, asst. manager for automation, New York AFSS, Islip, promotion made permanent ... **Alfred R. Johnson, Jr.,** section supervisor, Regional Counsel's office, promotion made permanent ... **William E. Lattea, Sr.,** asst. manager for program support, Capital AFS, Suitland, MD ... **Henry J. Lengel,** asst. manager, Newark, NJ, ATCT, from Teterboro, NJ, ATCT ... **William J. Marx,** manager, Special Projects Staff, Air Traffic Div., from LaGuardia ATCT ... **John B. Rintoul,** Jr., executive officer, Air Traffic Div. ... **Charles S. Shuler,** manager, Systems Requirement Branch, Air Traffic Div. ... **Edward R. Trudeau,** manager, Operations, Procedures & Airspace Branch, Air Traffic Div., from JFK ATCT.

GREAT LAKES REGION

James F. Anez, manager, Pierre, SD, FSS, from Watertown, SD, FSS ... **Kim M. Beauparlant,** AF watch supervisor, Green Bay, WI, AFS, Brown County, promotion made permanent ... **John A. Bello,** maintenance mechanic foreman, Indiana AFS, St. Joseph County ... **Gerald D. Breedlove,** unit supervisor, Indianapolis, IN, AFS ... **Harry A. Christman,** area manager, Detroit Metro Airport ATCT, from regional headquarters Quality Assurance Staff ... **Raymond M. Eckard,** AF watch supervisor, Illinois AFS, Springfield, IL, from Champaign County, IL ... **Stephen P. Ford,** asst. manager, traffic management, Chicago ARTCC, Aurora ... **James E. Krieger,** area supervisor, Chicago O'Hare ATCT, promotion made permanent ... **Dennis J. Shanks,** asst. manager, traffic management, Chicago ARTCC, Aurora, IL ... **Wayne R. Trauseth,** area manager, Princeton, MN, AFSS, promotion made permanent ... **Horace R. Vial,** area supervisor, Dayton ATCT, Vandalia, OH, from Indianapolis ATCT ... **Vincent G. Volpe,** asst. manager, traffic management, Chicago ARTCC, Aurora, IL.

NEW ENGLAND REGION

Roger D. Anderson, manager, Airframe Branch, New York Aircraft Certification Office, Valley Stream, NY, from Brussels, Belgium ... **Johnny J. Boyce,** manager, System Requirements Branch, Air Traffic Div. ... **Charles E. Keegan,** asst. manager for training, Boston ARTCC, Nashua, NH ... **Robert W. Ulmer, Jr.,** area supervisor, Boston ARTCC, Nashua, NH, from FAA Academy ... **Irving Washington,** manager, Providence, RI, ATCT, promotion made permanent.

NORTHWEST MOUNTAIN REGION

Paul D. Brophy, asst. manager, military operations, Salt Lake City, UT, ARTCC ... **Donald W. Caruthers,** manager, Great Falls, MT, ATCT, from Boise, ID, ATCT ... **Ronald O. Cody,** manager, System Requirements Branch, Air Traffic Div. ... **Gail E. Garwood,** asst. manager for automation, Seattle ARTCC, Auburn, WA, from regional headquarters Air Traffic Div. ... **Philip J. Hoy,** unit supervisor, Seattle, WA, FSDO 61, from Seattle Field Support Office ... **Gaylen M. Larson,** area manager, Portland, OR, ATCT ... **Alfred J. Laws,** supervisory electronics technician, Auburn, WA, AFS (ARTCC) ... **John F. Olson,** asst. manager for technical support, Auburn, WA, AFS (ARTCC) ... **Armond T. Snelson,** manager, Resource Management Branch, Air Traffic Div.

SOUTHERN REGION

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SOUTHWEST REGION

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TECHNICAL CENTER

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WASHINGTON HEADQUARTERS

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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

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Bettye J. Hanby
Alvin E. Hoppe
James R. Howell
J. B. Johnson
Harold A. Knab
Bobbie J. Mardis
Frederic S. Miller
Nathan B. Parsons
Connie Robertson
Vernon C. Troutt

ALASKAN REGION
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Gary L. Near
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Charles W. Forest
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Alvin L. Powell
John R. Schrick
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Raymond F. Wilson
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Elliott Brown, Jr.
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Roy M. Kuha
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Donald J. Zbilicki
Thomas J. Zigo

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Gerald G. Garrison
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Dean L. Gemassee
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William W. Turner

FAAer Heads National Organization

By Kristy Woosley

FAA's LaVerne Collins now answers to the call of "madame president." The Northwest Mountain Region employee was elected president of the 120,000-member National Federation of Business and Professional Women's Clubs, Inc. (BPW/USA) at the organization's Detroit convention during the summer.

A resource management specialist in ANM's Human Resources Division, Collins says, "My goal is to prepare the [BPW] organization for the year 2000." She adds, "We want to be positioned to meet the needs of working women. We also will be monitoring the progress of affirmative action, increasing our diversity and making available training in leadership for women in the workplace."

She finds parallels between the work she performs at FAA and her duties with BPW, which is dedicated to improving the status of women in the workplace. "We're doing things in human resources such as recruiting a diverse workforce to meet FAA needs and holding training conferences to keep skills within the FAA. These skills are directly transferable to the BPW organization."

Collins, who holds a BA degree from the University of Alaska and a master's in public administration from the University of Southern California, is no stranger to public honors. In 1977, she was chosen Woman of the Year by BPW/Anchorage and, in 1986, was Alaska Federal Executive Association Federal Employee of the Year.

Reflecting on her life today, Collins notes, "I've experienced enough personal and professional situations to know women's issues must be addressed. I've been a teenage mother, a teenage wife and a single head of household. I've come up in the workplace and owned a small business. I'm sensitive to many issues women face.

"But if anybody asked me 20 years ago if I thought I'd be doing this, I wouldn't have conceived of it."

An FAA employee from 1968 to 1981, Collins returned to the agency in March 1989, after working with the Minerals Management Service in the Department of Interior. She also has been a member of BPW for 19 years and says of the two organizations, "I grew up with them really."

Within FAA, Collins has served as an administrative clerk, realty assistant, air traffic controller and realty specialist. She spent one year at FAA Headquarters in Washington, DC, as an international aviation analyst and as a program analyst. ■

Collins stresses cooperation for the future. She says, "We need a partnership—between government, nonprofit organizations and private industry—to meet needs for education, retraining, technology and diverse workforces in the 21st century."

LaVerne Collins recently became the first black president of the Business and Professional Women/USA, an organization that strives for pay equity, dependent care and affirmative action policies.

Kristy Woosley is a University of Maryland journalism student who worked in the FAA Headquarters Office of Public Affairs this past summer. She has been a regular contributor to FAA publications.

Federal Notebook

AVERAGE FEDERAL SALARY

OPM has said the average salary of all full-time, federal, non-postal employees was $29,448, as of March 31, 1989. That represents a five percent increase from March 31, 1988. The highest average federal salary in a major area was $37,475 in the District of Columbia and the lowest was $24,809 in Kentucky. The overall average GS grade was 8.6, and the median grade was GS-9.

FEDERAL WHITE-COLLAR PAY SCALE FOR 1990

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10
GS-1	$10,581	$10,935	$11,286	$11,637	$11,990	$12,197	$12,544	$12,893	$12,910	$13,232
GS-2	11,897	12,180	12,574	12,910	13,053	13,437	13,821	14,205	14,589	14,973
GS-3	12,982	13,415	13,848	14,281	14,714	15,147	15,580	16,013	16,446	16,879
GS-4	14,573	15,059	15,545	16,031	16,517	17,003	17,489	17,975	18,461	18,947
GS-5	16,305	16,849	17,393	17,937	18,481	19,025	19,569	20,113	20,657	21,201
GS-6	18,174	18,780	19,386	19,992	20,598	21,204	21,810	22,416	23,022	23,628
GS-7	20,195	20,868	21,541	22,214	22,887	23,560	24,233	24,906	25,579	26,252
GS-8	22,367	23,113	23,859	24,605	25,351	26,097	26,843	27,589	28,335	29,081
GS-9	24,705	25,529	26,353	27,177	28,001	28,825	29,649	30,473	31,297	32,121
GS-10	27,206	28,113	29,020	29,927	30,834	31,741	32,648	33,555	34,462	35,369
GS-11	29,891	30,887	31,883	32,879	33,875	34,871	35,867	36,863	37,859	38,855
GS-12	35,825	37,019	38,213	39,407	40,601	41,795	42,989	44,183	45,377	46,571
GS-13	42,601	44,021	45,441	46,861	48,281	49,701	51,121	52,541	53,961	55,381
GS-14	50,342	52,020	53,698	55,376	57,054	58,732	60,410	62,088	63,766	65,444
GS-15	59,216	61,190	63,164	65,138	67,112	69,086	71,060	73,034	75,008	76,982
GS-16	69,451	71,766	74,081	76,396	78,190	79,438*	81,708*	83,978*	85,470*	
GS-17	79,762*	82,420*	85,078*	85,470*	85,500*					
GS-18	86,682*									

**The rate of basic pay payable to employees at these rates is limited to the rate for level V of the Executive Schedule, which would be $78,200. SOURCE: The White House*

LUMP-SUM ISSUE STILL UNRESOLVED

Congress has extended the 60-40 lump-sum payout formula until December 3. Then, it seems almost certain to become a 50-50 split with employees receiving the initial payment upon retirement and the second payment 12 months later.

MORE ON LUMP SUM

Changes are coming in the formula for computing the reduced monthly annuity under the federal lump-sum option, according to the Office of Personnel Management (OPM). A board of actuaries is looking at retirement age and other factors that affect the size of the monthly annuity. Once the board finishes its work, OPM will issue the revised factors for both CSRS and FERS employees. No word yet on whether the new factors will raise or lower the alternative annuity payments for those retiring under them.

MERIT PAY PROGRAM CONTINUED INTO 1991

Congress also has acted on the Merit Pay Program for grades GM-13 through GM-15 federal managers, extending that through March 31, 1991. The program had been scheduled to expire September 30, and the 18-month extension action was a compromise reflecting Congressional disagreements on changes that need to be made in the rating system. However, Congress did approve one immediate change that ensures that managers rated "fully successful" will get annual raises at least as large as their general schedule counterparts.

TSP OPEN SEASON

Open season for the Thrift Savings Plan runs from November 15 to January 31, 1990. CSRS workers are locked into the G Fund, but FERS employees have several options available.

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FAA World

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Volume 19 Number 11

Airplane cockpits are becoming more and more automated with increased use of cathode ray tubes (CRTs) to present vital flight information. Advancements in flight deck technology in this 747-400 allow the jetliner to be operated by a two-person crew.

In the early days of aviation, pilots learned about flying by flying. All they needed was an airplane, a brave smile and a cap that was always worn backwards. Goggles were optional equipment.

The author is a former reporter with the Hearst newspapers and public relations specialist with the Aircraft Owners and Pilots Association.

Meeting the Pilot needs of the 90's

By Charles Spence

FAA's John Kern is one of many aviation professionals who are concerned about what has become known as the ''pilot shortage.''

Testifying in August before the Senate Commerce Subcommittee on Aviation, the agency's acting Associate Administrator for Regulation and Certification said, ''We all recognize that we may be facing a shortage in the numbers of adequately trained personnel available to staff our future civil aviation fleet.''

Inclusion of the word ''future'' in his statement is important because most aviation experts believe the pilot ''shortage'' is not a major problem at the present time, although they are concerned that it could become one if corrective actions are not implemented and aggressively pursued.

One of the warning signs cited by Kern is the fact that 1988 was the first year in which U.S. scheduled air carriers hired more pilots from general aviation than from the military services. Even more ominous is the fact that the pool of general aviation pilots also is

(Continued on page 2)

Mysteries

Unlocking the Dark Secrets of Argentina's 'Disappeared Ones'

By James Johnson

Even before he retired from the FAA Civil Aeromedical Institute in Oklahoma City in 1979, Dr. Clyde Snow had built a solid reputation as one of the nation's outstanding forensic anthropologists.

Now his work is known around the world, primarily due to his efforts in identifying the so-called ''desaparecidos'' (the disappeared ones), who were the victims of the now deposed Argentine military junta in the 1970s and 80s. He has been featured on network programs like ''60 Minutes,'' and been the subject of articles in such prestigious publications as the *New York Times Magazine*. A book also is in the works.

During 19 years as an FAA scientist, Dr. Snow's work included identifying air crash fatalities for the agency as well as identifying murder victims for police. Law officers found Snow's revival of a technique for restoring faces to skulls with modeling clay particularly useful. At the time of his retirement, Snow was working 40 to 50 forensic cases annually for police across the nation. FAA was lending Snow's expertise gratis as a community service.

But despite his reputation and successes, Snow's post-retirement future was far from secure. ''For years I had

(Continued on page 6)

James Johnson is an aviation writer for the Daily Oklahoman. *His articles have been published many times in the* FAA World.

In This Issue

Pilot Needs

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FAA World
November 1989

Secretary of Transportation
Samuel K. Skinner
FAA Administrator
James B. Busey
Assistant Administrator—Public Affairs
Hugh O'Neill
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Jack Barker—Southern Region
Geraldine Cook—Southwest Region
Mike Jacobs—Technical Center
Barbara Abels—Western-Pacific Region

The coming pilot "shortage" offers unparalleled opportunities for women and minorities. These three women are all FAA employees . . . flying the agency's Boeing 727.

shrinking due primarily to the high cost of training.

Supporting Kern's assessment is a May 1989 report by the Military Airlift Committee of the National Defense Transportation Association. It indicated that U.S. airlines will need to hire 53,000 pilots during the next ten years to meet increased travel demands and replace flight deck retirees. At the present rate of training, only 41,000 pilots will be available. This 12,000 shortfall has many persons and organizations, including FAA, working hard to identify and implement solutions.

For years, the military has been a primary source of commercial pilots, but—as Kern indicated—that well is beginning to run dry. Air Force Assistant Secretary for Manpower Karen Keesling told the Senate panel at the August hearing that her branch of the service is losing pilots faster than it can train replacements and advocated the adoption of additional career incentives to help retain pilots in the military. Any such move, of course, would further reduce the pool available to airlines.

Fewer civilians also are learning to fly despite what Air Line Pilots Association president Henry "Hank" Duffy describes as the "soaring" job opportunities in the airline industry. In the 1978-87 period, FAA figures show significant declines—up to 26 percent—in the numbers of student, private and commercial pilot certificates. This means fewer pilots available to train for airline positions.

Commuter and regional airlines are the most directly affected by this reduction in the general aviation pilot population. According to John

The increased need for pilots has increased the role of flight simulators which can provide more in-depth training than can be accomplished in an airplane.

Fredericksen of the Regional Airline Association, these carriers depend heavily on general aviation for new hires since pilots with military experience tend to go directly to the major airlines.

Moreover, the commuters have an even more difficult time retaining pilots than hiring them. As Fredericksen noted, "With regional carriers it's not a shortage of pilots, it's the turnover rate." Industry-wide, 40 percent of commuter pilots must be replaced every

In the "Roaring 20s," Jack Knight and many other pilots made their reputations flying the U.S. mails. Knight went on to become a highly respected United Air Lines captain.

year. Some smaller carriers replace as many as 120 percent of their pilots over a twelve-month period.

The large airlines are temporarily keeping up with hiring needs although the experience level of new hires—particularly with regard to jet time—is not as high as it once was. They report informally a pool of about 6,000 job applicants, although conceding that this number may be inflated somewhat as a result of multiple applications. Most experts say the real crunch in pilot availability is two to three years away, leaving precious little time to resolve the problem.

Many initiatives to deal with the perceived future shortage already are underway, however. One example is FAA's establishment this year of the

The military has always been a prime training ground for pilots. However, few became as famous as World War II Ace Maj. Richard Bong.

Recreational Pilot's Certificate as a new, lower-cost alternative for obtaining basic flying credentials. The agency projects that as many as 7,000 additional pilots may be encouraged to begin flight training by the availability of this certificate, with some of these moving on to pursue higher ratings.

Another innovation aimed at reducing the high cost of flying is the proposed rule to establish a new category of "primary aircraft" that would be less expensive to build and certificate. Final action on the proposal is expected in 1990.

Kern noted that the agency also has undertaken a sweeping reassessment of pilot training and certification requirements at both the general aviation and commercial levels. He said these efforts are aimed at promoting "innovation and flexibility" in pilot training. He called these "important factors in assuring an adequate pool of qualified pilots."

"We want to make sure our rules are not a hindrance, either to efficiency or effectiveness of training" he said. "With the availability of new training technology, we are asking ourselves, do we still need to be doing the same things we have been doing for the past 20 to 25 years?"

A key area of rule examination is flight hour requirements. In short, are the number of hours in a pilot's log book the only—or even the best—measure of his or her competence? Shouldn't quality of training and experience be given equal weight?

An example of this philosophy is FAA's proposed Advanced Qualification Program for airline pilots that relies heavily on the use of advanced training technology. According to Kern, "The focus of this program is on ensuring actual proficiency in performing tasks, rather than on an arbitrary prescribed number of hours of experience." The program also has a heavy emphasis on cockpit resource management.

The nation's colleges and universities also are stepping in to help fill the pilot training void. Nearly 400 centers of higher education now offer aviation education and/or flight training programs.

FAA also is supporting these efforts through its Airway Science Program. Established in 1983, this program has benefited some 39 schools to date. It helps them fund such projects as the construction of new facilities and the acquisition of instructional equipment in support of their Airway Science Programs.

University-level aviation programs are not new, of course. Many have existed for years and turned out thousands of pilots. Among the familiar names are Parks College, Auburn, Middle Tennessee State, Southern Illinois, Ohio State and Embry-Riddle.

The University of North Dakota (UND) is another school with an active aviation program. In 1987, it set out to create a new ab initio—a Latin term meaning "from the beginning"—pilot training program for Northwest Airlines.

FAA's Bill Shea was involved in the UND aviation program after leaving his post as Associate Administrator for Airports in 1985 and before returning to the agency as aviation education officer in the New England Region earlier this year. He pointed out that the key to this approach "is a structured, disciplined training program." He added, "The day is over when we just trained pilots in flying."

The ab initio training concept has been practiced successfully by the military for many years. Many foreign airlines also have adopted this approach because they lack either the military or general aviation pilot resources that have traditionally supplied U.S. carriers.

Still the cost of pilot training remains a major barrier to young people seeking an aviation career. To quote John Osgood, dean of UND's Center for Aerospace Sciences, "Current training costs are beyond the means of most of the nation's young people. We would suggest that it is in the national interest to make pilot training accessible to all sectors of our society."

Typically, a student will spend at least $25,000 in the basic course and then must face a cap on student loans. This has led Water Coleman, assistant vice president of operations for the Air Transport Association, to suggest the removal of caps on student loans for pilot trainees. He points out that a student working toward a medical degree can get financial help up to $50,000 a year. He says meeting the pilot shortage "is doable, but we may need to get some kind of financial help with a payback plan to get us there."

The pilot shortage isn't the only people problem worrying airline executives these days, however. The maintenance side of aviation suffers from the same shortage of personnel. A survey of 21 of the largest carriers reveals current openings for 4,000 mechanics.

Kern warns that this will become more critical in coming months and years due to the increased maintenance requirements of FAA's aging aircraft programs as well as the agency's requirements for installation of new equipment such as the traffic alert and collision avoidance system (TCAS) and the windshear warning and escape path flight guidance system.

Industry, government and academia all agree there is no panacea for the shortage of pilots and maintenance professionals. However, as Kern told the Senate subcommittee, "FAA is committed to working with the aviation community and the academic community to promote programs which will encourage young people to learn to fly and which offer the best training possible to ensure a highly qualified pilot community." ■

By Herbert Goldstein

Operations Research Shows the Way

A major winter storm was moving out of the Rockies and dumping another load of snow on the Denver area.

A few years earlier this would have caused severe problems for air travelers at Denver's Stapleton Airport, since the field was reduced from a three-runway to a one-runway operation during instrument meteorological conditions (IMC). Even the skiers on their way to Vail, Aspen and the other Colorado resorts would have been unhappy.

Moreover, air traffic delays would have rippled throughout the system with Denver-bound flights being held at places like New York, Chicago, Dallas-Ft. Worth and San Francisco to name just a few. That result: more unhappy air travelers.

But that was then (1989), and this is now (1995). The difference is that the new Denver International Airport is open for business. Although only five of the 12 runways planned for this new superport are operational, it represents a significant improvement over Stapleton. Traffic is able to move smoothly into and out of the airport despite the low ceilings and reduced visibility. The bottom line result: Happy air travelers.

FAA's ability to foresee the Denver scenario and similar scenarios is the result of the agency's decision in 1988 to establish an in-house operations research capability. With the continuing growth of air traffic, the agency decided it needed a mechanism to analyze objectively the nation's major air traffic problems and evaluate potential alternative solutions.

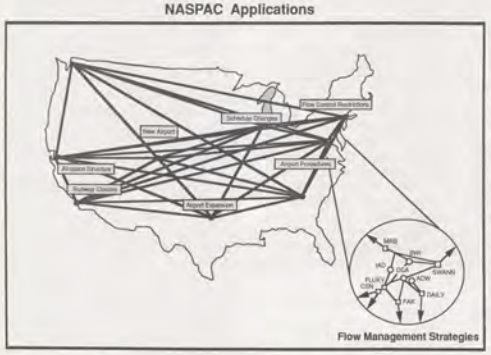
The result was the Operations Research Office (AOR), which was established under the Associate Administrator for Advanced Design and Management Control. It was charged with the responsibility for developing the computer/mathematical models that provide a basis for long-range strategic planning.

Operations research (OR) is a decision-support discipline that originated during World War II with British and U.S. forces who used it to study complex military problems. Since that time, the expanded concept has been widely adopted by the country's major corporations, including the airlines, to address their business problems. Generally, OR is used to identify the best possible allocation of limited resources, such as airport and airspace capacity, in achieving a desired goal.

Computer modeling involves the representation of a "real world" process as an abstraction in a computer. The abstraction usually is accurate and detailed enough to explain observable phenomena and can be used to predict behavior of the "real world" process under a variety of conditions, some perhaps too costly or difficult to implement otherwise.

Administrator James Busey spoke about the September approval of a $60 million FAA grant to begin construction of the major new airport in Denver. This airport will be the first major airport built in the United States since Dallas-Fort Worth opened in 1974.

NASPAC Applications



Air traffic control (ATC) is a field where computer modeling can be particularly effective. ATC is a very large and interactive system, and a change in one element frequently impacts many other elements.

For example, when planners consider adding a new runway to a large hub airport, their goals are to increase capacity, relieve congestion and reduce delays. However, unless these planners also consider how this additional capacity at their airport impacts the total system, the results could be far from satisfying. It could cause saturation of other portions of the ATC system and actually inhibit full utilization of the new runway. Thus, systemwide effects must be considered when attempting to implement any operational or procedural change within the ATC system.

This is where OR comes in. It uses mathematical models and computer-aided tools for the solution of operational problems without interfering with the day-to-day task of separating air traffic. OR techniques currently are being used for strategic issues, such as capacity decisions, as well as tactical issues, such as more efficient routing, in evaluating proposed changes to the ATC system.

Using the National Airspace System Performance Analysis Capability (NASPAC) computer models for evaluation of the systemwide effects of the proposed new Denver Airport is a specific example of how powerful this tool can be. NASPAC was used to analyze the operations of the new airport with its five runways. Results showed that the new airport would substantially increase capacity over present-day operations at Stapleton and its existing configuration.

The basic assumption in this scenario was that the Denver area was socked in by a major snowstorm, which produced instrument meteorological conditions, while the remainder of the continental United States enjoyed visual meteorological conditions (VMC). This scenario was simulated for both Stapleton, which would be reduced to a single runway airport in IMC conditions, and the new Denver airport, which would be capable of operating all of its runways in IMC. Initial results indicate that substantial reductions in delays will be realized at Denver as well as at the interconnecting airports by replacing Stapleton with a new facility.

Current efforts underway include the application of NASPAC to detailed studies of the Dallas-Fort Worth Metroplex expansion and its interaction with the new Denver airport. Also on the agenda is a look at how capacity benefits, derived from procedural changes at specific airports, might affect overall system capacity.

The Operations Research Office has completed the validation of the NASPAC model and now is working to enhance the simulation capabilities further and develop additional models to meet the needs of a changing air traffic control system.

The agency also plans to make NASPAC models available to address issues that concern not only FAA but the aviation community at large. Meetings already have been held with airline representatives to discuss the potential benefits of NASPAC and solicit their comments on future applications. These efforts to broaden the use and effectiveness of NASPAC will continue. ■

A 13-year FAA veteran, Mr. Goldstein is manager of the Airspace System Analysis Division in the Operations Research Office.

ASR-9 Installed at Stewart

The first of Eastern Region's ASR-9s, the new radar that gives controllers a clearer picture of air traffic and weather information, has been delivered and installed at Stewart Airport, Newburgh, NY. Pictured is the ASR antenna horn in a stopped position poised over the airport.

Checking the beacon antenna are (from the left) Larry Kittle, Mike Kirk, Joe Lemon, Ed O'Keefe, Larry Nealon and Doug Kata.

Photos by Al Savlowitz
Manager, Poughkeepsie AFSFO

The SGP-1-1 Flies Again

The Rochester, NY, Flight Standards District Office (FSDO) took a step back in history earlier this year when it issued an airworthiness certificate for a one-time flight of the Schweizer SGP-1-1 glider.

The aircraft was built by Ernie Schweizer and a team of volunteers and is a replica of one he put together in 1929 when still in high school. In 1939, he converted his hobby to a business and founded the Schweizer Aircraft Corporation with his brothers, Bill and Paul.

Following its one and only flight, the SGP-1-1 was retired to the Schweizer museum on Harris Hill new Elmira, NY.

The Schweizer brothers pose in the photo at left with Bill Reed, manager of the Rochester FSDO (far left). Next to Reed are Ernie, Bill and Paul in that order.

Secrets of the 'Desaparecidos' Unlocked

from page 1

Some 31 percent of the desaparecidos were women. Many were students, labor leaders, intellectuals, reporters and lawyers. Anyone who disagreed politically with the reigning junta was at risk. Many victims are as yet unidentified and may never be found.

been doing forensic work,'' he noted. ''The natural thing to do in retirement was to work as a consultant. But I would be the first full-time forensic consultant. And up until then, it had never cost anyone anything. What was going to happen when I had to charge them some money for these cases?''

Snow let medical examiners and others know that he was available. In about a month or two the phone started ringing, and it's been ringing ever since. Today a project may involve both bizarre and fascinating subjects. For example, what did Billy the Kid really look like? Old photos of him aren't clear. Another historical question from the Wild West era to which Snow is applying his expertise is—based on scientific evidence—what really happened at the Little Big Horn River in Montana where George C. Custer and his men were annihilated by Indians in 1876?

Snow says his decision to retire from CAMI was difficult. ''That was a good place to work for a scientist, especially in the 1960s and 1970s when we had the budget and manpower,'' he remembered. ''It was one of the most exciting places that a scientist could work. The CAMI building had plenty of laboratory space and support. People over there understood the kind of work that scientists do.''

In 1984 Snow began his celebrated work of identifying victims of the ousted Argentine military junta at the request of the new government.

''From 1976 until 1983 Argentina was under military rule, and during that period about 30,000 people are said to have disappeared,'' Snow says. ''When they kicked the military out, they wanted to investigate and, if possible, bring the people responsible to trial ... They asked me to put together a team of forensic scientists and go down and spend two weeks in Argentina.

''I wound up spending a month there,'' he added. ''Since then, almost half of my time has been spent in Argentina. In 1987, I also went to the Philippines to put together a similar crew.''

Snow said the experience was an eye opener for him, since he had little previous knowledge of the extent of the human rights violations committed by the Argentine military regime. He noted that the military government essentially used left-wing terrorism as a pretext to get rid of anybody who disagreed with it politically.

''I would say that of the desaparecidos, probably 50 percent were students,'' he added. ''There also were labor leaders, intellectuals and a lot of reporters and lawyers. People for almost any reason would disappear.''

Snow's own estimate of the victims is in the 12,000 to 15,000 range, some 31 percent of whom were women averaging about 25 years of age. Men averaged a year older.

However, the military bureaucrats failed to cover their tracks in many cases, dumping large batches of victims in the countryside where they were buried as unidentified graves in local cemeteries. Accordingly, Snow's team relied on cemetery records showing large numbers of ''John Doe'' burials to focus their activities.

''We've got a lot of this computerized now,'' Snow said. ''When the computer kicks out this kind of data we know we have a cemetery with desaparecidos, especially if they're young, even more so if they're female and there is an indication that they died of a gunshot wound.''

Techniques used in identifying specific desaparecidos are the same as those used by archaeologists. Dr. Snow and his team exhume the skeletons and perform tests on findings. In the laboratory they match results with medical and dental records. The data amassed is the result of many lengthy trips to Argentina.

Photos courtesy of the American Association for the Advancement of Science

Snow and the team are not out to identify every victim of the military junta. They have gone on the theory that one homicide is as good as a thousand in building a case against a particular official.

''We use the same techniques that archaeologists use,'' he continued. ''We exhume the skeleton and make sure we got every bone, every tooth, every bullet and every hair that we can get out of there. Then we can take that to a laboratory and match them up with medical and dental records.

''Theoretically,'' he said, ''if we have one person that we can establish was in the detention center at the time the person disappeared, and we interview witnesses—people who survived or sometimes even the guards give us information—and then we find that person's body and establish that person died of a gunshot wound in the back of the head, we've got enough to put the responsible official in jail. We can turn that over to the court.''

Snow said his work in Argentina is winding down now because the current government is under increasing pressure to grant amnesty and forget what happened under the junta, a policy he doesn't agree with. He noted that the crimes committed against the people of Argentina by their government were quite different from the crimes of individuals he had worked on in the United States.

''What was going on in Argentina was a bunch of guys sitting up there in $500 suits and uniforms, and they're not criminally insane,'' he added. ''They have their families and their grandchildren. They don't beat their wives or abuse their children. But they could sit around a conference table in Buenos Aires and talk about exterminating people in the same way you would talk about exterminating a particularly obnoxious agricultural pest.

''They weren't psychopaths,'' he said. ''To them it's a matter of paperwork and statistics. They've got a problem and they took care of it.'' ■

Much of Dr. Snow's work is done in the laboratory. Here, he and colleagues are involved in analyzing and identifying findings.

Large numbers of victims of the ousted Argentine military junta are often found in the countryside where they were buried unidentified in local cemeteries. Dr. Snow (second from right) and his team search for possible victims in a targeted cemetery.

(Editor's note: Dr. Snow's life and work is also the subject of *Witnesses from the Grave*, a book by Christopher Joyce and Eric Stover, currently scheduled to be published by Little, Brown and Company in 1990.)

Milestones of 1989
—The Third Quarter

James Busey was publicly sworn in on July 11 as the 11th FAA Administrator by DOT Secretary Sam Skinner. Busey's wife, Jean, holds the Bible.

JULY

James B. Busey was "publicly" sworn in July 11 as the 11th FAA Administrator by Transportation Secretary Sam Skinner. The ceremony followed a private swearing-in at the Aeronautical Center on June 30 with the Secretary again doing the honors.

FAA took two significant security steps in early July. One was a proposed rule to require U.S. airlines to install explosives detection systems for screening checked luggage on international flights. The other was a final rule making airline compliance with security directives mandatory and prohibiting disclosure of information in these documents.

In other actions, the agency issued a report on its study of air traffic control operations in the Northeast Corridor and announced a comprehensive review of its General Aviation compliance and enforcement program.

The low point of the month was the July 19 crash of a United Air Lines DC-10 at Sioux City, IA, with 112 fatalities, despite the valiant attempts of the flightcrew and FAA controllers, working together, to guide the aircraft to a safe landing.

A DC-10 similar to the one pictured crashed at Sioux City, IA, on July 19 despite valiant efforts to prevent a crash landing.

AUGUST

In the wake of the Sioux City accident, Administrator Busey ordered the establishment of a task force to look at ways to reduce aircraft vulnerability to in-flight structural damage. The agency also announced that near midair collision reports during the first six months of 1989 had dropped 25% from the 1988 level, and controller errors were down by 8%.

Other notable events in August were the signing of the Environmental Impact Statement for the new Denver airport, implementation of a Terminal Control Area at Charlotte, NC (the first of nine newly planned TCAs) and the termination of the Hazeltine Microwave Landing System (MLS) contract for default. In addition, the White House announced the establishment of a Presidential Commission on Aviation Security & Terrorism.

Tragedy also struck in August as two U.S. Congressmen—Reps. Larkin Smith and Mickey Leland—died in separate plane accidents.

SEPTEMBER

In another follow-up to the Sioux City accident, FAA issued an airworthiness directive requiring ultrasonic inspections of certain CF-6-6 engines like the one that failed on the UAL DC-10. McDonnell Douglas also announced modifications to the DC-10 hydraulics systems to preclude the loss of all three systems from a single event, as happened in the Sioux City crash.

FAA took additional steps during the month to ensure the continued airworthiness of "aging aircraft" by issuing proposed airworthiness directives to upgrade older McDonnell Douglas jets. Aviation security was enhanced by adoption of a final rule mandating explosives detection systems at designated domestic and foreign airports serving international U.S. carriers. The new Denver airport moved from concept toward reality with the agency's approval of a $60 million grant-in-aid.

However, the airline safety record suffered two more set backs with accidents involving a USAir B737 at LaGuardia with two fatalities on September 20 and a Grand Canyon Airlines sightseeing flight with 11 dead on September 27. ■

TNA Pricetag Misprinted

TNA—the high-tech thermal neutron analysis bomb detecting machine—is expensive, but not as costly as *FAA World* reported in the October issue (page 3). Due to a typographical error, an extra zero was added to the price.

The basic TNA unit price is approximately $750,000, and the associated X-ray device costs another $150,000. By 1992, volume production is expected to bring TNA's cost down to the $500,000 range, and the X-ray equipment down to about $125,000.

Thermal neutron analysis, TNA, devices will enhance aviation security for the public.

These charts show a comparison of airspace incident tracking system statistics for the first six months of the years 1986, 1987, 1988 and 1989. Notice the downward trend in both near midair collision reports and operational errors.

UAL 232 Follow Up

Anyone who read the partial air/ground transcript of the UAL 232 accident in the October *FAA World* probably was confused by the fact that the airplane for a long time was not getting any closer to the Sioux City Airport. This picture, which records the aircraft radar plots, shows the aircraft's course. For the most part, the aircraft could make only right turns.

People

AERONAUTICAL CENTER

William C. Evans, supervisor, Flight Procedures/Inspection Section, Atlanta FIFO ... **Philip L. Fuller,** section supervisor, Quality Assurance Staff, Air Traffic Branch, FAA Academy ... **Roy V. Gowdy,** supervisor, Biodynamics Research Section, Protection & Survival Laboratory, Aeromedical Research Div. ... **Nova L. Green,** supervisor, Renewal Section, Special Issuances Branch, Aeromedical Certification Div. ... **John D. Pearsall, Jr.,** manager, Sacramento, CA, FIFO, from Oklahoma City FIFO ... **Catherine S. Routon,** manager, Major Projects Branch, Acquisition Div.

ALASKAN REGION

Stephen P. Creamer, asst. manager, traffic management, Anchorage ARTCC ... **Richard A. Erieson,** asst. manager, Kenai, AK, AFSS, from Anchorage FSS ... **Jeffry F. Wheeler,** area supervisor, Sitka, AK, FSS, from Anchorage FSS.

CENTRAL REGION

Leon Hogan, asst. manager, Facilities Establishment Branch, Airway Facilities Div., from Olathe, KS, AFS ... **Joseph M. Jirschele,** manager, Downtown ATCT, Kansas City, MO, from Johnson Co. Executive Airport ATCT, Olathe, KS ... **Warren L. Kurtze,** unit supervisor, St. Ann, MO, FSDO-62, from Baltimore, MD, FSDO ... **Stewart R. Morris,** area manager, Olathe, KS, ARTCC ... **Leo J. Tabaka,** manager, Berkeley, MO, AFSFO, St. Louis AFS.

EASTERN REGION

Ellen Jane Bernard, asst. manager for automation, New York AFSS, Islip, promotion made permanent ... **Alfred R. Johnson, Jr.,** section supervisor, Regional Counsel's office, promotion made permanent ... **William E. Lattea, Sr.,** asst. manager for program support, Capital AFS, Suitland, MD ... **Henry J. Lengel,** asst. manager, Newark, NJ, ATCT, from Teterboro, NJ, ATCT ... **William J. Marx,** manager, Special Projects Staff, Air Traffic Div., from LaGuardia ATCT ... **John B. Rintoul,** Jr., executive officer, Air Traffic Div. ... **Charles S. Shuler,** manager, Systems Requirement Branch, Air Traffic Div. ... **Edward R. Trudeau,** manager, Operations, Procedures & Airspace Branch, Air Traffic Div., from JFK ATCT.

GREAT LAKES REGION

James F. Anez, manager, Pierre, SD, FSS, from Watertown, SD, FSS ... **Kim M. Beaupartant,** AF watch supervisor, Green Bay, WI, AFS, Brown County, promotion made permanent ... **John A. Bello,** maintenance mechanic foreman, Indiana AFS, St. Joseph County ... **Gerald D. Breedlove,** unit supervisor, Indianapolis, IN, AFS ... **Harry A. Christman,** area manager, Detroit Metro Airport ATCT, from regional headquarters Quality Assurance Staff ... **Raymond M. Eckard,** AF watch supervisor, Illinois AFS, Springfield, IL, from Champaign County, IL ... **Stephen P. Ford,** asst. manager, traffic management, Chicago ARTCC, Aurora ... **James E. Krieger,** area supervisor, Chicago O'Hare ATCT, promotion made permanent ... **Dennis J. Shanks,** asst. manager, traffic management, Chicago ARTCC, Aurora, IL ... **Wayne R. Traaseth,** area manager, Princeton, MN, AFSS, promotion made permanent ... **Horace R. Vial,** area supervisor, Dayton ATCT, Vandalia, OH, from Indianapolis ATCT ... **Vincent G. Volpe,** asst. manager, traffic management, Chicago ARTCC, Aurora, IL.

NEW ENGLAND REGION

Roger D. Anderson, manager, Airframe Branch, New York Aircraft Certification Office, Valley Stream, NY, from Brussels, Belgium ... **Johnny J. Boyce,** manager, System Requirements Branch, Air Traffic Div. ... **Charles E. Keegan,** asst. manager for training, Boston ARTCC, Nashua, NH ... **Robert W. Ulmer, Jr.,** area supervisor, Boston ARTCC, Nashua, NH, from FAA Academy ... **Irving Washington,** manager, Providence, RI, ATCT, promotion made permanent.

NORTHWEST MOUNTAIN REGION

Paul D. Brophy, asst. manager, military operations, Salt Lake City, UT, ARTCC ... **Donald W. Caruthers,** manager, Great Falls, MT, ATCT, from Boise, ID, ATCT ... **Ronald O. Cody,** manager, System Requirements Branch, Air Traffic Div. ... **Gail E. Garwood,** asst. manager for automation, Seattle ARTCC, Auburn, WA, from regional headquarters Air Traffic Div. ... **Philip J. Hoy,** unit supervisor, Seattle, WA, FSDO 61, from Seattle Field Support Office ... **Gaylen M. Larson,** area manager, Portland, OR, ATCT ... **Alfred J. Laws,** supervisory electronics technician, Auburn, WA, AFS (ARTCC) ... **John F. Olson,** asst. manager for technical support, Auburn, WA, AFS (ARTCC) ... **Armond T. Snelson,** manager, Resource Management Branch, Air Traffic Div.

SOUTHERN REGION

Earl L. Austin, manager, Birmingham, AL, FSS ... **Jack Beall,** manager, Newport, MS, AFSFO, Jackson, MS, AFS, promotion made permanent ... **William P. Dorminy,** manager, Gainesville, FL, AFSS, from Jackson, TN, AFSS ... **LeRoy G. Eck,** maintenance mechanic foreman, Ft. Lauderdale, FL, AFSFO, Miami, FL, AFS (Hub), promotion made permanent ... **Mark E. Herron,** area supervisor, Nashville, TN, ATCT, promotion made permanent ... **David R. Houston,** supervisor, Property Management Section, Materiel Management Branch, Logistics Div., promotion made permanent ... **James A. Miceli,** area supervisor, Hebron, KY, ATCT ... **Jesse M. Moton, Jr.,** area manager, Hebron, KY, ATCT, from Hartsfield International Airport, Atlanta ... **Hector L. Pina,** unit supervisor, Fulton County Airport AFSFO, Atlanta, GA, AFS (Hub), promotion made permanent ... **Ronald L. Reading,** asst. manager, Standiford Field ATCT, Louisville, KY, from Jacksonville, FL, ATCT ... **Charles E. Riggs,** environmental support unit supervisor, Memphis, TN, AFS (ARTCC), promotion made permanent ... **Johnny P. Sowell,** area supervisor, Meridian, MS, RATCF tower, promotion made permanent ... **Ted J. Stration,** manager, Memphis AFSFO, Memphis AFS (Hub), from Jackson, MS, AFS ... **Wilson D. Stringer,** section supervisor, Orlando, FL, Airports District Office, promotion made permanent ... **Gary D. Taber,** asst. manager, Charlotte, NC, AFS, from Buffalo, NY, AFSFO.

SOUTHWEST REGION

Edgar J. Alban, manager, Alexandria, LA, AFSFO, New Orleans AFS ... **Isaac W. Cantu,** asst. manager for program support, Ft. Worth ARTCC (AFS) ... **Harold E. Duncan,** manager, New Orleans AFSFO (Lakefront Airport), New Orleans AFS, from Lake Charles, LA, AFSFO ... **Theodore E. Fusch,** maintenance mechanic foreman, Little Rock, AR, AFS ... **Thomas Gassert,** asst. sector manager, Ft. Worth ARTCC AFS, from regional headquarters Airway Facilities Div. ... **Stephen A. Grundy,** area supervisor, Houston ARTCC ... **James A. Horn,** asst. manager, airspace & procedures, Ft. Worth ARTCC ... **Kenneth W. Kadey, Jr.,** team supervisor, Dallas FSDO, from FAA Academy ... **Richard V. Mashburn,** systems engineer, Albuquerque ARTCC AFS ... **Richard A. Richards,** systems engineer, Albuquerque ARTCC AFS ... **Otis T. Welch,** supervisor, System Planning Section, Airports Planning Branch, Airports Div., from Memphis, TN, Airports District Office.

TECHNICAL CENTER

Michael G. Beres, manager, Engineering, Environmental Branch, Plant Engineering & Services Div. ... **James F. Jarrett,** technical program manager, Advanced Automation Systems Branch, Automation Div.

WASHINGTON HEADQUARTERS

Philip A. J. Canal, manager, Program Planning & Analysis Branch, Planning & Program Management Div., Aircraft Certification Service ... **Elmer Frasure,** section supervisor, Operations Branch, Human Resource Management Div., Human Resource Management office ... **Marlene F. Hardester,** special assistant, Office of Personnel ... **Dennis L. Holton,** manager, Facility Power Systems Program, Facilities Integration Div., Program Engineering Service ... **Robbye Jo Langenfeld,** section supervisor, Operations Branch, Human Resource Management Div., Human Resource Management office ... **Maria A. Pugh,** section supervisor, Operations Branch, Human Resource Management Div., Human Resource Management office ... **Christopher T. Reese,** manager, Regulatory & Grants Branch, Operations Div., Budget office ... **Amelia Robbins,** section supervisor, Operations Branch, Human Resource Management Div., Human Resource Management office ... **Phyllis L. Vallario,** manager, Space Management Branch, Building Management Div., Logistics Service.

WESTERN-PACIFIC REGION

Richard B. Browder, area manager, operations, Phoenix, AZ, AFS, from Hawaii-Pacific AFS ... **Charles E. Broxholme,** supervisory aviation safety inspector, Los Angeles, CA, FSDO ... **William E. Carter, Jr.,** manager, Inyokern, CA, AFSFO, Los Angeles AFS, from Los Angeles ... **Joan P. Cooper,** area supervisor, Santa Barbara, CA, FSS, promotion made permanent ... **Thomas A. Lemmons,** asst. manager, programs, Los Angeles, CA, TRACON, from Santa Ana, CA, TRACON ... **Thomas R. Lon,** asst. manager, quality assurance, Oakland ARTCC, Fremont, CA, from Oakland TRACON ... **Michael A. Medina,** supervisor, Accounting Operations Section, Accounting Branch, Financial & Management Resources Div. ... **Hubert E. Morgan,** supervisory aviation safety inspector, Reno, NV, FSDO ... **Russell J. Sommer,** asst. manager, quality assurance, Oakland ARTCC, Fremont, CA ... **Gary D. Taylor,** area supervisor, Oakland ARTCC, Fremont, CA ... **Peter R. Undem,** unit supervisor, Honolulu, HI, FSDO, from Jidda, Saudi Arabia, Civil Aviation Assistance Group.

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
Floyd L. Brown
Eddie L. Gober
Bettye J. Handy
Alvin E. Hoppe
James R. Howell
J. B. Johnson
Harold A. Knab
Bobbie J. Mandis
Frederic S. Miller
Nathan B. Parsons
Connie Robertson
Venson C. Troutt

ALASKAN REGION
Gunars Cukurs
Gary L. Near
James L. Oliver
Harold B. Richardson

CENTRAL REGION
Donald G. Asher
William L. Benjamin
Charles W. Forest
Kenneth E. Geier
Alvin L. Powell
John R. Schrick
Roger E. Voss
Doyle D. Werner

Raymond E. Wilson
William D. Woehrle

EASTERN REGION
David C. Bobbitt
Elliott Brown, Jr.
James K. Dorris
Peter C. Ferreri
George F. Flagg
Thomas B. Fuller
Chester M. Hayden
Ronald D. Hendricks
Joachim L. Heis
Donald W. Juul
Homer G. McRoberts

Joseph J. Paparazzo
Steve P. Simon
Marvin T. Snoddy, Jr.
David Somma
Warren P. Steckle
Domenic P. Vanadio
David L. VanNostrand
William L. Vivian, Jr.
William F. Wildermuth

GREAT LAKES REGION
Daniel N. Afspach
Henry B. Anderson
Robert L. Ervin
Paul W. Gallagher

Ronald E. Geiling
Otto D. Goergen
Israel L. Grossman
Donald E. Hodgkinson
Ronald V. Kerkau
Roy M. Kuba
Donald E. Mandel
Virgil W. Martz
Jimmy Mays
Charles D. Miller
Theo L. Moore
Ambrose T. Pawlowski
Joseph N. Quartuccio

Donald J. Rauschl
Raymond F. Schalk
David L. Thiebolt
Donald M. Wartilof
Wayne E. Weidner
James F. White, Jr.
Donald J. Zbilicki
Thomas J. Zigo

NEW ENGLAND REGION
Milton F. Fwen
Lawrence C. Sullivan

NORTHWEST MOUNTAIN REGION
Townsend Annes
John W. Daniels
Gerald G. Garrison
Irvin G. Hall
Kenneth J. O'Brien
Charles R. Palmer
Eddie Sanchez
Angel A. Smith
William D. Stephens
Allan E. Wheeler
Richard G. Whitson

SOUTHERN REGION
William E. Andress
Charles E. Brown
Don H. Brown
James S. Cameron
Elizabeth J. Cleveland
Rafael Cortes-Vazquez
John J. Coyne
Frank W. Davey
Malcolm S. DeWitt III
Andrew T. Diehl
Herbert R. Fengl
Robert E. Harrison
Vernon R. Holder

Donald F. Jackson
Donald Martin
Ryland R. McGaha
Joe E. Parks
Harlen D. Phillips
Charles E. Polk
Foy L. Prater
Ed W. Riggins
James E. Riles
James S. Russell
Rebecca B. Stuart
Eugene J. Stys
Thomas E. Tate

John F. Tubbs
Jimmy L. Utley
Mildred B. Vinson
David R. Volliman
Stephen T. Wright

SOUTHWEST REGION
Oran R. Bell
Frank A. Bravenec
Doyle D. Davis
Jerry L. Davis
Louie L. Ellis
A. S. Gallagher, Jr.
Dean L. Gemsaner
Leonard S. Hobbs

Thomas R. Howard
Harold E. Laroux
Paul Lundberg
Edward J. Mahoney
Jose M. Perez
Martin Reyes
Thomas R. Sartain
G. T. Siebenhausen
Billy D. Stroup
J. W. Ward
Grant L. Wells

TECHNICAL CENTER
Edward O. Harrison
William T. Lewis
Leo F. Stinson
James R. Windle

WASHINGTON HEADQUARTERS
Robert Borhong, Jr.
June H. Davis
Richard E. Debow
Michael A. Gillis
Frank J. Kaegi, Jr.

James E. Parker
Rose M. Trotta
Edward N. Van Duyne
Robert R. Wheeler

WESTERN-PACIFIC REGION
Stanley C. Cheever
Donald J. Donnarumma
Leonard R. Dunn
Richard Flores
Yoshiaki Fukumitsu
Paul E. Hinnian, Sr.
Philip L. Huff
John R. Hull
Joseph W. Kloppe

Max E. McCollam
John R. Miller
Anita G. Moore
Ward D. Orsted
Arthur O. Sararana
Ronald Schlosser
Claude R. Thatcher
William W. Turner

FAAer Heads National Organization

By Kristy Wooley

FAA's LaVerne Collins now answers to the call of "madame president." The Northwest Mountain Region employee was elected president of the 120,000-member National Federation of Business and Professional Women's Clubs, Inc. (BPW/USA) at the organization's Detroit convention during the summer.

A resource management specialist in ANM's Human Resources Division, Collins says, "My goal is to prepare the [BPW] organization for the year 2000." She adds, "We want to be positioned to meet the needs of working women. We also will be monitoring the progress of affirmative action, increasing our diversity and making available training in leadership for women in the workplace."

She finds parallels between the work she performs at FAA and her duties with BPW, which is dedicated to improving the status of women in the workplace. "We're doing things in human resources such as recruiting a diverse workforce to meet FAA needs and holding training conferences to keep skills within the FAA. These skills are directly transferable to the BPW organization."

Collins, who holds a BA degree from the University of Alaska and a master's in public administration from the University of Southern California, is no stranger to public honors. In 1977, she was chosen Woman of the Year by BPW/Anchorage and, in 1986, was Alaska Federal Executive Association Federal Employee of the Year.

Reflecting on her life today, Collins notes, "I've experienced enough personal and professional situations to know women's issues must be addressed. I've been a teenage mother, a teenage wife and a single head of household. I've come up in the workplace and owned a small business. I'm sensitive to many issues women face.

"But if anybody asked me 20 years ago if I thought I'd be doing this, I wouldn't have conceived of it."

An FAA employee from 1968 to 1981, Collins returned to the agency in March 1989, after working with the Minerals Management Service in the Department of Interior. She also has been a member of BPW for 19 years and says of the two organizations, "I grew up with them really."

Within FAA, Collins has served as an administrative clerk, realty assistant, air traffic controller and realty specialist. She spent one year at FAA Headquarters in Washington, DC, as an international aviation analyst and as a program analyst. ■

Collins stresses cooperation for the future. She says, "We need a partnership—between government, nonprofit organizations and private industry—to meet needs for education, retraining, technology and diverse workforces in the 21st century."

LaVerne Collins recently became the first black president of the Business and Professional Women/USA, an organization that strives for pay equity, dependent care and affirmative action policies.

Kristy Wooley is a University of Maryland journalism student who worked in the FAA Headquarters Office of Public Affairs this past summer. She has been a regular contributor to FAA publications.

Federal Notebook

AVERAGE FEDERAL SALARY

OPM has said the average salary of all full-time, federal, non-postal employees was $29,448, as of March 31, 1989. That represents a five percent increase from March 31, 1988. The highest average federal salary in a major area was $37,475 in the District of Columbia and the lowest was $24,809 in Kentucky. The overall average GS grade was 8.6, and the median grade was GS-9.

FEDERAL WHITE-COLLAR PAY SCALE FOR 1990

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10
GS-1	$10,581	$10,935	$11,286	$11,637	$11,990	$12,197	$12,544	$12,893	$12,910	$13,232
GS-2	11,897	12,180	12,574	12,910	13,053	13,437	13,821	14,205	14,589	14,973
GS-3	12,982	13,415	13,848	14,281	14,714	15,147	15,580	16,013	16,446	16,879
GS-4	14,573	15,059	15,545	16,031	16,517	17,003	17,489	17,975	18,461	18,947
GS-5	16,305	16,849	17,393	17,937	18,481	19,025	19,569	20,113	20,657	21,201
GS-6	18,174	18,780	19,386	19,992	20,598	21,204	21,810	22,416	23,022	23,628
GS-7	20,195	20,868	21,541	22,214	22,887	23,560	24,233	24,906	25,579	26,252
GS-8	22,367	23,113	23,859	24,605	25,351	26,097	26,843	27,589	28,335	29,081
GS-9	24,705	25,529	26,353	27,177	28,001	28,825	29,649	30,473	31,297	32,121
GS-10	27,206	28,113	29,020	29,927	30,834	31,741	32,648	33,555	34,462	35,369
GS-11	29,891	30,887	31,883	32,879	33,875	34,871	35,867	36,863	37,859	38,855
GS-12	35,825	37,019	38,213	39,407	40,601	41,795	42,989	44,183	45,377	46,571
GS-13	42,601	44,021	45,441	46,861	48,281	49,701	51,121	52,541	53,961	55,381
GS-14	50,342	52,020	53,698	55,376	57,054	58,732	60,410	62,088	63,766	65,444
GS-15	59,216	61,190	63,164	65,138	67,112	69,086	71,060	73,034	75,008	76,982
GS-16	69,451	71,766	74,081	76,396	78,190	79,438*	81,708*	83,978*	85,470*	
GS-17	79,762*	82,420*	85,078*	85,470*	85,500*					
GS-18	86,682*									

**The rate of basic pay payable to employees at these rates is limited to the rate for level V of the Executive Schedule, which would be $78,200. SOURCE: The White House*

LUMP-SUM ISSUE STILL UNRESOLVED

Congress has extended the 60-40 lump-sum payout formula until December 3. Then, it seems almost certain to become a 50-50 split with employees receiving the initial payment upon retirement and the second payment 12 months later.

MORE ON LUMP SUM

Changes are coming in the formula for computing the reduced monthly annuity under the federal lump-sum option, according to the Office of Personnel Management (OPM). A board of actuaries is looking at retirement age and other factors that affect the size of the monthly annuity. Once the board finishes its work, OPM will issue the revised factors for both CSRS and FERS employees. No word yet on whether the new factors will raise or lower the alternative annuity payments for those retiring under them.

MERIT PAY PROGRAM CONTINUED INTO 1991

Congress also has acted on the Merit Pay Program for grades GM-13 through GM-15 federal managers, extending that through March 31, 1991. The program had been scheduled to expire September 30, and the 18-month extension action was a compromise reflecting Congressional disagreements on changes that need to be made in the rating system. However, Congress did approve one immediate change that ensures that managers rated "fully successful" will get annual raises at least as large as their general schedule counterparts.

TSP OPEN SEASON

Open season for the Thrift Savings Plan runs from November 15 to January 31, 1990. CSRS workers are locked into the G Fund, but FERS employees have several options available.

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