

JUNE 1976

FAA WORLD



Where
'Eagles'
Still Fly

EDITORIAL

Environmental Management Part of the Job



Administrator McLucas chats with Air Force MSgt. Robert P. Curry, who has the enviable task of selecting a \$40,000 airplane as winner of the GAMA Safe Pilot Sweepstakes grand prize.

Fifteen years ago the environment was something most people let the Audubon Society, the Sierra Club and the Rachel Carsons worry about. In recent years, however, all of us have been awakened to the fact that we can no longer take the Earth's resources for granted or assume that clean air, for example, is a part of our birthright as citizens.

Responsibility for protecting the environment falls especially on agencies like the FAA whose policies and programs have the greatest potential environmental impact. So, we all must be careful—from those who first set plans in motion to those who make the final decisions.

The strong opposition to construction of new airports and the complex question of how best to deal with the aircraft noise problem at its source are some of the environmental problems the agency is wrestling with. They are the price we are paying for years of environmental neglect when few realized the problems that could result from major decisions.

While that might help explain the past, it will no longer serve as an excuse in the future. To make FAA more environmentally aware at all levels, we have started an environmental training program at the Management Training School at Lawton. We don't expect to turn out environmental experts. But we do expect to develop employees with skills in environmental management who can identify potential problems, evaluate expert advice and make strong, informed recommendations of their own.

Concern for the environment should be considered part of our mandate to promote civil aviation.

John L. McLucas

JOHN L. MCLUCAS
Administrator

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The cover:

In the Milestones of Flight entrance gallery of the National Air and Space Museum, the Wright Flyer seemingly flies again. Among the aerospace greats enshrined here in exciting displays are "the Lone Eagle" Lindbergh's Spirit of St. Louis and Neil Armstrong's moon landing module, "the Eagle." The story begins on page 5.

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FEDERAL NOTEBOOK

HATCH HATCHETED

As you are probably aware, the Hatch Act revision to permit political activity by Federal employees was vetoed, although it would not have been in effect for the coming election. Another attempt will likely be made in the next session of Congress, although many feel tighter control over abuses would have to be worked out.

LEAVE RESTORATION

The Civil Service Commission has issued interim regulations for implementing PL 94-172, which removes all limitations on recrediting annual leave lost following an unjustified or unwarranted personnel action. Now, recredited leave of any amount is permitted. Excess over the ceiling is placed in a separate account, which must be used within two years following the year of recrediting. Payment for this leave will be made upon separation. ■ CSC is studying the sick and annual leave systems, with a view to holding down sick leave use. The 18-month study is expected to consider combining sick and annual leave, pinning the leave year to each employee's date of entry, changes in administrative leave and whether annual leave benefits are too generous.

COLA CODA

The days of the cost-of-living allowance for overseas areas are numbered, says Sen. Daniel K. Inouye (Haw). A House Ways and Means Committee task force has recommended eliminating the tax-free status of COLA and CSC says COLA has outlived its usefulness and intent.

LUNCH HOUR HALF-HOUR

The General Accounting Office has asked CSC and the Office of Man-

agement and Budget to look into extending the legal half-hour lunch break to 45 minutes because of crowded and inadequate eating facilities. With the required 40-hour week, that means tacking on 15 minutes to the workday. GAO recommended consultation with labor organizations.

A MEDLEY ON PAY

The Justice Department, with the support of the Defense Department, has drafted legislation to limit garnishment for alimony and child support to 50% of a Federal employee's net pay. ■ The OMB had estimated that pay comparability for this year would require a raise of 11.5%, and the Congressional Budget Office estimated it at 12%. —With the redefining of secretarial and computer operator jobs and a new weighting process, these offices are expected to recommend 6 to 6.5%, a possibly more palatable raise to the President. ■ Rep. William L. Clay (Mo), chairman of the House Civil Service Subcommittee, is not only turning a deaf ear to proposals to cut blue-collar pay benefits but has introduced a bill to correct inequities in the pay system.

THE RETIREMENT SCENE

While the GAO claims that the lack of a coherent policy is preventing the government from maintaining a sound Civil Service retirement and disability system, Thomas Tinsley, director of CSC's Bureau of Retirement and Insurance, has told a Senate committee, "I firmly believe that the retirement fund is financially sound and that the current financing provisions are adequate to maintain its viability." He added cautions against liberalizing benefits, however.

This news is based on information from non-FAA publications and does not reflect FAA policy or opinions.

Where 'Eagles' Still Fly

The National Air and Space Museum Comes Alive



The huge building housing the museum is 685 by 225 feet. Broken into galleries as it is, however, it does not have a ponderous look. The Tennessee marble facade was selected to blend with other buildings on the Mall, principally the National Gallery of Art.

Photo courtesy of Smithsonian Institution

Where on Earth can you find a Lunar Module—the vehicle that taxied the astronauts from a lunar orbit to the surface of the moon? Where on Earth? In the new Smithsonian National Air and Space Museum on the Washington, D.C., Mall, that's where.

Now, if you happen to be on the moon and wandering

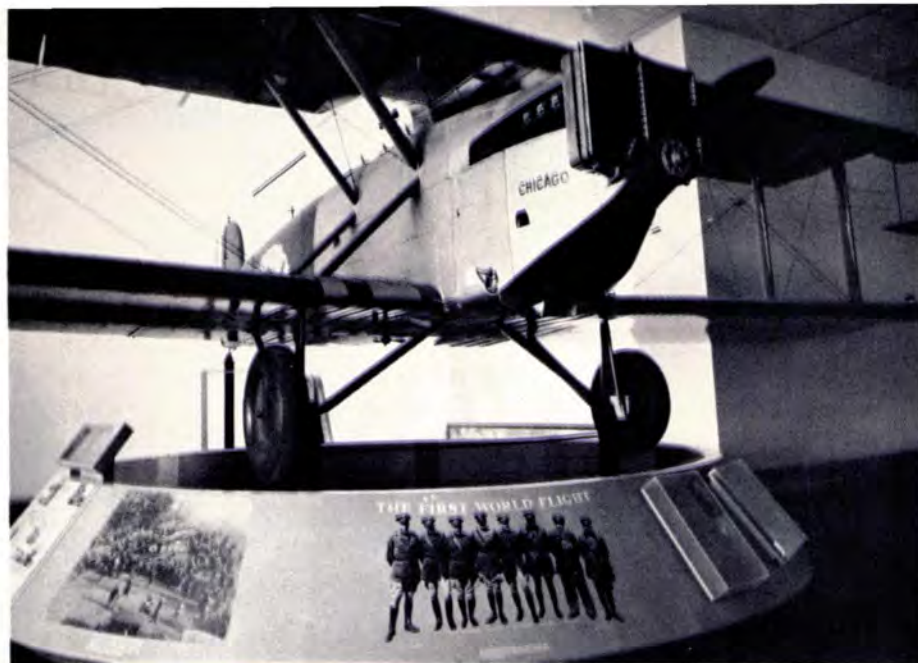
The author, a writer-editor in the Office of Public Affairs, is also a volunteer guide at the National Air and Space Museum.

around the Sea of Tranquility, the Ocean of Storms or any one of four other selected neighborhoods, you might stumble across an LM's lower half standing solidly on its four legs.

But most of us will have to settle for finding it in the Air and Space Museum after it opens on July 1.

According to former astronaut and now Museum Director Michael Collins, "It's going to be the best—the most interesting museum of its kind in the world."

After taking a careful look at the almost completed displays, it would be



The first airplane to fly around the world is among the "firsts" on display in the museum. Shown off on a distinctive stand is the Douglas World Cruiser which circumnavigated the globe in 1924.

In formation are three of the great airliners from the 1930s. Leading this flight in the Air Transportation Hall is the Ford Tri-Motor, or the "Tin Goose." In the center slot is the "greatest of them all," the incomparable DC-3, and flying "tail-end Charlie" is the Boeing 247D. To the right is the passenger, mail and freight carrying Northrop Alpha.



hard to disagree with the man who once orbited the moon. He and his team have gone all the way to make this the best.

For instance, they don't have just any old Apollo spacecraft on display. They have the Apollo 11—that very special command module that carried the LM named "Eagle" and the first men to land on the moon, piloted by none other than Director Michael Collins.

Again, the Mercury capsule is not just a Mercury, but the one flown by John Glenn when he became the first American to orbit the earth.

The Gemini spacecraft on display is also distinctive. It is the one that was used by Edward H. White II, America's first space walker.

This insistence on historic significance is typical of the museum. A

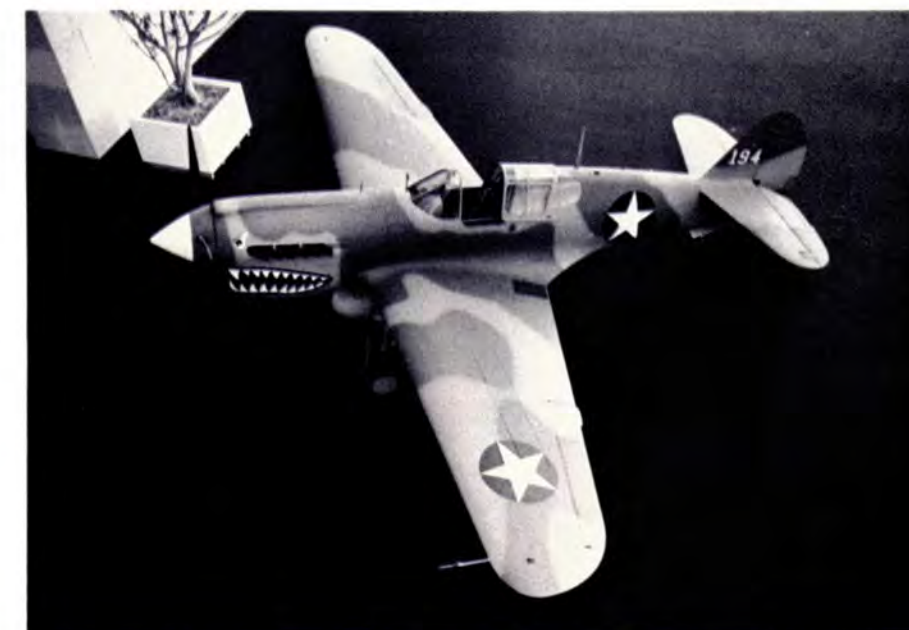
glance at the lobby, which is devoted to milestones of flight, sets the stage. In this area—where those spacecraft are displayed—the visitor will also see the Wright Flyer, the first airplane to fly; the Spirit of St. Louis, the first plane to be flown solo from New York to Paris by "The Lone Eagle"; the Bell X-1, the first plane to fly faster than the speed of sound, as well as other "firsts."

But don't get the idea from all this that the museum is just a barn filled with old and historically significant airplanes. The place is, to be sure, loaded with old, and not-so-old aircraft and spacecraft. But this is a dynamic world. It's literally jumping with almost 100 slide shows, movies, tapes, puppet shows and moving models.

For starters, let's take a look at our own area of interest in the museum

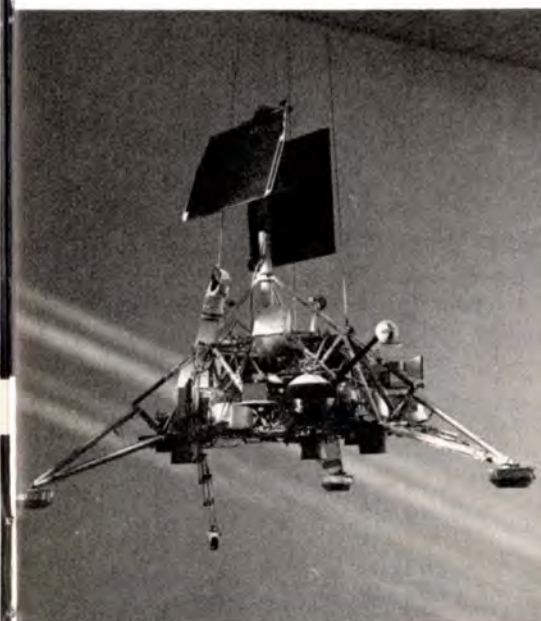


The X-15, probably the most famous of the "X" series research planes, bridged the gap between atmospheric and space flight. It hangs in the "Milestones of Flight" gallery beside the Langley Aerodrome No. 5, which was the first successful (unmanned) powered heavier-than-air plane in 1896.



A "Flying Tiger", the Curtiss P-40 is painted to resemble the American planes that fought in China during World War II.

Photos by Don Braun



The Surveyors were the first American-built space probes to make "soft landings" on the moon. This back-up vehicle is identical to the surveyors that actually landed on the moon and sent back information, including photographs, essential to man's first landing.

Towering rockets dominate the Space Hall. The Scout, Jupiter C and Minuteman rise from a pit in the floor to the very ceiling. To the left hang the German buzz bomb and a German World War II anti-aircraft rocket.





The Spirit of St. Louis as it must have looked when it swooped in for a landing at Le Bourget Field near Paris late on the night of May 21, 1927.

Built for speed, the Douglas D-558-2 Skyrocket was the first plane to fly at twice the speed of sound.



Former Astronaut Michael Collins is the Museum Director.

—the Air Traffic Control gallery.

We can take a seat behind the pilots on a typical Pittsburgh to Washington flight, designated Coastal-22. While sitting in the simulated front cabin of a transport aircraft, we can peek over the pilots' shoulders and listen in as they talk to ATC in a condensed, eight-minute flight. Not only is it authentic and official but it is also real. Throughout the tape, from the brief exchange with Pittsburgh clearance delivery to the final instructions from Washington Ground, you'll be listening to the voices of real FAA controllers, playing themselves for the sake of authenticity.

This is how present-day ATC is explained, but to demonstrate graphically and dramatically what it was like back in the beginning, there is a three-D-and-in-color life-size replica of the agency's first enroute center at Newark, N.J. In this display, controller mannequins are talking on phones, circa 1936, and plotting aircraft positions on a table-top map.

Also in the ATC gallery are various radar scopes, including both the agency's first and the latest in use. Both the en-route and the ARTS III scopes, alive with targets and data tags, are also displayed.

The ATC display is only one of 22

galleries devoted to man's achievements in air and space.

In all, there are 65 airplanes on display, at least a dozen rockets and hundreds of other artifacts, such as spacemen's uniforms and tools.

The largest single item in the museum is in the space hall. Dwarfing four towering rockets in this area is a Skylab. Again, this is the real thing—a real space station, built as a backup for the vehicle that was manned by astronauts for 84 days and that even now is still orbiting the earth. The museum's station is fully equipped and ready to take astronauts—and tourists—aboard. You will be able to tour the station from top to bottom and see for yourself how our astronauts lived in space.

You can find the American-built Apollo and the Russian Soyuz joined together as they were when they docked together in space.

You'll also see military planes from World War I and World War II and from between and after the two wars. You'll see the model of the "Starship Enterprise" (used in the TV show "Star Trek") and a 30-foot model of the dirigible Hindenberg, as well as the airship's gondola (both from the movie).

Via paintings, you'll see what life in other parts of the universe might look like, and, on a giant screen, you'll see what aviation life is like in this part of the universe today.

You might like to visit the moon in the spacearium and touch a real moon rock or watch a landing and takeoff from the bridge of an aircraft carrier.

Yes, the National Air and Space Museum is quite a trip.

—By Theodore Maher

DIRECT LINE

I have extensive private and military communications experience, backed up by technical training, I joined the agency in 1958 and tied for the top grade in FAA Academy training. After serving in the field, I bid on and obtained an instructor's position at the Academy, where I served for more than three years. Since returning to the field, I have bid on at least 11 positions for a GS-12. I have yet to even make the interview lists, although I've been on several selection lists. I realize you can't get every position bid on, but it does seem that I should have been interviewed at least once. I've had good PERs; I carry certification for ILS, ATCT, RBC, MM, OM, LOM and weather instruments; and there's nothing detrimental in my records. Why can't I even reach the final consideration?

A Agency merit-promotion procedures require a selecting official to review the qualifications of all candidates referred to him on a promotion list. It is stipulated that candidates may be personally interviewed, but this is not mandatory. As outlined in the Southern Region supplement to agency promotion procedures, "... a selecting official is encouraged to interview candidates on the best-qualified list when feasible; however, if he decides to interview one candidate, then all must be interviewed." In essence, the decision to interview candidates is left to the discretion of the selecting official. Additionally, there are other alternatives that a selecting official may use to fill a position vacancy in lieu of selection from a list of eligibles. He either may fill the position vacancy through internal placement procedures or with an outside candidate. Although you have not been interviewed for any of the vacancies you've bid on, this does not indicate that you have not been given consideration for the positions, nor does it mean that you are not qualified for the positions. We would, therefore, encourage you to continue bidding on positions for which you are qualified.

Q Being out in the field, there are a minimum of bid opportunities in the clerical field. If you have only Airway Facilities or Air Traffic experience, regardless of how much, you cannot compete for a higher grade in Flight Standards because they require two years of specialized experience in Flight Standards. On the other hand, AF and AT do not eliminate competition from other divisions. AF is very specialized, especially in the technical and electronics terminology that is used daily, yet people who have never been in Airway Facilities have received promotions to GS-7. Why aren't other divisions requiring the specialized experience that FS does?

A We believe you may be referring to promotion announcements for Aviation Clerk, GS-301-5. These have been identified as specialized positions due to

technical knowledge required, which can be gained only in a Flight Standards program and are classified at the GS-5 level based on this knowledge of the specific program area. It is not management whim that dictates the requirement for and the amount of specialized experience "... in the field in which the duties of the position are to be performed ..."; rather, it is the Civil Service Qualification Standards. The standards for these and other positions having a relatively high turnover/attrition rate have been excerpted in Order SW 3330.12A for employee convenience. There are other clerical positions in Flight Standards that do not require specialized experience in that division—like clerk-stenographer, secretary, clerical assistant, administrative assistant/officer. For someone wishing to expand career advancement opportunities, we suggest the possibility of requesting in-grade/downgrade reassignment in one of the less technical positions to a facility having Aviation Clerk positions. This might allow you to gain qualifying experience, but would not preclude your bidding for other jobs. You spoke about promotions to GS-7 in Airway Facilities, where technical terminology is used daily. True, but those positions are of an administrative nature, where the classification of positions is based on work to be done, not on the acquaintance with terms used by the technical personnel. A comparison for the two divisions is: the Aviation Clerk is *doing* the technical work in Flight Standards, whereas an administrative officer in Airway Facilities is *supporting* the technical work. The two do not equate. You can get procedural guidance from the staffing specialist in the Employment Branch responsible for Flight Standards personnel actions.

Q Last October, a summary report on the evaluation of Maintenance Engineering Field Offices (MEFO) in this region recommended that Field Maintenance Party crews (FMP) be consolidated into the MEFO headquarters. It is anticipated that FMP crews will be relocated in a few months, leaving one GS-4 clerk-steno surplus. In the meantime, the tower here hired a new GS-4 clerk-steno from another agency. Two more positions that are to be open are to be filled from elsewhere. Why isn't this surplus GS-4 relocated and reassigned into one of these vacancies now? There may not be a vacancy when the job is actually abolished.

A The consolidation of your FMP into the headquarters MEFO is proposed for next January. We agree that it may be better to place an employee into an appropriate vacancy to prevent a surplus. In view of this possibility, the clerk-steno at the FMP has now been placed in a permanent position in an ACDO. The vacancy created at the FMP will be filled by a temporary employee until the consolidation takes place or is abandoned.

FACES and PLACES



PATRIOTISM PROMOTER—Principal maintenance inspector Al Butterworth of the Seattle FSDO has convinced Mayor Isobel Hogan of Kent, Wash., for the last five years to proclaim "U.S. Day" each autumn as a reaffirmation of American ideals. Butterworth will be trying to keep it going again this year.



SIMULATOR GENERATOR—Supervisory electronics technician Joseph Palmieri (left) of the Islip, N.Y., SFO receives a letter from the Administrator presented by Eastern Region Director Duane Freer, informing him of his selection as first runnerup Suggestor of the Year. Palmieri devised a Doppler Radio Direction Finding, Testing and Teaching Device for use in FSSs.



HIGH AIMER—Yvonne Yetzer, Airway Facilities civil engineering technician, is the region's only woman in that role. Now, she's working for a degree in civil engineering at the University of Colorado.



IT'LL DO—Before accepting the keys to the agency's fifteenth Sabreliner, Western Region Director Robert Stanton kicks its tires to confirm its airworthiness.



ANOTHER ONCEOVER—The Sabreliner that Western Region Director Stanton took delivery on arrived at the Aeronautical Center for avionics fitting out and service for flight inspection. Dale Crawford, chief of FINFO, looks through this last of the Sabreliners entering the agency's fleet.



TOP COP—Alaskan Region Director Lyle Brown congratulates state trooper Gilbert Pelawook following presentation to him of the Award for Extraordinary Service. The only state trooper on St. Lawrence Island, Pelawook rescued passengers from the wreckage of an airliner.



DO AS I DO—June Lucas and Charles Kakigi, regional coordinators for the Pacific-Asia Region's savings bond drive, believe in what they sell. Lucas has bought more than 100 bonds through the payroll savings plan over nine years, which she will invest in son Craig's college education.



FELICIDADES—The New England Region has formed a Spanish Surname Program subcommittee with Ezequiel Lopez as its chairman, here conferring with David Bonnick of the region's Personnel Management Division.



NICE LAWN MOWER—Dallas-Fort Worth security chief Joyce Moody found the people at the Abilene, Tex., Airport quite efficient. They have nibbling goats keeping the lawn in shape; later the FAA and National Weather Service personnel nibble on the goats at a barbecue.



A FIRST—Annora Ogletree has become the first black woman to qualify as an air traffic controller in the Central Region. This year, she became fully certified at all control positions at Kansas City's Fairfax Tower.



After Disaster Strikes

Because of its experience in wars and with typhoons, Pacific-Asia Region knows the value of emergency readiness exercises. Roy Kobayashi (left), chief of Honolulu International Telecommunications Switching Center, and supply technician Shigeo Tanada check emergency rations stored in a 250-foot tunnel dug into the side of Diamond Head Crater, a site that had been used for storage of coast artillery shells.

A year ago, the United States sustained an enemy attack that knocked out FAA facilities, and this year, we're restoring them to service.

This unlikely timing of events was no pipedream. These were separate scenarios for emergency readiness exercises designed to demonstrate and refine FAA's capability to recover from a natural disaster or defense emergency. Last year's exercise—only yesterday, in

a manner of speaking—was assessing damage and organizing for recovery. This year's was mustering our resources to get FAA back in business full bore.

The opening scene for this year revealed that 30 percent of the agency's resources were destroyed or severely damaged. Initially, no air-traffic-service capability existed across the lower quarter of the country. Seven ARTCCs were destroyed; long-range radars were

knocked out, remote center air/ground RCAG communications facilities were out of commission, several hundred airports were unusable and airport surveillance radars, VORs and VORTACS were down. Twenty percent of our air traffic and maintenance personnel were lost as incapacitated or unable to report for duty.

Gene Thies, headquarters project officer for the exercise, explained that

FAA GETS IT ALL TOGETHER AGAIN

"We tried to make the scenario believable to encourage a high level of participation. After all, it is in this post-attack phase that FAA really comes into its own."

Restoration of air-traffic-control capability was now the paramount consideration. New air route structures had to be laid out to bypass areas without navigation aids, air-to-ground communications and radar coverage. "We quickly moved into the spirit of the exercise," related Lonnie Parrish, the designated Southern Region Director. "We quickly inventoried our resources and determined our options. If we had it and could spare it, we moved it."

The location of equipment—such as

mobile towers, mobile radars, ILS components, aircraft parts, standby generators, fuel, food and water—was pinpointed and prepared for airlift to damaged areas.

Air Traffic personnel and Airway Facilities engineers and technicians from regions not as hard hit were sent to areas in the Southern and Southwestern Regions to help restore facilities and nav aids in record time. When Southern Region people found that certain items could not be obtained from the FAA Depot in Oklahoma City in the exercise's compressed time frame, AF and Logistics personnel turned to emergency contracting, utilizing known outside sources.

Logistics' Lannie Frey was enthusiastic about the exercise. "It gave us more opportunities than in the past to use our emergency contracting procurement and service plans. For five days, we really felt we were responding to a very real situation with real problems, pressures, demands and hardships. The realism was remarkable."

ARTCCs implemented their center-to-center contingency plans, whereby centers adjacent to those damaged picked up the air-traffic load. In this scenario, the Atlanta and Jacksonville Centers took over for the Miami Center, which had been destroyed. Similarly, the New York and Cleveland ARTCCs took over portions of the Boston Center's control area.

Meanwhile, the FINFO aircraft at the Aeronautical Center had been dispersed, with some remaining at FINFO and others sent to NAFEC and Seattle. As nav aids were brought back into service, the inspection aircraft flew flight checks on them. In addition, three NAFEC aircraft were dispatched for that purpose to the hard-hit Southern Region.

Atlanta Airports people inventoried airport conditions around the region, while Flight Standards arranged for an Air Force C-130 and crew to fly a fully equipped field hospital and other equipment to another region in need. Security kept the lid on all manner of

Security was tight as Marv Birt (left), chief of the Northwest Region's Investigations/Internal Security Branch, passed classified documents to security agent Jim Hanulik at the communications center.



At the Aeronautical Center's exercise operations center, Richard Bishop (left) and Lt. Col. Phil Walker of Flight Standards work with a Radio-logical Defense (RADEF) plotting map.

Members of the Western Region Operations Group studying alternative temporary jet routes for the exercise are (clockwise) Pat Eachus, Communications; Mel Foley, Logistics; George Reid, AT; Tom Jamison, AT; Harold Guthrie, AF; Marilyn Basham, Management Systems; Paul Allison, emergency readiness officer; and JoAnn Rogalla, Aircraft Engineering.



Willie Baker attempts to contact the Indianapolis ARTCC to pass regional command upon loss of power at the Great Lakes Emergency Operations Facility. The region installed an SSB radio in its noise-measurement van to cover communications emergencies. Standing by are John Truhan (center) and Claude Ackerman, of AF and AT, respectively.



Vernon Darley, Southern Region emergency plans officer, and Dorothy Lemon, communications specialist, check the latest exercise message traffic.



Thomas G. Kelly, crew member of the Atlantic City FIFO aboard a Jet Commander, accepts classified orders from NAFEC emergency operations officer John Presley that detail which navids should be flight checked after their "restoration."

things to deny comfort to the enemy.

Regional emergency operations throughout the country were directed from facilities in ARTCCs. For example, restricted-access signs were posted; additional telephones were installed around the oval conference table; situation maps were hung; document shredders were oiled; shift assignments were made for the five-day, 16-hours-a-day exercise—and the Northwest Region Operations Control Center was in action.

Working with the Western and Rocky Mountain Regions, Northwest took over the flight-inspection responsibilities for much of the western half of the U.S. and established FIFOs in California and Colorado.

The skills of a general facilities and equipment technician were needed at one point to operate a bulldozer for clearing a radiation-contaminated access road. In fact, the realism was such that in the final hours of the exercise, Northwest Region Director Chris Walk was ordered to remain in the Operations Control Center because his simulated exposure to radiation had reached the maximum allowable limits.

The Eastern Region's team moved into the Management Information Center with representatives from the divi-

sions and staff offices. While JFK International Airport was a casualty in the exercise, Eastern Region found itself in a support role for regions harder hit, and it supplied personnel to help restore facilities elsewhere.

"The FAA is much better prepared to perform its national emergency mission each time we practice an exercise," noted Paul Allison, Western Region communications and emergency operations officer. "The successful conclusion of such exercises is only possible through the disregard for regional boundaries and a complete understanding and consideration for the total agency responsibilities for responding to the needs of others."

Project officer Thies echoed those sentiments. "We threw problems at the regions and centers," he said, "and they ran with the ball, with a great deal of imaginativeness. Not every problem was solved, but just about every one was at least identified. We had a high degree of participation with good inter- and intra-regional play."

At 8:00 in the morning of the first day of the exercise, 13 members of the New England Region's emergency readiness team arrived in the basement of the Boston ARTCC in Nashua, N.H. For five days they worked on



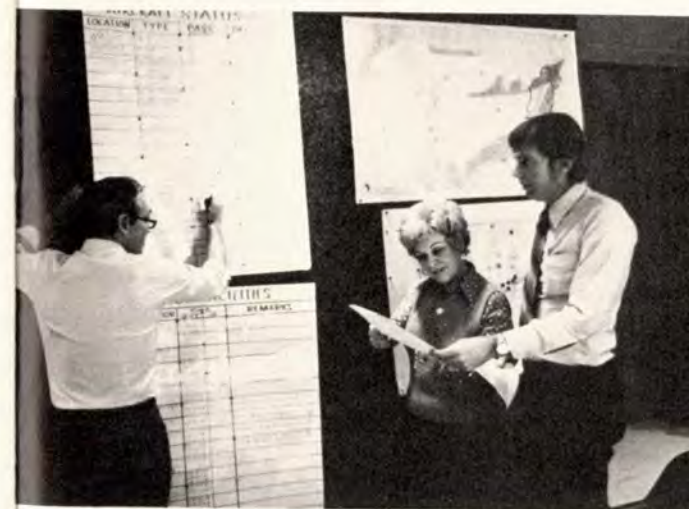
NAFEC emergency readiness officer John Presley (left) and operations supervisor Ike Jones check over the whereabouts of the 16 planes based there on the aircraft status board.

plans to restore the command and control facilities that were wiped out or damaged in the attack "last year."

David Rickard, emergency plans officer, explained, "The team had to determine what was available to make the system work again. I feel that our efforts were successful. We found some holes in our planning and are taking action to correct them. That's the purpose of such an exercise, after all."

Referring to one simulated problem of obtaining potable water for the command post, Rickard added, "Using ingenuity, one of our reconstruction teams returned to the center with 1,000 cases of canned beverages from the 'ruins' of a Merrimack, N.H., factory. It enabled us to solve one of our major problems with good spirits!"

Central Region emergency plans officer Ben Morrow (right) studies an incoming message, as duty officers Gene Guatieri (left) and Ed Schmidt handle a call, chief duty officer Ben Herr looks on and duty officer Irma Sittler adds to the log.



Don Wisner of Eastern Region's Flight Standards Division updates the War Air Service Program (WASP) aircraft status chart, while upward mobility candidates Estelle O'Polyn and Richard Smith, ATD, feed him the figures.

SMALL WORLD

A TOUCH OF CLASS. . . . The people who run McCarran International Airport in Las Vegas decided their terminal building needed a little more class, so they went out and bought a quarter of a million dollars worth of new color-coordinated furniture. According to Airport Manager Dan Evans, the idea was to make the terminal waiting room look like someone's living room. And since people don't have gumball machines in their living rooms, he decided they had to go. But Evans says he didn't figure on the power of the press, which rose up to defend the gumball machines because the proceeds go to local charities. Evans wisely backed down, and we're happy he did. We've been to Las Vegas, and the gumball machine was the only thing we could afford to play on the way home.

LOOK OUT BELOW. . . . The microwave landing system is alright, but down in Chattanooga, Tenn., they've apparently come up with something much better that completely eliminates stack ups, go arounds and delays. The *Chattanooga Times* reports that the FAA has recommissioned an "Instant" Landing System at the local airport. We're not quite sure how that works, but we would advise passengers to give their safety belts an extra tug and hold on to their hats when the pilot starts on final.

FLIGHT OF THE PHOENIX. . . . Speaking of newspaper goofs, the *Camden Courier-Post* carried a headline not too long ago that must have puzzled its readers. It said: "Pilot to Fly Again After Fatal Crash in Arctic Waters." We're puzzled too. We can't figure how he qualified for a current medical certificate.

PUNCHING UP THE PIREFS. . . . The Phoenix terminal radar facility recently received a pilot's report of in-flight turbulence conditions that we think bears repeating. "It's as bumpy as two frogs in a washing machine," came the voice from the blue. Sounds like the pilot is one of those colorful western characters who goes around saying quotable things in hopes he'll end up in the *Reader's Digest*. I wonder if he will settle for "Small World."

CENTER HANDS OFF BIG SKY COUNTRY



Great Falls enroute center the year it opened—1942. This was strictly in pre-radar days: maps and minds were used.

Now Great Falls, Mont., can be added to the list of names which once held proud places in FAA's pantheon of enroute air traffic control and today linger only as memories.

Pittsburgh . . . El Paso . . . St. Louis . . . Detroit . . . New Orleans . . . San Antonio . . . Phoenix . . . all these enroute centers closed in the last 15 years, and on June 6, 1976, the Great Falls Air Route Traffic Control Center, too, will close forever.

A pioneer in modern radar display methods, the center must give way to the 20 standardized centers which control enroute traffic. Located in the heart of Montana, the Great Falls Center was born in the heat of World War II and saw a huge amount of military air traffic during the war years. Of course, that was in pre-radar days, and all control was "manual"—or, more accurately, "mental." Controllers kept the picture of aircraft movement—speed, distance, time—in their heads. The center was located on the second floor of Gore Field airport terminal building, sharing the same floor with FAA's flight service station and weather bureau offices.

Not until 1955 was the first direct ground/air radio equipment installed, reducing the center's dependence on other facilities for relaying control messages to and from pilots.

William Flener, chief of the center in 1957 and now Associate Administrator for Air Traffic and Airway Facilities, remembers the coming of radar when he was in charge of the facility. "We got a couple of old Navy radar scopes, and they were pretty poor compared to what we've got in centers today. But the controllers were glad to have them and so was I. At last, they could actually 'see' the planes under their control!"

But even before enroute radar was a decade old, the growing and speedier world of aviation began to force a change in the way these new radar eyes were used. Beginning in 1963, Great Falls pioneered the use of radar data tags — "alphanumerics" — foreshadowing the use of this new system in today's 20 domestic enroute centers.



A recent view of the center. Radar scopes are in vertical positions, since electronic data tags—not shrimp boats—were used by controllers since 1963.

Three veterans of the Great Falls Center (left to right): Glenn "Bud" Kittelson, plans and procedures officer; Harold "Hal" Lufkin, center chief; and Carl Hayward of the center staff.



Radar controllers Roy Bray (left) and Harry Hall work a position for Great Falls, Missoula and Helena.



The data tags, in the form of numbers and letters, showed aircraft identity, altitude and other information directly on the radar scopes. At the same time, the center's radar coverage was expanded by an agreement for joint use of 15 long-range air defense military radars. This effort was called the Northern Tier Integration Project (NOTIP).

The center staff also moved across town to a larger building at Malmstrom Air Force Base. In their new quarters, the controllers no longer pushed around the traditional plastic "shrimp boats" to identify airplanes. The electronic data tags automatically followed the new, fast-moving jet transports across the face of the radar scopes.

Controllers and technicians were recruited nationwide for special train-

ing needed to operate the unique equipment in the center.

Alphanumeric data tags proved their worth in the Great Falls experiment, but as luck would have it, the center's computer system was not compatible with the new automation systems that were slated to go into the 20 centers chosen in the mid-1960s for the nation's modernized enroute control network.

Beginning in 1970, portions of Great Falls' 160,000-square-mile control area were transferred to the Salt Lake City Center. In March of this year, Salt Lake took over more airspace and on June 6, the final chapter was to be written when the Minneapolis Center takes over the last two Great Falls sectors of 50,000 square miles.

And what fate awaits the center's staff of 73 Air Traffic and Airway

Facilities people? Nine are remaining in Great Falls at other FAA facilities; 30 are transferring to other locations in the Rocky Mountain Region; 24 are transferring to other regions; and 10 are retiring. Thanks to an influx of people on a missile project, most FAA employees leaving Great Falls sold their homes for good prices.

And now, the Big Sky belongs to others.



Home and the radome at Brushy Mountain.

ON TOP OF OLD BRUSHY ...and other LRR sites

Lop off the top of a mountain a hundred miles from nowhere, install several million dollars worth of computers and electronic gadgets on what's left, ask a dozen men to live up there and keep it all in working order and what you have is a long-range radar site.

It's all in the name of keeping en-route radar's eyes open.

When seen from the air, the white radomes look like some forgotten golf ball sliced into the rough by some giant golfer. The adjacent square, white buildings are the working and living quarters for eight to 12 technicians.

The Brushy Mountain LRR site near Silver City, N.M., is typical of western sites, where the best kind are

mountain tops or ridges. Since the mountain won't come to civilization, FAA brings civilization to the mountain. At Brushy, the technicians have TV, microwave ovens, private sleeping rooms and electric dishwashers to make life more pleasant and the chores tolerable, plus a great view.

"Yes, it's very beautiful up here," says radar technician Bill Campbell, "but you pay for it in the winter. You're liable to get stuck halfway up the mountain in five feet of snow, and when you arrive, you find the equipment has to be cared for 24 hours a day, despite biting cold that can hit 20 below zero and storms that whip up 70-mph winds."

Still, the adversities don't discour-

age those who relish mountain life, like Lawrence "Doc" Foster, a GFET at the sister Farmington, N.M., LRR. Foster has been there better than eight years. It's become his second home.

"When I came here," Foster recalled with pride, "there was really nothing to work with, but I did a little digging and managed to put some things in shape." Sector chief Jim Trigg calls that an understatement, pointing to the combination machine shop-snowmobile garage-storage area-welding bay that he built from scratch. Trigg points to this kind of initiative as typical of the dedicated GFETs, which is needed if a radar site is to run efficiently. "The GFETs on this job are really on their own," Trigg

says. "They're called upon to fix everything that goes wrong—from the water well pump to the screen door."

The shifts vary, but most LRR technicians spend three to four days straight at the site, followed by two or three days at home. It's a demanding life, but for the type of person who is drawn to the job, it can be almost ideal.

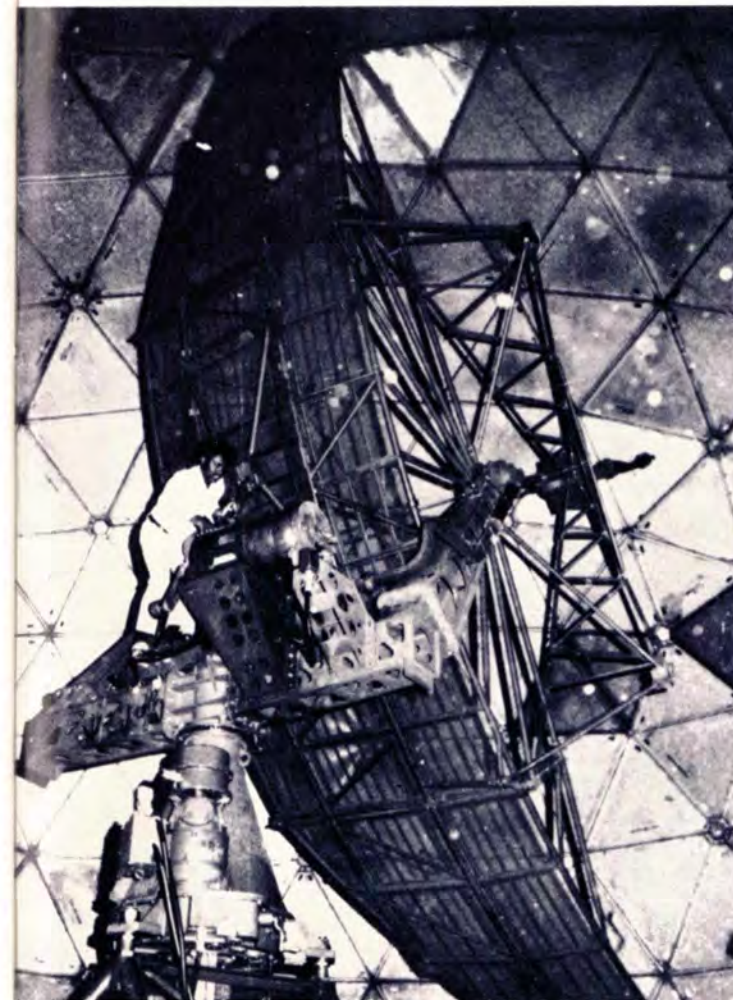
"I wouldn't want to work anywhere else," says one electronics technician at Silver City. "Being as close as we are to nature is something that not many people have, especially those involved in electronics and computers. I enjoy it. This is my kind of life."

—Story and photos by Jon Ellis



"Doc" Foster welding in the multi-purpose shop he built at the Farmington site.

Electronics technician Bill Campbell works on the Military Height Finder Radar, collocated with the Brushy Mountain LRR at Silver City, N.M.



The long-range radar at Farmington, N.M.

Farmington Sector Field Office chief Jim Trigg wields a mean skillet in the microwave oven provided for creative comfort at the remote radar site.



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A Generation Ago

Can you remember when the Lansing, Mich., Tower was commissioned an approach control facility in 1949? Current tower chief Ray Kerwin challenges you to identify the original crew pictured here. From left to right: Dale Warner, the present chief of the Bloomington, Ill., Tower, also worked at the Minneapolis and Midway Towers and was chief of the Champaign, Ill., Tower; Erv Swenson was an assistant controller then, now a corporate pilot; John Morrow moved over to the Dayton, Ohio Tower, then back and retired as Lansing assistant chief five years ago; Ray Kerwin, present chief, had transferred to Minneapolis and Detroit Willow Run Towers and NAFEC and served as chief of the Flint, Mich., Tower; Joseph Reichwein came to Lansing from Chicago O'Hare, was killed in an auto accident in 1950; John Don Ekegren later worked at the Grand Rapids, Mich.,

Tower and was the first chief at the Milwaukee Timmerman Tower and now is the deputy chief of the Milwaukee Mitchell Tower; Frank Glennan retired five years ago from the headquarters Air Traffic Service to Florida after having served at the Midway Tower and as chief at the Cincinnati and the N.Y. LaGuardia Towers; James Pratt is in second-career training as a hotel manager in Albany, N.Y., having come to Lansing from the Grand Rapids Tower and then working the Albany Tower; Don Muncy came to Lansing from the Akron-Canton, Ohio, Tower and worked as Air Traffic Division chief in the Pacific-Asia Region, chief of the Oakland, Calif., TRACON and now as chief of the McClellan RAPCON in Sacramento; James Charles Vignola came to Lansing from Midway, departed CAA in 1952 to sell life insurance. He died in 1974.