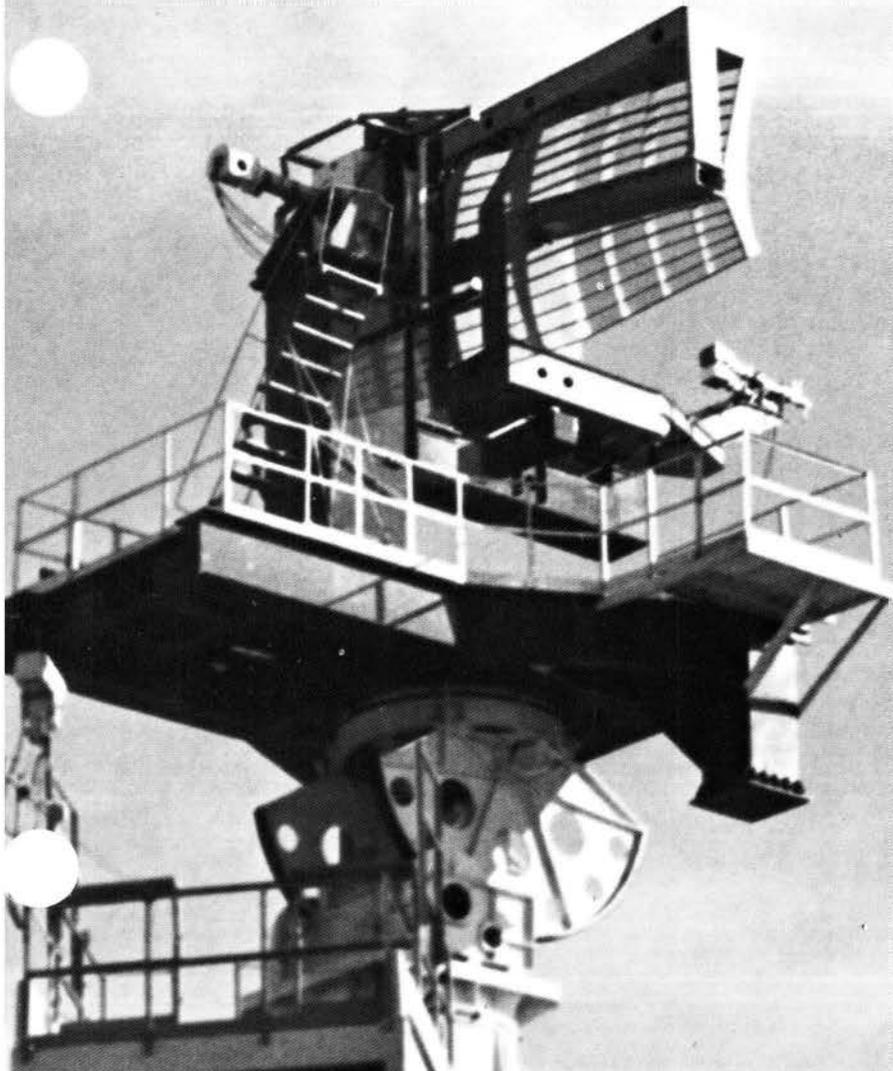


World

June 1985
Volume 15 Number 6



U.S. Department
of Transportation
**Federal Aviation
Administration**





Never a Dull Moment in Her Life

Being busy and being involved is Terry Alexander's way of life.

An operations/airspace and procedures specialist in the Alaskan Region's Air Traffic Division, she began as a developmental at the Bakersfield, Calif., Flight Service Station, then moved on to the Imperial, Calif., and Anchorage, Alaska, stations and the International FSS there.

In 1978, Alexander took a six-year break from Air Traffic for career diversifications and became a management analyst in the Management Systems Division.

Back in Air Traffic, she stays involved in aviation activities even when not on the job. She is a pilot with a glider rating, serves on the Anchorage Community College's Air

Traffic Control Advisory Committee and teaches aviation subjects there. She is also active in the Alaskan chapter of the Professional Women Controllers. She became one of the first women to become a member of the Jaycees in 1973.

In conjunction with her job, Alexander also serves on the Aviation Education Committee, has served as a member of the regional Accident Prevention Committee and currently chairs the regional office's Human Relations Committee.

She gets a view of the consumer side of Air Traffic when she's off duty because she loves to travel: She's been to Russia, China, Africa, Australia and Europe. There are still a few places to see. ■

Aviation is a dynamic industry, perpetually changing as the needs and desires of the American people change. What is most important about the FAA's role in aviation is the dynamic and persistent pursuit of safe adaptation to the changing needs of the American people.

—Donald D. Engen

Front cover: *The new ASR-9 Airport Surveillance Radar, now under testing, is an important link being integrated into the new National Airspace System. The partnership of FAA and an SEI contractor is bringing it all together. See story on page 4.*

Westinghouse Electric Co. photo



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Role of FAA's Industry Partner

The FAA's systems engineering and integration contract with Martin Marietta Corp. to support the NAS Plan is becoming visible in the field. Here's what it is and what it isn't and how it affects the agency and the work of its employees.

Secretary of Transportation

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Administrator, FAA

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Public Affairs

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Communications Div.

John G. Leyden

Editor

Leonard Samuels

Art Director

Eleanor M. Maginnis

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Going . . . Going . . . Gone

An old radar comes down to begin life anew elsewhere, and the job is accomplished by retired technicians who used to tend it.

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Fate Was His Co-Pilot

Irony brought this pilot the only help that could do him any good. What seemed a certain disaster was averted by a pair of savvy rescuers.

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No Fool To Retire

It may have been April Fool's Day, but it turned out to be a banner day when everything went smoothly for an FAAer throwing over the traces.

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

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High Tech and the High Road

Long-range radar technicians live in two worlds. One is that of sophisticated electronics and the other usually is that of back roads, open spaces and unsophisticated living. Here's the flavor of a few sites.

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Mike Ciccarelli—New England Region

Richard Myer—Northwest Mountain Region

Jack Barker—Southern Region

Geraldine Cook—Southwest Region

William Greene—Technical Center

Barbara Abels—Western Pacific Region

By Sandra Kalenik
A Washington-based free-lance writer who specializes in business and technical writing.



Role of FAA's Industry Partner

Systems Engineering, Integration Skills Support NAS Work



and system integration of the entire system.”

FAA's administrator at the time, J. Lynn Helms, agreed. As the individual primarily responsible for the conception and development of the NAS Plan, he understood better than anyone the challenges involved in translating the 450-page plan into reality.

First published in January 1982, the NAS Plan provides a comprehensive blueprint for modernizing and upgrading the nation's air traffic control and air navigation system.

Almost 100 separate but related projects are involved, ranging in scope and intricacy from the multi-

A keystone of the "80s Maintenance Philosophy" in the NAS Plan that is being managed under the SEI contract is the Remote Maintenance Monitoring System. Checking over a headquarters maintenance processor installation, which provides summary reports from field installations, are (at consoles) Laura

Thomas, program analyst in the Maintenance Processors Program, APM-630, and Tom Anderson, SEI project manager for Martin Marietta. In the rear are Martin Marietta staff engineer Jonathan Murray (left) and systems analyst Peter Glamkowski, APM-630.

Photo by Lance Strozier



An FAA helicopter makes a demonstration flight to the microwave landing system-equipped Wall St. Heliport in New York City. Only a heliport has the elevation and azimuth antennas collocated. The agency presently has 170-plus MLSs on order, including systems for three heliports.

From the outset, FAA's \$11 billion National Airspace System (NAS) Plan has been an extraordinary endeavor, one that frequently is compared with the Apollo space program in terms of its size, complexity and cost.

Because FAA had never managed a program of these dimensions before, it was recognized early on that the agency would need an industry "partner" to provide technical and management support, augment FAA's

limited staffing and provide continuity during the long implementation cycle. Both the National Aeronautics and Space Administration and the Department of Defense have taken this approach on major contracts in the past.

Support for this approach came from the prestigious White House Science Council Panel in a June 1982 report that emphasized that the NAS Plan would require "sustained technical and managerial capability of the highest quality." It recommended the use of a "single, private contractor charged with the formulation, design

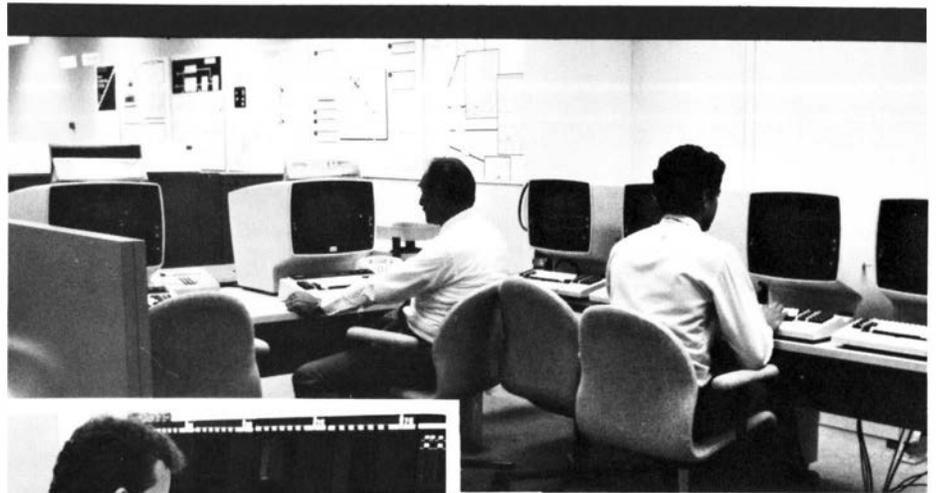
billion-dollar host computer and advanced automation program (AAP) through other large projects, such as the Mode S radar beacon system, the microwave landing system (MLS) and the national airspace data interchange network (NADIN), to smaller efforts like tone-control equipment replacement.

To add to the complexity of the plan, all system components have to be developed, tested, manufactured, integrated and installed—with no disruptions—while the existing system is in operation its usual 24 hours a day, 365 days a year. It's a situation that leaves little or no room for error.

Yet another indicator of the plan's magnitude and its resulting impact on FAA operations is its \$11.4 billion price tag. FAA was used to operating at a substantially lower level of capital investment. In pre-plan days, for example, FAA's facilities & equipment (F&E) funding averaged about \$250 million a year, with less than \$100 million investment in research and development. Now, F&E funding is running \$1.5 billion a year, and the R&D budget is more than double the old rate.

In May 1983, FAA issued a request for proposals for a systems engineering and integration (SEI) contractor to assist with the implementation of the NAS Plan and the following January selected the Martin Marietta Corporation for the job.

A multi-billion-dollar organization, Martin Marietta has more than 25 years' experience with SEI and has played leading roles in Department of Defense and NASA programs, includ-



A mainstay of the NAS Plan is the upgrading and replacement of the enroute computers. Sperry Univac (left) and IBM have submitted proposals on their host computer designs, and FAA is evaluating them prior to an award in mid-July.

ing the development of a satellite that will map the surface of Venus.

In announcing the \$684 million multi-year contract award, Transportation Secretary Elizabeth Dole called it "critical" to bringing the NAS Plan in on time and within current cost projections.

But just what is systems engineering and integration? "System engineering" is the glue that brings all the elements together. It's the focusing on the overall system, not just the 100 individual projects that comprise it, and on the sequence in which they are accomplished. "Integration" is seeing that each piece works with the others and can hook up to them—like the host computer to the flight strip generators and radars, etc.

Martin Marietta is not a prime contractor in the traditional sense, but more of a partner, where FAA still has the final, legal responsibility. This fact aside, the company has been working with FAA more intimately than any contractor has before. They will be engaged in directing equip-

ment contractors, as well as in systems engineering. They will be involved with every facet of the F&E program from concept formulation to facility commissioning.

FAA's staff is being complemented by a large contingent of Martin Marietta people with management, system design and technical support skills drawn from aerospace industry experience. The company and its subcontractors have over 725 employees working on the project, and this number will peak at about 1,200 in 1986. The contract itself runs for five years with two options to extend it another five to cover the span of the 10-year NAS Plan.

One of the company's first tasks was to perform an independent technical audit of the NAS Plan to verify its soundness and feasibility and to identify areas for improvement. Completed in August 1984, the audit basically confirmed the soundness of FAA's approach, but it also concluded there was very little slack in the plan's remaining schedule.

Now, a year after the start of the partnership, FAA headquarters people have come to realize the magnitude of the job they bit off with the NAS Plan and increasingly appreciate that they have significant resources to draw on to help with it. What had been perceived as a rivalry at the start



The first production system of the Westinghouse ASR-9 Airport Surveillance Radar is being tested by the company near Baltimore-Washington Airport. The first of 132 FAA and DOD systems will go to Huntsville, Ala., for FAA testing in July 1986. The new radar will detect six weather levels, low-flying aircraft and aircraft on tangential courses.

Westinghouse Electric Co. photo

has matured to where most people see the operation as a team effort in accomplishing a big job.

James G. Cain, FAA's deputy director of the Advanced Automation Program Office, also believes the partnership is becoming increasingly effective. "Are there problems?" he asks rhetorically. "The answer is yes. Will the problems be solved? The answer is yes. Will it work? The answer is yes."

As the SEI contractor, Martin Marietta is concerned about the overall plan but will not be involved equally in all NAS Plan projects. In cases where the design is essentially completed, such as the microwave

landing system, the company will provide technical support to FAA managers, review performance of contractors, verify testing of units and assure their proper integration with other systems.

The contractor's greatest impact will be felt in those programs that still are in the early stages of the development cycle, such as the advanced automation program.

Frank L. Frisbie, the FAA Deputy Associate Administrator for Development and Logistics and NAS Program Director, notes that "This is a different kind of contract than the FAA has ever had. It's a cost-plus-award-fee contract with no base fee," he explained. "Martin Marietta's profit is determined solely by how satisfied the FAA is with their performance.

"They are guaranteed their costs, but they earn no profit except for what FAA grants them in a unilateral, subjective determination by a board of senior FAA managers. Twenty percent of the award will be based on their internal contract management—how well their people function. Twenty percent will be based on whether we achieve NAS milestones—that is, whether we get the job done and on schedule. The rest is based on their support to specific projects. So, they have a unique motivation to make sure we pull this job off."

In keeping with the partnership nature of the undertaking, Martin

Marietta has specifically structured its SEI operation to mirror the FAA organization, according to Keith J. Frederick, the company's director of NAS Program Development. "On this contract, we felt that this is how we would best be able to serve the customer's needs."

That means Martin Marietta created counterparts for senior-level FAA NAS management. For Frisbie, there's Frederick H. Hudoff. For Leland F. Page, director of the Systems Engineering Service, there's Roger Ingerson. Valerio P. Hunt, director of the Advanced Automation Program Office works with Brian N. Etheridge. And Martin T. Pozesky, director of the Program Engineering and Maintenance Service, is teamed with John M. McCorkle, to name a few.

Hudoff, Ingerson, Etheridge and McCorkle manage their own people,



Jim DeBerry of E-Systems, Inc., and Sandra Mahlberg from the Chicago ARTCC help perform system shakedown of the Flight Service Data Processors (FSDP) at the Automated Flight Service Station position consoles and line printers at the FAA Technical Center. The FSDPs are now being installed at the Cleveland, Ohio, ARTCC to serve the Cleveland; Dayton, Ohio; and Bridgeport, Conn., AFSSs.



Another "80s Maintenance Program" element is the converting of VORTACs to high-reliability solid-state electronics,

which preceded the SEI contract. The ground-check detectors around the roof denote a solid-state VORTAC.

going to need every person out there to pull off this job. Martin Marietta will be helping to plan the installation and integration of the equipment in the field, but they're not a 'body shop'—they don't have a contract to do any of the hands-on work that our F&E people do."

Frederick echoes that idea: "It's our responsibility to ensure that the program manager is getting the best return on the government's investment. We're certainly not there to replace him; we're there to support him."

"We are asking people to accept a lot of changes simultaneously," says Frisbie. "We are facing not only changes in the order of magnitude of what we're doing but also changes in the degree of freedom that we allow individuals working in the system. We can no longer allow program managers to go their own way on projects. We have come to realize that we need to integrate the work as we go along."

"And that's perhaps the most important part of this contract. The legacy that Martin Marietta will leave us is a different way of doing things, embedded in our methods forever. When we change the way we manage the facilities, equipment and programs, it's not just for today. The principles, disciplines and methodology we're putting in are permanent improvements."

The final result will be an airspace system that not only will be the most modern and efficient in the world but also will have the capability of staying that way well into the next century. ■

share comparable concerns within Martin Marietta to those of Frisbie, Page, Hunt and Pozesky and can relate to people on their own level in FAA.

Despite the mirrored management structure, there are some problems as would be expected from any sort of prearranged marriage.

As Frisbie says, "Martin Marietta comes from an aerospace culture and we are from a government culture. We're used to operating the finest air traffic control system in the world, and our prime job is to keep it running day in and day out. They're used to going to, what I call, a smooth place on the earth and erecting something from scratch and putting it into operation for the first time.

"We're trying to meld those two cultures into one, and it's sometimes hard to do. But the gap between them is closing, and we can see that we're becoming more effective as a team."

Martin Marietta's Frederick puts it another way: "Frequently, we're

asked how we are going to resolve problems in ATC. We answer that we're not the experts in ATC; FAA is. We're there to apply the integration skills we have to the specific problems of ATC. We provide oversight and understanding of the big picture—mission-oriented support at all levels of program management."

It's this kind of misunderstanding of Martin Marietta's role that gives rise to fears. Are FAA's F&E people in jeopardy? Frisbie's response is a resounding "no."

"After a year," Frisbie continues, "the program is first moving from Washington to the field, and the F&E people are only beginning to understand that Martin Marietta is only a piece of our solution to implementing this massive program. We're absolutely certain that the addition of this contractor in no way jeopardizes any of the employees we have. We're

him,” said Stephens, recalling his feelings at the time. “And I’ve got close to 1,000 hours in that aircraft.”

Copp radioed the pilot in trouble. “At that point, he was very close to being hysterical,” said Copp. “I told him we were going to put one of the aircraft away and we would see what we could do.”

The two planes landed. The pilots, both of whom have built and flown the Vari-Eze, took to the air in one plane.

Copp radioed the pilot and tried to calm him down. “All I tried to do was divert his attention. I said it would be all over in half an hour, and we’ll be having drinks and having a great time. Bruce and I talked it over and asked for Hanscom Field to be shut down. It was and the tower

gave us top priority.” The distressed pilot said he was flying over a large reservoir. He guessed that he was somewhere southwest of Hanscom.

“I had him circle at 4,000 feet,” said Copp. “I flew at 3,000 feet. We spotted him over the Cambridge Reservoir.”

As Copp brought the plane to within a few feet of the Vari-Eze, Stephens realized he knew the pilot. He had given him about three hours of instruction on how to fly the Vari-Eze. “He was Jerry Bell. He was an excellent pilot,” recalled Stephens.

Copp and Stephens flew on all sides of Bell’s plane, looking for structural damage and plotting ways to get him down safely. They couldn’t see any damage to the outside of the plane and figured he had

some kind of system malfunction. “I thought we were going to have some kind of tragedy here,” said Stephens.

The two planes, about 25 feet apart, turned toward Hanscom. Copp had Bell try various radio frequencies. Eventually, they found one that allowed both planes and the control tower at Hanscom to have radio contact at the same time.

“As he neared Hanscom, he got calmer,” said Copp. “I detected his composure coming back. I kept asking him different things. He started to answer the questions with some meaning.”

The control tower wanted Bell to try landing at the longer of its two runways. After some discussion, Copp and Stephens opted for the shorter of the two runways. Both of them had landed on the longer runway and had found a lot of turbulence, something Bell didn’t need with his current problem.

The landing was going to be the dangerous part of the operation, said Copp. “He could control only two axes. If a wing went down, if it went into a bank close to the ground, he couldn’t pick it back up. It really takes three axes of control to land an aircraft properly.”

The two planes took a long circular path of descent, eventually giving Bell a five-mile straight shot onto the runway, many times longer than normal.

“I wanted to see, as we slowed that aircraft up, what the result was going to be,” said Copp. “We wanted plenty of room to experiment. I didn’t want Bell to think about a thing. I wanted his mind totally uncluttered.”

But Stephens and Copp thought that Bell didn’t have much of a chance.

“I thought I was going to watch someone die,” said Copp. “We believed it with our hearts.”

They had Bell slow his craft, bit by bit, and nothing went wrong. He landed safely without incident.

During the debriefing, the irony of the afternoon became evident. “You have a funeral of a fallen pilot who died in a Vari-Eze, not a common aircraft,” explains Stephens. “Then, there’s an aircraft in distress that happens to be a Vari-Eze. And it just so happens I was involved in teaching both pilots to fly that aircraft.”

“It wasn’t the plane that was failing, however; it was a mechanic’s error. A bolt had come loose when a nut wasn’t replaced, putting the aileron control out of commission.

In addition to the element of fate, it was grit that had a hand in this save. Said a friend: “These men were in bad shape after the funeral, and that’s why I think it’s so incredible. They put their feelings aside.” ■

Adapted from a story by staff writer Jordan Lewis in the Evening Gazette, Worcester, Mass.



Bobby Miller was no fool to retire on April 1. The team supervisor's co-workers at the Kansas City ARTCC surprised him on his April Fool's Day departure with a chauffeured limousine to take him home.

With a big grin, Miller ended his

25 years with FAA walking a gauntlet of center well-wishers and escorted to the car by his wife, Carolyn. Inside the limousine, the couple toasted each other with champagne.

What a way to go!

Adapted with permission from the Olathe, Kan., Daily News

No Fool To Retire



Photos by Dave Kaut

Aeronautical Center

- **David D. Bonnick**, supervisor, Training Operations & Support Section, Training Methods and Operations Branch, FAA Academy, promotion made permanent.
- **Sherman E. Daugherty**, supervisor, Flight Inspection Section, Oklahoma City Flight Inspection Field Office.
- **Charles F. Eckhoff**, manager, Atlantic City (N.J.) Aircraft Services Branch, Aircraft Maintenance & Engineering Div., Aviation Standards National Field Office.
- **Gerald V. Goodnight**, unit supervisor in the Engineering Section, Engineering and Production Branch, FAA Depot, promotion made permanent.
- **Irene B. Hartman**, unit supervisor in the Special Services Section, Air Traffic Branch, FAA Academy, promotion made permanent.
- **Barbara F. Jardee**, unit supervisor, Aircraft Examination Section, Aircraft Registration Branch, Airmen and Aircraft Registry, promotion made permanent.
- **Gary L. Lacina**, supervisor of the Examiner Standardization Section, Examinations Standards Branch, Regulatory Support Div., Aviation Standards National Field Office.
- **Nicholas A. Richards**, unit supervisor in the Technical Operations Section, Airway Facilities Branch, FAA Academy, promotion made permanent.
- **George N. Shirkey**, manager, Special Equipment Maintenance Branch, Facility Support Div., promotion made permanent.

Alaskan Region

- **Arthur R. Cummings, Jr.**, watch

supervisor in the Anchorage ARTCC Airway Facilities Sector.

- **Neal Kornelis**, construction and maintenance foreman on the Technical Support Staff, North Alaska Sector, AF Div.
- **Kaye B. McLeod**, area supervisor at the Anchorage Flight Service Station/IFSS, from the Northway FSS.
- **Robert O. Mowery**, area supervisor at the Anchorage FSS/IFSS.
- **Homer A. Sutter**, manager of the Northway FSS, from the Sitka FSS.

Central Region

- **Audrey L. Allen**, operations officer at the National Communications Center, Kansas City, Mo.
- **Thomas V. Barrale**, area supervisor at the Cedar Rapids, Iowa, Tower.
- **James D. Bracken**, area supervisor at the Kansas City ARTCC.
- **Bryan H. Burleson**, manager, Columbia, Mo., Automated Flight Service Station, from the Air Traffic Div.
- **Richard A. DeBoer**, manager of the Sioux City, Iowa, AF Sector Field Office, Des Moines, Iowa, AF Sector, promotion made permanent.
- **Garth A. Goodman**, area supervisor at the Des Moines, Iowa, Tower.
- **Patrick J. Mergen**, area supervisor, Des Moines Tower, from Fairfax Tower, Kansas City, Kan.
- **John C. Minshull**, assistant manager,

Kansas City International Tower, from Kansas City Downtown Tower.

- **Billy G. Peacock**, assistant manager, Wichita, Kan., Tower, from Washington Air Traffic Operations Service.
- **John J. Roebing**, manager, Air Carrier-General Aviation Branch, Flight Standards Div.
- **Earl W. Skolaut**, manager, Employee Development Branch, HR Mgmt. Div.
- **Jerome E. Tegen**, supervisor, Operations Section, Air-Carrier-General Aviation Branch, Flight Standards Div., from Grand Rapids, Mich., GADO.
- **Richard J. Tomany**, manager, Ft. Dodge, Iowa, AFSS, from Fairbanks, Alaska, FSS.
- **Carl E. West**, unit supervisor, Berkeley, Mo., Flight Standards District Off.
- **John W. West**, manager, Position Management & Employment Branch, Human Resource Management Division.

Eastern Region

- **Mary F. Barnett**, manager, Newport News, Va., Tower, from Air Traffic Div.
- **Larry H. Cole**, area supervisor, Roanoke, Va., Tower, from Lynchburg Tower.
- **Charles E. Conklin**, area supervisor at the Atlantic City, N.J., Tower, promotion made permanent.
- **Wallace M. Cook, Jr.**, area supervisor at the Washington National Tower.
- **Donald J. Donato**, area manager, Norfolk, Va., Tower, from Harrisburg, Pa.



Carol Rayburn, the new manager of the General Aviation and Commercial Div., Office of Flight Operations, presents the Administrator's Distinguished Service Medal to Wayne Sharp, an attendant at Half Moon Bay Airport, Calif., for his rescue of three people from a plane involved in a general aviation midair crash. Within one minute, he had responded in a CFR vehicle, radioed for help and extinguished the fire. With the Tedivac personnel, he assisted in removing the injured.

Photo by Dave Hitt

- **Larry G. Giles**, area manager, New York ARTCC, from San Juan, P.R., CERAP.
- **Daniel J. Hamilton**, assistant manager, Metro New York AF Sector, from Tech Ctr.
- **Peter F. Imperatrice**, area supervisor, Long Island MacArthur Airport Tower, Islip, N.Y., from the New York TRACON.
- **Carroll E. Koller**, assistant manager for program support, Washington ARTCC AF Sector.
- **Royal F. Ruffles**, area supervisor, Westchester County Airport Tower, White Plains, N.Y.
- **Thomas E. Slocum**, chief operations, Teterboro, N.J., FSDO.
- **Leroy H. Smith**, unit supervisor, New York Air Carrier District Office.

- **Judith Hahn Terrana**, area supervisor, Du Bois, Pa., FSS, from HR Division.
- **Robert H. Todd, Jr.**, unit supervisor, Atlantic City AF Sector Field Office, Tri-State AF Sector, from Harrisburg, Pa.
- **Joseph J. Toland**, area supervisor, North Philadelphia, Pa., Tower.
- **Richard J. Velez**, supervisor, Services and Supplies Section, Procurement Branch, Logistics Division.
- **Kenneth L. Vickers**, area supervisor, Buffalo, N.Y., Tower, promotion made permanent.

Great Lakes Region

- **John O. Barnett**, area supervisor, Minneapolis, Minn., ARTCC, from Cleveland ARTCC.
- **James B. Blain**, manager, Bismarck, N.D., AF Sector Field Office, Dakota AF Sector, promotion made permanent.
- **Isaac Brown, Jr.**, area supervisor, Minneapolis ARTCC, from Atlanta ARTCC.

■ **Roger E. Brubaker**, manager, Airspace and Procedures Branch, Air Traffic Div., from Central Flow Control Facility.

■ **Harry J. Byrd**, area supervisor, Chicago ARTCC, promotion made permanent.

■ **John A. Clayborn**, area supervisor, Chicago ARTCC, promotion made permanent.

■ **Johnny M. Cox**, watch supervisor, Chicago AF Sector, promotion made permanent.

■ **Garry M. George**, area supervisor, Minneapolis ARTCC.

■ **Phil R. Holcomb**, manager, Cleveland AF Sector Field Office, Ohio AF Sector, from Aurora, Ill., AF Sector.

■ **William A. Houck**, manager, Terre Haute, Ind., FSS, from Air Traffic Div.

■ **Herb J. Johnson**, supervisor, Technical Program Standards Section, Maintenance Operations Branch, AF Division, from Dakota AF Sector.

■ **Edmund Lasecki, Jr.**, area supervisor, Chicago ARTCC, promotion made permanent.

■ **David S. Mezurashi**, assistant manager, Dakota AF Sector, from AF Division.

■ **Harold L. Nordstrom**, area supervisor, Aberdeen, S.D., FSS, from Alexandria, Minn., FSS.

■ **Dale L. Norton**, area supervisor, Bismarck Tower, promotion made permanent.

■ **William R. Olson**, assistant systems engineer, Minneapolis ARTCC AF Sector, promotion made permanent.

■ **James E. Pope**, area supervisor, Chicago ARTCC, promotion made permanent.

■ **Jimmy D. Reed**, manager, Emmet County, Mich., AFSFO, Michigan AF Sector.

■ **James B. Sagen**, area supervisor, Champaign Ill., Tower, from Rockford Tower.

■ **Michael J. Shannon**, central computer complex supervisor, Indianapolis ARTCC, promotion made permanent.

■ **Edward H. Strander**, area supervisor, Minneapolis ARTCC.

■ **Edward G. Threm**, manager, Michigan AF Sector, from Ohio AF Sector.

■ **Wayne A. Winslow**, area supervisor, Chicago ARTCC, promotion made permanent.

New England Region

■ **Michael A. Lauer**, supervisor, Navigation/Visual Landing Aids Section, Facilities Establishment Branch, AF Div.

■ **Dimitrios J. Merageas**, manager, Bedford, Mass., Tower, from AT Division.

■ **John E. Tigue**, chief, Engine & Propeller Standards Staff, Aircraft Certification Division.

Northwest Mountain Region

■ **Lewis A. Bass**, assistant manager for systems performance, Salt Lake City, Utah, ARTCC AF Sector, promotion made permanent.

■ **Billy R. Boxwell**, manager, Policy/Procedures Branch, Regulations and Policy Office, Aircraft Certification Division, promotion made permanent.

■ **Mary Ann Dunn**, supervisory personnel

management specialist, Denver ARTCC, from Personnel Management Div.

■ **Timothy A. Foren**, maintenance mechanic foreman, Salt Lake City Field Maintenance Party.

■ **John R. Frank**, airman certification specialist, Seattle, Wash., FSDO.

■ **Lee A. Fryer**, manager, Baker, Ore., FSS, from the Denver FSS.

■ **Gilbert R. Sanderson**, manager, Aurora, Colo., AFSFO, Denver AF Sector.

■ **Thomas D. Starbuck**, area supervisor, Colorado Springs, Colo., Tower, from Portland, Ore., Tower.

■ **Harold F. Wasinger**, supervisor, Systems and Equipment Branch, Los Angeles Aircraft Certification Office, Aircraft Cert. Div., promotion made permanent.

Retirees

Cothrum, Phillip T.—AC
Farquhar, William B.—AC
Houck, Loyd E.—AC
King, M.D.—AC
Montgomery, Imogene H.—AC
Tomes, James R., Jr.—AC
Willis, Andrew C.—AC

Berry, Frank E.—AL
Petrishak, Anna R.—AL

Curtis, Raymond A.—CE
Miller, Bobby R.—CE
Shaw, John E.—CE
Spitcaufsky, Martin—CE

Davis, Donald B., Sr.—CT

Bicknese, Louis C.—EA
Brocke, Edward C., Jr.—EA
Craven, Bertram A., Jr.—EA
Frame, William H.—EA
Hallett, Lloyd L.—EA
Harris, Robert P.—EA
Katzen, Jerry S.—EA
Kittrick, Joseph F.—EA
Lochner, Robert G.—EA

Buczyna, Francis A.—GL
Hunter, Roy F.—GL

Johnson, Duane L.—GL
Kwiatkowski, Helen A.—GL
Lohmeyer, Walter E.—GL
Moyryla, Uno B.—GL
Presdorf, John E.—GL
Rago, Richard L.—GL
Reaves, Gerald O.—GL
Rooker, Ronald H.—GL
Ulvog, Adrian C.—GL
Van Wormer, Richard A.—GL

Fry, Eileen—MA

Anderson, Richard A.—NE
Toreson, Carl W.—NE

Berry, Robert T., II—NM
Bugbee, James M.—NM
Carr, James H.—NM
Coldwell, George R.—NM
Heath, James P.—NM
Versch, Francis E.—NM
Wade, Charles S.—NM
Williams, John F.—NM

Alexander, James M.—SO
Boone, Jacob M.—SO
Bowman, Loyd P.—SO
Clark, James M.—SO

Connolly, Theodore J.—SO
Feix, Charles W.—SO
Groseclose, Bernard C.—SO
Gurley, Connie M.—SO
Hubble, Milton—SO
Hunter, James B.—SO
Jenkins, James F.—SO
Johnson, Elyse S.—SO
Lake, Milo G.—SO
Poss, Charles A.—SO
Shaw, William—SO
Shirley, Joe B.—SO
Smith, Lloyd P.—SO
Stinson, Kelly D.—SO
Watts, Edward T.—SO

Barnett, Fred W.—SW
Brady, Harold R.—SW
Clark, Jimmie C.—SW
Dawson, John W.—SW
Duran, Charles W.—SW
Frazier, Charles E.—SW
Gigstead, Norman R.—SW
Hines, William H.—SW
Mason, Thomas W., Jr.—SW
McCarty, Robert H.—SW
McNabb, Charley D.—SW
Mick, Larry V.—SW
Morgan, Samuel D., Jr.—SW

Neely, Lester M.—SW
Noltensmeyer, David E.—SW
Ridlon, Edward R.—SW
Rogers, James A.—SW
Salyer, Betty S.—SW
Shults, Don E.—SW
Stanton, Sprague N.—SW
Stephenson, Kenneth L.—SW
Winter, Lewis C.—SW
Zimmer, Bernard R.—SW

Anderjaska, Arnold E.—WA
Giles, James A.—WA
Honeck, Jacquelyn J.—WA
Manatos, Mary M.—WA
Robbins, James A., Jr.—WA
Sargent, Courtney R.—WA

Dau, Marguerite C.—WP
Dealing, Robert E.—WP
Denniston, James M.—WP
Galbraith, Willard L.—WP
Johnen, Joseph J., Jr.—WP
Johnson, Edward W.—WP
Lacy, Genevieve J.—WP
Miller, Charles—WP
Opdyke, Jon P.—WP
Starkey, Robert E.—WP
Tellez, Daniel—WP

■ **Hal W. Wright**, engineering equipment operator foreman, Salt Lake City Field Maintenance Party, from Vancouver, Wash., Field Maintenance Party.

Southern Region

- **William T. Abernathy**, manager, Miami, Fla., ARTCC, from AT Operations Service.
- **Drexley C. Barksdale**, area manager, Atlanta, Ga., ARTCC, from AT Division.
- **Frank C. Cheskey**, area supervisor, West Columbia, S.C., Tower, from Miami International Tower.
- **Walter R. Coker, Jr.**, manager, Memphis, Tenn., Tower, from Birmingham, Ala.
- **Amado Colberg-Ortiz**, assistant manager for automation, San Juan, Puerto Rico, Center/RAPCON.
- **William B. Collins**, manager, Gulfport, Miss., AFSFO, Jackson, Miss., AF Sector.
- **Donald E. Ellis**, area supervisor, Jacksonville, Fla., ARTCC, promotion made permanent.
- **James L. Garringer**, area manager, Atlanta ARTCC, from the Miami ARTCC.
- **Roland S. Holmes**, area supervisor, Mobile, Ala., Tower, from Pensacola, Fla.
- **Philip L. Loftin**, manager, Charlotte, N.C., Tower, from Memphis Tower.
- **Walter Lucas, Jr.**, manager Muscle Shoals, Ala., FSS, from Ft. Myers, Fla.
- **Norman J. Magyar**, assistant manager, plans and procedures, Jacksonville Tower.
- **George E. Mattern**, supervisory aviation safety inspector, Maintenance Branch, Flight Standards Div., promotion made permanent.

■ **James H. McCannell**, area supervisor, Jacksonville ARTCC, promotion made permanent.

■ **William R. Peery**, area supervisor, Atlanta ARTCC, from Washington Air Traffic Operations Service.

■ **Earl A. Pitts**, area supervisor, Pensacola, Fla., Tower.

■ **Charles A. Scordo**, area supervisor, Jacksonville ARTCC, promotion made permanent.

■ **Robert K. Seagle**, operations officer, Atlanta FSS, from St. Petersburg, Fla.

■ **Billy E. Sluder**, unit supervisor, Charlotte, N.C., AF Sector, promotion made permanent.

■ **Richard L. Steinkamp**, area supervisor, Fort Myers, Fla., FSS, promotion made permanent.

■ **Harry W. Taber**, unit supervisor, Mid-South FSDO, Atlanta, Ga.

■ **Isadore K. Thornal**, manager, Tri-City FSS, Bristol, Tenn., from Florence, S.C.

■ **Paul E. Williams**, assistant manager for program support, Atlanta Hub AF Sector, from the Airway Facilities Div.

■ **Lacy E. Wright, Jr.**, area supervisor, Jacksonville Tower, promotion made permanent.

Southwest Region

■ **James B. Brownfield**, manager, Oklahoma City, Okla., FSDO, promotion made permanent.

■ **William A. Daniel**, manager, San Antonio, Texas, Manufacturing Inspec-

tion District Office, from Oklahoma City MIDO.

■ **Burton J. Eisen**, area supervisor, Childress, Texas, FSS, from Dallas FSS.

■ **David P. Gibson**, manager, Midland, Texas, Tower, from Lubbock, Texas.

■ **Jasper T. Hamilton**, unit supervisor, Dallas, Texas, FSDO.

■ **Carl L. Holdridge**, area supervisor, Houston Texas, ARTCC.

■ **Denson D. McNully**, nav aids specialist, Dallas-Fort Worth Tower AF Sector.

■ **Patricia P. Osborn**, area supervisor, Little Rock, Ark., Tower, from Santa Fe, N.M., Tower.

■ **Michael K. Patterson**, manager, Texarkana, Ark., Tower, from Oklahoma City.

■ **John F. Raymond**, manager, Carlsbad, N.M., AFSFO, El Paso, Texas, AF Sector.

■ **David L. Rye**, assistant systems engineer, Fort Worth ARTCC AF Sector.

■ **Frederick C. Seeger**, assistant manager for technical support, Houston AF Sector, from the New Orleans, AF Sector.

■ **Charles B. Taylor**, unit supervisor, Oklahoma City FSDO, from Dallas FSDO.

■ **Bobby R. Tillery**, manager, San Antonio, Texas, AFSFO, San Antonio AF Sector.

■ **Max L. Tindell**, assistant manager, Houston ARTCC, from Air Traffic Div.

■ **Robert E. Wanless**, unit supervisor, Fort Worth ARTCC AF Sector, from the FAA Academy.

■ **John E. Whitten**, unit supervisor, Albuquerque, N.M., AF Sector, in Amarillo, Texas, from Little Rock, Ark., AF Sector.

cont. on back cover

By Roger Myers

The Southern Region assistant public affairs officer and a former controller, he has been published in newspapers and literary magazines.

High Tech and the High Road

Long-Range Radar Technicians Live in Two Worlds

Lynch

In the key of G, the old fiddle tune “Sugar Hill” wafted across the mountaintop, blending with the gentle breeze that was stirring the wisps of fog enshrouding the FAA’s Lynch, Ky., long-range radar site on Black Mountain.

Almost as old as the surrounding slate gray mountains, the tune evoked a time long ago when a band of hardy mountaineers civilized the backwoods of eastern Kentucky and southwestern Virginia. Played on a four-string homemade banjo by electronics technician Hobart Crabtree, the music brought into focus the blend of near-21st Century technology and a 19th Century environment in the 20th Century.

Crabtree’s performance on the banjo—one of many he’s made—was followed by his telling his visitors of the story of Big Stone Gap’s outdoor drama “The Trail of the Lonesome Pine,” which is the story of the settling of the area. Crabtree and most of the members of his family perform in this annual presentation.

Here and at most of these rural and remote sites, technicians like Crabtree fit in like a tree in a grove,

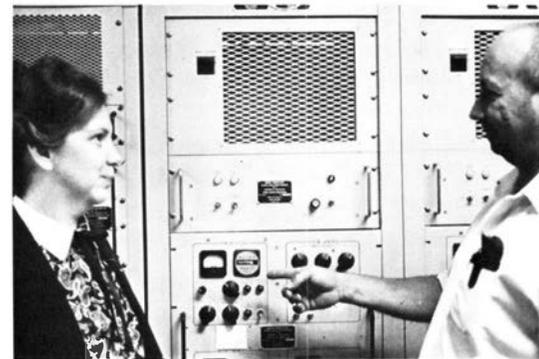
and their surroundings suit them fine. In a way, the technicians can enjoy the best of both the technological and natural worlds. In their remote aeries, they know how vital their work is to the air traffic control system and can take pride in it.

But all too often, these FAAers who maintain the long-range radars are not only low profile but often are

Jim Alexander, manager of the Lynch AF Sector Field Office—the ARSR—runs tests on radar microwave link equipment.



The ARSR-2 at Lynch, Ky., is the Southern Region’s highest long-range radar.



Electronics technician Walter Crouse discusses some of the Lynch equipment with Lill Cooper from the parent Covington, Ky., Airway Facilities Sector.

Photos by Roger Myers



Pickin' and grinnin' on homemade banjos at the Lynch ARSR site atop Black Mountain are electronics technician Hobart Crabtree and author Roger Myers.

Fort Lonesome

not even known beyond the local area.

The theme of the technician could be that of Arlo Guthrie's "Hey, good morning America . . . Don't you know me? I'm your native son." And while the train in the song, the City of New Orleans, will travel 500 miles when day is done, the technicians' radars will have swept 200 miles of airspace every 12 seconds to help maintain America's new railbeds—the airways.

The Lynch radar is located in a poverty-stricken coal-mining area where all traces of civilization are left behind after passing the tiny village of Appalachia, Va., near the state line.

The radar is an ARSR-2 and pro-



The Fort Lonesome ARSR-3 shares its site with an Air Force height finder radar amid the grasses and palmetto bushes.

Atlanta



The Atlanta, Ga., long-range radar does not sit in isolation atop a mountain but next to a busy highway in Marietta.



This is Fort Lonesome, Fla.—all of it.



Electronics technician Herb Pearce (left) shows some of the Fort Lonesome equipment to Airway Facilities Division assistant manager Don Davis and Southern Region Director Jonathan Howe (right).

vides data to the Atlanta, Ga., and Indianapolis, Ind., ARTCCs. The antenna and pedestal sit atop a 75-foot tower, which makes it the tallest radar in the Southern Region. At 4,500 feet, the atmosphere is rather thin, but the sector's hospitality is not, as evidenced by sector field office manager Jim Alexander and technicians Crabtree, Walter Cruse, Don Ferrell and Jerry Stiles when visitors are present.

Lynch is not only miles away from bustling Atlanta but also light years

away in mood and life style.

Then, too, Atlanta is a radar anomaly. The Atlanta ARSR-1 sits next to one of the most heavily traveled highways—at the intersection of U.S. 41 and Windy Hill Road near Dobbins Air Force Base in Marietta, Ga. The Atlanta Center it serves sits out in rolling farm land 35 miles south of Atlanta.

The technicians here fit in just as well and are heavily involved in their communities. In fact, Marietta sector field office manager Charlie Bowman points out that in the 25 years since the radar was commissioned, none of the electronics technicians who had reported aboard then or immediately afterward have left.

Florida's State Highway 674 leads east-southeast from busy, growing Tampa and, like a Seminole arrow, heads straight into the heart of the state's phosphate mining country.

In this area, forget about images of row upon row of citrus trees, sun-baked beaches and the sparkling blue waters of tourist ads. Instead, there are the signs of an American landscape that is a throwback to another time, as the scrub palmetto bushes and wire grass lead past towns named Ruskin, Balm, Wimauma and Fort

Haleyville



The Haleyville, Ala., ARSR, an FPS-67 located in the Bankhead National Forest, once looked down on the Panama Canal.



Electronics technician Richard Wisener (left) discusses an equipment problem with Haleyville Sector Field Office manager Henry Mizell, Jr.

Crossville



The Crossville, Tenn., beacon-only radar in the Crab Orchard Mountains atop the Cumberland Plateau serves the Atlanta and Memphis, Tenn., centers.

Lonesome. The last—at the intersection of Routes 674 and 39—is the nearest neighbor of FAA's Fort Lonesome long-range radar.

Uptown Fort Lonesome consists of the Fort Lonesome General Store. The folks at the store advertise they have the coldest beer in town, and it's true. It's true because they have the only beer in town. As a matter of fact, they are the town.

Sector field office manager Richard Gaines has an ARSR-3 that is maintained by electronics technicians Zane Crabtree (no relation to the Lynch Crabtree), John Ingram and Herb Pearce.

The radar was commissioned in



Covington, Ky., AF Sector manager Dave Bullock (right) chats with (left to right) Crossville electronics technician Walter Madison; Knoxville, Tenn., AF Sector manager Bobby Perkinson; Crossville Sector Field Office manager Tom Kidwell and Crossville electronics technician Eugene Cotter.

November 1980, and Pearce and Crabtree came over from the radar site at Tyndall. Strangely, in their 25-year careers, the two have served at the same locations since they began their careers at Dolphin Island in 1960. Neither of them planned it that way; it just happened. With a chuckle, Pearce cracks, "And we still speak to each other, too."

Occasional visits by deer, cattle, rabbits and rattlesnakes make for a normal day at Fort Lonesome. One can step outside in the broiling sun here and not see any signs of modern living like telephone poles, TV antennas, sidewalks or traffic jams. Instead, nothing can be seen for miles around except smoke on the horizon marking the nearby phosphate mine.

For contrast, consider the Haleyville long-range radar. Between Birmingham and Decatur in the industrial Tennessee Valley of north central Alabama lies the Bankhead National Forest. Franklin County Road 38 enters the forest and at the top of the hill is the radome.

This radar was shipped from Panama as part of FAA's pull-out from that country. The Haleyville technicians had the chore of restoring the unit before commissioning it because of climatic deterioration and the fact that it had been in storage for some time.

The low-pitched whirr of the

revolving FPS-67 radar on Sunday mornings is mixed with the high-pitched voices of congregants singing hymns in a church just across the road. After an old-fashioned picnic at the church, you can bet there is always enough fried chicken left for the technician on duty next door.

Henry Mizell, manager of the sector field office, comments, "We've only had one technician leave here since we commissioned the system in 1980, and everyone loves living here in the surrounding rural areas."

Technician Richard Wisener echoes that sentiment: "It's a good place to live and raise a family. I wouldn't want to be anywhere else."

While it might be an overstatement to say, "If you've seen one radar site, you've seen 'em all," there is a sameness within the hi-tech world of the bubble and its transmitter building. And stepping outside, the technician usually is in a world of dirt roads, general stores, rolling farms, magnificent scenery and outdoor recreational opportunities and a lot of "down home" people.

Perhaps, just perhaps, it's this world and not the technological one that attracts the long-range radar technician to his calling. ■

People cont .from page 15

Washington Headquarters

- **Mariann P. Crane**, manager, Classification Branch, Personnel Management Operations Division Office of Personnel & Training.
- **Frank S. Del Gandio, Jr.**, manager, Accident Coordination Branch, Accident Investigation Div., Office of Aviation Safety, promotion made permanent.
- **Wallace L. Emory**, chief of the Frankfurt, Germany, International Field Office.
- **Frances R. Melone**, manager, Management Engineering Branch, Management Analysis Division, Office of Management Systems, promotion made permanent.
- **Paul H. Strybing**, manager, System Performance Branch, Operations Div., Air Traffic Operations Service, from Buffalo, N.Y.
- **William J. Tomasetti**, supervisor, Applications Development Section, Data Processing Center, Data Systems Management Div., Office of Management Systems.

- **Harriet Tucker**, manager, Management Studies Branch, Management Analysis Div., Office of Management Systems.

Technical Center

- **Frank H. Elbertson**, manager, Personnel Management Branch, Administrative Systems Division.
- **Vincent J. Zumpano**, supervisor, ARTS IIA/EARTS Field Support Section, National Automation Field Support Branch, Operations Division.

Western Pacific Region

- **Robert Anolin**, area supervisor, Oakland, Calif., TRACON, from San Francisco.
- **Earlene Graham**, administrative officer, Oakland TRACON.
- **Alexander Gulyas**, supervisor, Environmental Support Unit, San Francisco AF Sector, promotion made permanent.
- **Thomas B. Huntington**, manager, Torrance, Calif., Tower, from AT Division.
- **Frank L. Kellogg, Jr.**, manager, Reno,

Nev., FSDO, from Sacramento, Calif.

- **Leonard L. Levandowski**, manager, Riverside, Calif., FSDO, from Phoenix, Ariz.
- **Michael Liversidge**, area supervisor, Prescott Ariz., Automated FSS, from Phoenix FSS.
- **Jimmie J. McCord**, manager, Long Beach Calif., Tower, from Air Traffic Div.
- **Richard R. Merriman**, manager, Oakland FSDO, from Central Region Flight Standards Division.
- **Valentine J. Pisarski**, manager, Elko, Nev., FSS, from Reno FSS.
- **Drew N. Stallings**, manager, Reno Airway Facilities Sector Field Office.
- **Frank H. Walley**, unit supervisor, Honolulu, Hawaii, FSDO.
- **Terrell E. Wilson**, assistant manager, Prescott AFSS, from Phoenix, Ariz., FSS.

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