

# World

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





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## Research Highlights

Tests on fire extinguishing agents conducted by the FAA Technical Center for the U.S. Air Force are sparking the interest of FAA and commercial aviation.

The research facility's study concluded that the Air Force might want to use Halon 1211 rather than the Halon 1011 currently in use for habitable aircraft compartment fires or Halon 1301 and Halon foam, halogenated hydrocarbon extinguishing agents, because of its greater effectiveness and potentially lower

toxicity to the flight crew.

The study measured the amount of pure agent needed for different volumes of fire under varied conditions of ventilation, the agent's decomposition by-products, its throw range, fixed-distance effectiveness and compartment visibility. Preliminary data also showed that Halon 1211 could be used with only minor modifications to existing hardware.

According to George Chamberlain, program manager, "The study was only concerned with the engineering aspects. . . . We did not consider the economic, logistical or material aspects of these agents to any great degree."

The tests, conducted in a specially instrumented bus, were on a Class A fire of cotton (above) and a Class B fire of jet fuel. The Halon 1211 was more than six times more effective than Halon 1011. ■

**Front Cover:** The EAA Fly-In boasts a dizzying array of home-built, sport, antique and vintage military aircraft, including this Hawker Sea Fury getting some TLC from its owner.

Photo by Jerome Doolittle

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### New Lift for Aviation?

Is a renaissance of airships in the offing? There are arguments on both sides, but it just might be the right era for a vehicle that is economical of fuel, creates less noise and air pollution and may find service as a heavy lifter. In the meantime, FAA has a difficult chore in developing new regulatory standards.

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### Safety Behind the Scenes

The colorful and strange mix of aircraft in the traffic patterns over Oshkosh, Wis., and on Wittman Field for each summer's EAA Fly-In is fascinating, but keeping these odd birds safe is a big job for FAA's Flight Standards inspectors.

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### Eyes for Fort Myers

Southwest Florida has experienced a boom that is straining aviation facilities. FAA and local government are now building for the future, but FAA has also rushed in with a borrowed temporary radar.

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By Joseph Garonzik

A historian and a freelance writer on aviation and urban affairs, he was on the staff of the Office of Public Affairs this past summer.



## New Lift for Aviation?

### Airships May Reappear on the Horizon

WLS radio announcer Herb Morrison's voice cracked then choked into uncontrollable sobbing as he broadcast the catastrophic end of the mighty German dirigible. As Morrison and a crowd of well-wishers at Lakehurst, N. J., looked on in horror, some mysterious spark ignited the Hindenburg's volatile hydrogen, transforming the luxurious zeppelin into a suspended inferno before sending it crashing to the airfield below and killing 35 of its 97 occupants.

Today, more than 40 years after the Hindenburg sounded the death knell for rigid transoceanic passenger airships, a new generation of dirigibles may be on the horizon.

Within the FAA, speculation is mixed concerning a resurrection of the airship. FAA engineer and airship aficionado Bill White, for example, insists that "the renewed interest in airships evident in the world today is no passing fad."

Charles Arnold, Chief of the Flight Test Section in FAA's Great Lakes Region, is more dubious about the chances of a dirigible renaissance. Says Arnold, "There are very real limitations on the practical applications of the airship in domestic commerce. Even a 10 mph wind can create large forces on its huge surface area. It is simply very hard to handle."

If the airship does make a comeback as a border patroller or heavy-lifter, as some have advocated, the FAA may have to establish new standards for airworthiness and pilot training. "The FAA's primary concern is safety," says Gary Wullenwaber of the Flight Standards National Field Office in Oklahoma City, who claims that "any new design in airships must meet or surpass proven standards of safety."

Historically, there have been three varieties of airship that have flown: rigid,

semi-rigid and non-rigid.

An airship, such as the blimp or non-rigid variety, is a fully enclosed fabric envelope that owes its buoyancy to helium gas in gas cells. (The inert gas helium supplanted highly flammable hydrogen in dirigibles because it is perfectly safe and only slightly denser.) Airships are driven by propeller engines and may be steered in flight.

The semi-rigid dirigible was simply a blimp with a rigid keel running along the bottom from nose to tail. This arrangement is now considered obsolete.

The hull of a rigid zeppelin, on the other hand, was fitted with a skeleton of aluminum girders and reinforcing steel rings, as in the Hindenburg and Graf Zeppelin.

The zeppelin's metal framework maintained the shape of this floating luxury liner of the sky, which could accommodate more than 100 travelers and was



An artist's rendition of the hybrid Piasecki Heli-stat, which would combine the lifting power of a non-rigid airship with four helicopters. It's being developed under a Forest Service contract.

Smithsonian Institution photo

far bigger than any blimp. The Hindenburg was over 800 feet long and had a capacity of over 7,000,000 cubic feet—more than double the volume of the largest non-rigid ever constructed.

Airships did not fade from view entirely after the crash of the Hindenburg in 1937. Nearly 200 Navy blimps patrolled the Atlantic and Pacific Oceans for submarines during World War II. With the coming of peacetime, the jet age and nuclear power, however, the Navy decommissioned the last of its slow-moving "poopy bags" in 1952. Since then, Americans' association with airships, or aerostats, has been limited to sightings of the Goodyear blimps at sporting events or on advertising junkets.

That is, until now. Although the days of the zeppelin as a luxury transatlantic passenger vessel are probably gone forever, new blimps or blimp hybrids are now in development.

In April of this year, the Coast Guard and NASA embarked on a joint project to come up with a non-rigid airship for search and rescue, law enforcement, and other continuous surveillance missions. According to NASA's Lighter-Than-Air (LTA) expert, Norman Mayer, "The project calls for fabrication of a scale model demonstration vehicle—on the order of the Goodyear blimps—within two years."

If successful, the Coast Guard blimp, equipped with radar and infrared sensors, could be on the lookout for illegal fishing trawlers, smugglers or ships in distress along America's shores.

Although they have not yet set up programs of their own, the Immigration and Naturalization Service, the Law Enforcement Assistance Administration, the



The Goodyear blimps (from top to bottom) Mayflower II, Columbia and America are likely the only airships that Americans have seen in the skies in many a year.

Customs Service and the Environmental Protection Agency also are interested in such airships.

In January, the U.S. Forest Service, in cooperation with the Navy and the Department of Transportation became the first Federal agency to actually commit funds for a new breed of airship. It awarded a \$10 million contract to Piasecki Aircraft Corporation to assemble a hybrid aerostat capable of lifting a gross weight of 50 tons.

The design of the Piasecki Heli-stat calls for a 240-foot-long, non-rigid airship

attached to four large Sikorsky H-34 helicopters (all donated by the Navy) by means of a large frame. A pilot seated in the left rear copter will control the huge airship, which would pack enough buoyancy to lift 25 tons.

Should Piasecki assemble the Heli-stat by mid-1981, as planned, the Forest Service will subject it to a three-year demonstration/experiment to ascertain its practical value to the timber industry. George M. Leonard, Assistant Director of Timber Management in the Forest Service, projects that this heavy-lift airship

should be able to haul timber at least five miles to the nearest road or waterway, compared with the one-mile limit of conventional helicopters or logging trucks.

This would allow the industry to harvest timber over 63,000 acres at a time, compared with the present, 3,000-acre range, permit removal of previously inaccessible trees in mountainous or marginal regions and reduce the cost and environmental degradation attributable to clearing roadways.

If the Heli-stat lives up to its billing, one source estimates that the international timber industry may be able to use as many as 1,000 of them. The construction and shipping industries also may



Controllers Bill O'Brien and Mary Peters are confronted with unusual traffic on the ramp at Hanscom Field in Bedford, Mass. It's the Good Beer Blimp Busch, the largest thermal airship in the world.

want to utilize a heavy-lift aerostat for other cumbersome short-haul operations, precision placement of prefabricated towers or girders and loading of container vessels away from crowded ports or near cities with shallow harbors.

The 1970s witnessed a large outpouring of books and articles on the LTA. No fewer than 75 monographs on the history and future of the airship grace the stacks of the FAA library in Washington, D.C. Most of them are authored by dirigible diehards like Bill White, an FAA electrical engineer in New York City.

White is the author of "The Future of Airships," an easy-to-read, well-illustrated primer on the subject.

An unabashed "helium head," White believes that the zeppelin era would not have ended had the U.S. Government been willing to sell helium to Hitler's Germany from our monopolistic stockpile of that inert gas. White contends that the Hindenburg's dangerous hydrogen-lift support system unfairly scandalized the airship concept and "that the only serious problem holding back the rebirth of the airship as an integral part of the modern

transportation system is the lack of knowledge on the part of the public."

It was the spilled diesel fuel burning up to the gondola that accounted for most of the deaths in the Hindenburg disaster, although the flammable hydrogen was the fuse—a factor no longer of concern.

The extraordinary test flight of Aereon 26 at NAFEC (now the FAA Technical Center) in 1971, embodying the faiths of LTA visionaries, much also be credited with launching the new era.

The Aereon Corporation, the organization responsible for this feat, is a collection of former Navy airship pilots, theologians, Princeton University professors and assorted venture capitalists. They have labored since 1959 to perfect an aircraft that combines the best features of aerodynamic and aerostatic flight.

John McPhee, who chronicled their efforts in "The Deltoid Pumpkin Seed," has captured the driving conviction of John Fitzpatrick, designer of the predecessor vehicle to Aereon 26:

"Airships had fantastic capabilities. They were less vulnerable to weather than any other form of transportation.

"Do you know how many people died in the Hindenburg? Thirty-six. Thirteen were passengers. Those thirteen were the only passengers who were ever lost in 20 years of commercial travel by airship, but an eyewitness announcer was there when the Hindenburg burned, and he snivelled and he cried, and the Hindenburg disaster

became one of the great news events of our time.

"Airships had extreme range and low operating cost. . . . They were the most economical means of air travel ever conceived. They were almost never used for what they did best. . . . The future of the airships was settled on false grounds."

Fitzpatrick's creation, Aereon III, which was completed in 1966, represents the only rigid zeppelin to be built in the United States since the 1930s. It ground looped during taxiing.

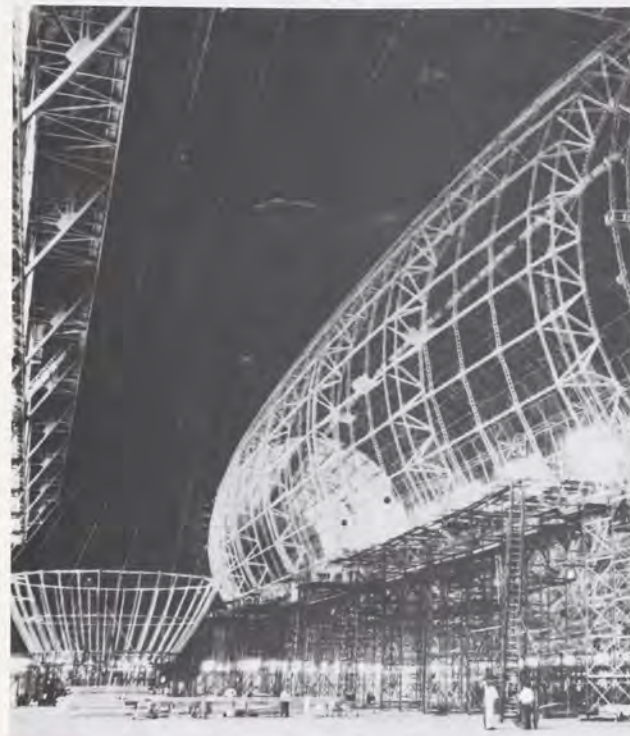
Aereon 26 was another matter. According to then NAFEC program manager Vincent Sanborne, "this 25x27 stubby triangular airfoil (hence deltoid pumpkin seed) made six flights at the Technical Center, each time climbing 1,000 feet above the runway and circled the Center twice before gently touching down. These flights of the Aereon 26 demonstrated that an airfoil could attain adequate lift without expending great quantities of fuel on takeoff and could reach even higher altitudes with helium assistance."

Although the Aereon Corporation still hopes to market a full-size deltoid heavy-lifter, it has not yet raised the necessary financing.



The 20-day circumnavigation of the globe by the Graf Zeppelin I in 1929 inaugurated the heyday of the dirigible. It was more than 774 feet long, 100 feet wide and could cruise at 71.5 miles per hour.

Smithsonian Institution photo



Unlike the pressurized blimp, the hull of a dirigible was supported by aluminum girders and steel rings, as shown here during the construction of the U.S. Navy's airship the Macon.

The buoyant optimism of White and the futuristic prototypes of the Aereon Corporation alone could not have elevated the airship to the realm of a serious idea. What did were the positive judgments on new LTA technologies by the National Aeronautics and Space Administration in its planning for an energy-scarce, pollution-conscious world.

NASA attached new importance to LTAs in 1974 when it sponsored a series of workshops at the U.S. Navy's Graduate School in Monterey, Calif. It later subjected a number of scale-model airships to dynamics and control experiments in the 12-foot wind tunnel situated at NASA's Ames, Calif., Research Center.

At the February 1979 hearings on the LTA conducted before a subcommittee of the Senate Committee on Commerce, Science and Transportation, NASA reported on cost effectiveness studies supporting further development of airships for heavy lifting and surveillance.

Like so many other new ideas in aviation circles today, the airship has gained credibility because of the tremendous price rise in aviation fuel since 1973. Helium, though scarce, can be extracted in sufficient quantities to support all projected airship missions and would be far cheaper than fueling enough helicopters or Coast Guard cutters to do the job.

NASA studies indicate that an LTA

could perform all Coast Guard search and rescue missions—compared with 50 percent for helicopters—at half the cost of the most efficient Coast Guard cutter.

The developmental cost of an aerostate is also smaller than the price tag for a new generation of heavier lift helicopters, such as the Army's ill-fated HL-H helicopter project.

Curiously, though, it is not an LTA from the U.S. but a development from abroad that is occupying the immediate attention of the FAA.

Gary Wullenwaber is busy drafting a new standard for lighter than air vehicles in responses to a request for type certification by the German airship manufacturer, Westdeutsche Luftwerbung (WDL).

WDL has designed and built one of the first new non-rigids in years and is planning to lease it in the United States as an advertising vehicle. (Germany is not alone among foreign nations exploring new uses for the dirigible. The governments of France and Japan and a British firm—Thermoskyship and Airship Development Company—are also moving in that direction.)

Writing a new LTA standard is like assembling a jigsaw puzzle without knowing exactly what the thing is supposed to look like, says Wullenwaber. "For one thing, the FAA has never had a specific standard for airships, although the agency has certificated airships, such as the Goodyear blimps, using a Navy standard that originated in the 1930s."

The soundness of the Navy standard is reflected in Goodyear's safety record: The company has never suffered a fatal accident.

Since the WDL airship reportedly is similar to the Goodyear version, the proposed FAA standard probably will draw on the Navy's. The very limited improvements in airship design since World War II dictate that FAA follow a conservative course in developing its safety standard.

According to Wullenwaber, "The only general manual on the subject, C.P. Burgess's 'Airship Design,' was published in 1927. With a few notable exceptions, there is a tremendous gap in the literature from the late 1930s until the 1970s."

What's more, blimp experts are a rare breed and getting scarcer. Earlier this year, Vladimir H. Pavlecka, the last survivor of the design team responsible for the only operational metal clad, pressurized blimp, the Navy's ZMC-2, died at the age of 79.

The passing of the LTA luminaries and the absence of a mature body of knowledge on airships has sent Wullenwaber rummaging for whatever he can find. When the proposed standard is completed, however, it will probably be the most comprehensive regulation ever prepared for the non-rigid airship.

Should the FAA ultimately have to pass judgment on the airworthiness of the Piasecki Heli-stat or another hybrid, it will be venturing into uncharted skies.

"How will the flow field created by its

four helicopter rotors affect the stability of the proposed Heli-stat?" asks Woodford Boyce, an FAA aerospace engineer in the Rocky Mountain Region. Woodford, who helped write the preliminary draft of a hot air blimp standard in 1974, recalls that "the company had a difficult time marrying a Volkswagen propeller engine to the aerodynamics of the basic balloon."

The Navy, which pursued a modest LTA R&D program of its own during the 1970s, has raised other potential problems. William Koven, Associate Technical Director of the Naval Air Systems Command, who does not see a blimp in the Navy's future, is concerned about "the basic aerodynamics of ellipsoidal shapes," which have been proposed for several new vessels, and the "flying qualities required for precision maneuvering and accurate positioning in space."

Aside from its inability to perceive useful military applications from its studies, the Navy's caution may be influenced by the wrecks of the Akron and the Macon, two American-made zeppelins which went down a few years before the Hindenburg. Although the Akron broke up in an electrical storm, the wreck of the Macon over Point Sur, Calif., in perfectly calm weather resulted from a minor structural failure.

FAAer Charles Arnold shares the Navy's skepticism. As chief of the Flight Test Section in the Great Lakes Region, Arnold has logged much flying time in the Goodyear blimps and other LTAs. Recounting a recent minor accident involving a Goodyear airship, Arnold feels that "past airships have been difficult to control—especially in the wind. A blimp tends to weathercock in the wind," a pro-



The Aereon 26—the "Deltoid Pumpkin Seed"—a lifting body that combines aerodynamic and aerostatic qualities—made six successful flights to 1,000 feet at NAFEC in 1970. With helium added, it could reach higher altitudes.

Photo courtesy of Aereon Corp.

blem which is compounded, he continues, "by the slow reaction time of its tail surfaces. Before the pilot can respond, he's got a flailing airship on his hands."

Although Arnold is not entirely pessimistic about the advent of a new generation of LTAs, he cautions that the Heli-stat and other hybrids will have to pass a number of crucial tests. "Piasecki may be able to resolve the problem of slow response time by furnishing the pilot with electronic black boxes—sensing and responses systems—to enable him to cope with atmospheric changes far faster than in blimps of old."

This and other issues, however, cannot be resolved until the vehicle is actually in the air. "Despite encouraging wind tunnel experiments on scale models," Arnold warns, "scaling up to operational size frequency carries with it some interesting

surprises that could place critical hurdles in the path of certification."

Besides airworthiness, FAA must consider the questions of who shall fly the new airships and where. Mike Sacrey of the FAA's General Aviation and Commercial Division argues that the agency ought to "establish a new rating for pilots of the Heli-stat and other hybrid or revolutionary airships."

Since airships are not very efficient vehicles above 1,000 feet, they will not pose a major problem for air traffic controllers. But, where will they dock when not in use? Can they be flown safely over ports and other built-up areas, as well as the sea coast or remote terrain? Under what weather conditions must they be

grounded? How will considerations of air safety affect their practical value? Will they undermine the airship's vaunted cost-effectiveness?

Clearly, before we can observe a new family of airships overhead, they will have to shed the ballast of these and other questions posed by the people whose job it is to determine the safety and utility of anything that flies.

It is just possible, however, that the burden remaining may be less weighty than the progress that airship proponents have already made in the last few years. This progress was achieved despite the absence of an established airship industry, an inadequate technological base and high costs.

Is there a Heli-stat, a Deltoid Pumpkin Seed or a nuclear-powered airship, for that matter, in our future? Who's to say not? ■

By Warren  
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## Safety Behind the Scenes

Inspectors Play Key Role at EAA Show



During one of their walk-arounds at this year's EAA Fly-In, Milwaukee FSDO operations inspector Doug Hatling (left) and airworthiness inspector Ed Prentice pause to look at the craftsmanship of a home-built amphibian aircraft.

Photos by W. E. Holtsberg, Jr.

Each summer, hundreds of thousands of people and thousands of aircraft descend

upon Wittman Field in the middle of the quiet farmlands of Oshkosh in central Wisconsin to take part in the aviation rites known as the Experimental Aircraft Association's Fly-In.

All of those who fly to the event are well aware of and thankful for the yeoman job done by FAA air traffic controllers and flight service specialists at the show, but few, save perhaps for those in need, are familiar with the work of Flight Standards personnel behind the scenes.

"Of course, our primary responsibility is the overall safety of the fly-in and air shows," notes Tom Howard, chief of the Milwaukee Flight Standards District Office (FSDO), referring to work that not even the experienced pilots are readily conscious of. "The field inspectors are all detailed from this office to Oshkosh for the

duration, which this year was August 2 to 7. This means we commit a lot of people and time to this event; it requires at least 13 hours of daily coverage."

FAA inspectors still do the original airworthiness certification for home-built aircraft; however, under new regulations, the annual condition inspection can be accomplished by qualified builders or repair stations. Nonetheless, the crunch by home-builders to get ready for Oshkosh usually makes for a busy summer at the Milwaukee FSDO.

"Everyone wants his bird inspected in time to fly it to Oshkosh so he can show off before his peers," comments operations inspector Doug Hatling. By way of illustration, Ron Wojnar, aviation safety inspector (manufacturing), adds, "During July, I personally certificated 26 home-built aircraft in just 22 days, and that doesn't even include inspections before the fabric was on the aircraft or any of my normal manufacturer inspections."

But getting so many aircraft and pilots together at a single location can cause some problems and generate "interesting" questions for these Flight Standards types. "Face to face is the best way to communicate," says inspector Al DeVilbiss. "In fact, it doesn't even matter to me that we're outnumbered 100,000 to 1!"

Each day at the fly-in, the usual chores had to be attended to, which included the granting of U.S. pilot certificates to qualified foreign pilots, the issuance of ferry permits and the monitoring of the air

**FSDO inspectors have a diverse job for the Experimental Aircraft Association Fly-In, checking certifications for pilots and home-built and military and antique restored aircraft, such as this better-than-new Beechcraft Staggerwing.**

Photo by Jerome Doolittle





**Top photo**  
**Another side of the Flight Standards job is reflected in operations inspectors Doug Hatling (right) and Al DeVilbiss checking over the emergency chute packing done for members of the female precision parachute team "The Falling Angels," a daily show attraction.**

**Lower photo**  
**A pilot-builder sought out Administrator Bond at the fly-in to complain that he was having trouble getting progressive inspections on his homebuilt. The Administrator sic'd him on FSDO chief Tom Howard.**

Photo by Charlie Jones

over one and a half tons of informational material," recalls Jim Pendergast, aviation safety inspector from the regional headquarters.

Although the uninitiated bystander at the fly-in could misjudge the key role played by the inspectors at Oshkosh, the fliers and the home-builders harbored no doubts. ■



**Aviation safety manufacturing inspector Ron Wojnar gets into the front seat of a home-built Christen Eagle II to renew an old acquaintance. He had issued the original certification for the plane, owned by Chicago TV anchorman Joel Daly (in the rear seat) and built by Dennis Biela (standing at right).**

Photo by Neal Callahan

show, plus, if needed, the investigation of any accidents or incidents involving home-builts.

"I'm convinced that most of the folks who stopped us during the week were just looking for some friendly advice on how to improve their techniques and aircraft," says airworthiness inspector Ed Prentice. "I enjoy the chance to help."

In addition, Flight Standards personnel from the regional headquarters and various General Aviation and Engineering & Manufacturing District Offices throughout the region staffed a photographic display of area aviation history at the main exhibit area. "We handed out

## Update

### Does the Nose Know?

You've read about them in the newspapers, but haven't heard a squeak more. Here's a rundown.

The gerbils are going to graduate school. And how well they do there will determine if they'll ever, as far as the FAA is concerned, amount to anything more than cute little rodents with bright eyes and twitching noses.

The crux of the matter is in what their noses can do other than twitch and with what degree of accuracy. To find out, the FAA is putting up \$50,000 for another year's tuition and room and board at the Veterans Administration Medical Center in Philadelphia. This is on top of \$100,000 it has already spent on their undergraduate education over the last two years.

The original \$100,000 contract was awarded to Dr. David Moulton, a research psychologist at the hospital, to determine if the gerbils could be trained to detect a particular odor and respond when they do.

The new contract, which was awarded in August, is designed to see how accurately and consistently the gerbils can detect an odor. How well they do in this will determine if there will ever be an operational test of the gerbils' noses and whether they will ever be pressed into the civil service as bomb sniffers.

Meanwhile, the gerbils have been very much in the news recently as a result of the rash of hijacking by Cuban refugees. They were extensively touted, somewhat prematurely, as a possible means of dealing with the problem.

The news stories included such lines as "This is your gerbil squeaking!" and "This is no ordinary gerbil, this is a Federal gerbil." It's probably a good thing the gerbils can't read. ■



## Alaskan Region

- James G. Hodges, team supervisor at the Anchorage ARTCC.
- Charles E. Moody, Jr., chief of the Employment Branch, from the Training Branch.
- John A. Wilber, team supervisor at the Anchorage Flight Service Station/International Flight Service Station, from the Pierre, S.D., FSS.

## Central Region

- Robert C. Bishop, deputy chief of the Des Moines, Iowa, Tower, from the regional Operations, Procedures & Airspace Branch, Air Traffic Division.
- Donald D. Bohler, chief of the Chadron, Neb., Flight Service Station, from the Burlington, Iowa, FSS.
- Madelyn Jamerson, team supervisor at the Burlington, Iowa, FSS, from the St. Louis FSS in Chesterfield, Mo.

## Eastern Region

- Paul A. Arnholt, chief of the Charleston, W. Va., Tower, from the Planning Branch, Air Traffic Division.
- Raymond E. Lemelle, unit supervisor in the Airway Facilities Sector at the New York Common IFR Room.
- Henry L. Lewis, unit supervisor in the Charleston AF Sector, from the Albuquerque, N.M., AF Sector Field Office.
- James J. McDonald, chief of the Jamestown, N.Y., Sector Field Office of the Buffalo, N.Y., AF Sector.
- Thomas F. Quinnan, chief of the Avoca, Pa., Sector Field Office of the Harrisburg, Pa., AF Sector, from the Buffalo Sector.

## Great Lakes Region

- Charles J. Connell, team supervisor at the LaCrosse, Wis., Tower, from the Madison, Wis., Tower.
- Donald R. Gottman, team supervisor at the Indianapolis ARTCC.
- Merlin R. Grinager, chief of the Pipestone County, Minn., Sector Field Office of the Minneapolis, Minn., AF Sector.
- Merle J. Hickey, team supervisor at the Terre Haute, Ind., Flight Service Station.
- Walter F. Horn, Jr., chief of the Engineering and Manufacturing Branch, Flight Standards Division.
- George E. Roe, chief of the Saginaw County, Mich., Sector Field Office of the Grand Rapids, Mich., AF Sector.
- Ronald E. Sturtz, team supervisor at the Akron, Ohio, Municipal Tower, from the Akron-Canton Regional Airport Tower.
- Harry D. Zimmerman, team supervisor at the South Bend, Ind., FSS.

## New England Region

- Mario A. Gonzalez, team supervisor at the Bradley Tower in Windsor Locks, Conn., from the Chicago O'Hare Tower.
- George R. Kelley, team supervisor at the Portland, Me., Tower.
- Jeffrey F. MacDonald, team supervisor at the Bradley Tower.
- William F. McCarthy, chief of the Portland Tower, from the Providence, R.I., Tower.

- Dimitrios J. Merageas, chief of the Bedford, Mass., Tower, from the Boston Logan Tower.
- William C. Vanderheyden, assistant chief at the Bradley Tower.

## Northwest Region

- Alfred J. Laws, watch supervisor in the Airway Facilities Sector at the Seattle ARTCC.
- Helen M. Parke, area officer at the Seattle ARTCC.
- Warren B. Porter, team supervisor at the Seattle Flight Service Station, from the Hoquiam, Wash., FSS.
- Earl M. Rankin, assistant chief at the Seattle ARTCC.
- Louis W. Rosgen, team supervisor at the Spokane, Wash., Tower, from the Pasco, Wash., Tower.
- Floyd D. Stead, unit supervisor at the Eugene, Ore., Airway Facilities Sector Field Office.

## Pacific-Asia Region

- Edwin S. Kanemoto, team supervisor at the Kahului Tower on Maui, Hawaii, from the Kona Tower on Hawaii.

## Rocky Mountain Region

- Charles E. Corey, Jr., unit supervisor at the Casper, Wyo., Airway Facilities Sector, from the Colorado Springs, Colo., Sector Field Office.

## Southern Region

- Elvin L. Brighton, team supervisor at the Tamiami Tower in Miami, Fla., from the Fort Lauderdale, Fla., Executive Airport Tower.

- Fred Carroll, area officer at the Jacksonville, Fla., ARTCC.
- Josefina Castaner, team supervisor at the Isla Verde Tower in San Juan, Puerto Rico.
- Walter L. Colvin, chief of the Savannah, Ga., Tower, from the Operations Branch, Air Traffic Division.
- Jerry D. Dreadon, team supervisor at the Memphis, Tenn., Tower, from the Standford Field Tower in Louisville, Ky.
- Francisco Estrada-Cotto, team supervisor at the Isla Verde Tower.
- Victor A. Garcia, team supervisor at the San Juan CERAP (center/RAPCON), from the Isla Verde Tower.

- Harold R. Gausman, chief of the Hickory, N.C., Tower, from the Standford Field Tower.
- Jerry L. Groves, team supervisor at the San Juan CERAP.
- George F. Hobgood, Jr., deputy chief of the Savannah Tower, from the Myrtle Beach, S.C., Tower.
- James S. Jones, Jr., team supervisor at the Charleston, S.C., Flight Service Station, from the Air Traffic Branch, FAA Academy.
- Barry E. Keffe, deputy chief of the Macon, Ga., Tower, from the Isla Grande Tower, San Juan.

- Thomas F. Lane, watch supervisor in the Airway Facilities Sector Field Office at the San Juan CERAP, from the Raleigh, N.C., AF Sector Field Office.
- Jose A. Lopez, team supervisor at the Fort Lauderdale Executive Tower, from the Miami International Tower.
- Wayne R. Rives, watch supervisor in the AF Sector Field Office at the San Juan CERAP, from the Airway Facilities Branch, FAA Academy.

- John W. Schassar, deputy chief of the Memphis Tower, from the Airspace and Procedures Branch, Air Traffic Division.
- Thomas H. Shumate, watch supervisor in the AF Sector Field Office at the San Juan CERAP, from the Tampa, Fla., AF Sector Field Office.
- John S. Tokarz, Jr., unit supervisor in the AF Sector, Balboa Heights, Canal Zone, Panama.
- James H. Walker, team supervisor at the Gulfport, Miss., Tower, from the Greenville, Miss., Tower.

## Southwest Region

- Victor I. Beaty, team supervisor at the Albuquerque, N.M., Flight Service Station, from the Air Traffic Branch, FAA Academy.
- Joseph M. Cassel, chief of the Pine Bluff, Ark., Airway Facilities Sector Field Office in the Little Rock AF Sector.
- Rex L. Finch, chief of the Farmington, N.M., Tower, from the Grand Canyon, Ariz., Tower.
- Herbert S. Sellers, deputy chief of the Oklahoma City Tower, from the Phoenix, Ariz., Tower.

## Washington

- Wilbur L. Costello, section chief, Equipment Maintenance Branch of Metropolitan Washington Airports at Dulles Airport.

## Western Region

- Pierre E. Collins, team supervisor at the San Diego TRACON, Miramar Naval Air Station, Calif., from the Long Beach, Calif., Tower.
- Matthew J. Fletcher, team supervisor at the Bakersfield, Calif., Tower, from the Air Traffic Branch, FAA Academy.
- Donald W. Isaacs, assistant manager of the Lancaster, Calif., Airway Facilities Sector, from the Maintenance Operations Branch, AF Division.
- Harry C. Kanarr, unit chief at the Long Beach, Calif., AF Sector Field Office.
- Daniel K. Martin, team supervisor at the Monterey, Calif., Tower.
- Laurence E. Martin, team supervisor at the Reno, Nev., Tower, from the Las Vegas, Nev., Tower.
- Jon K. Miller, chief of the Yuma, Ariz., Flight Service Station, from the Salinas, Calif., FSS.
- John A. Nylund, chief of the Marysville, Calif., FSS, from the Sacramento, Calif., FSS.
- Timothy B. Savage, team supervisor at the Los Angeles ARTCC.
- Phillip R. Wallace, Jr., team supervisor at the Monterey Tower.

## Corrections

In the August 1980 issue of FAA World—"A Decade of Progress"—in the story "Safety: Always the Name of the Game," page 6, the last sentence beginning in column one should read:  
In 1979—despite the worst crash in U.S. aviation history—that figure was down to one accident for every 110 million miles flown.

In the September 1980 issue, the story "An Arctic Ordeal" should have carried the byline of Clifford Cernick, the Alaskan Region public affairs officer. ■

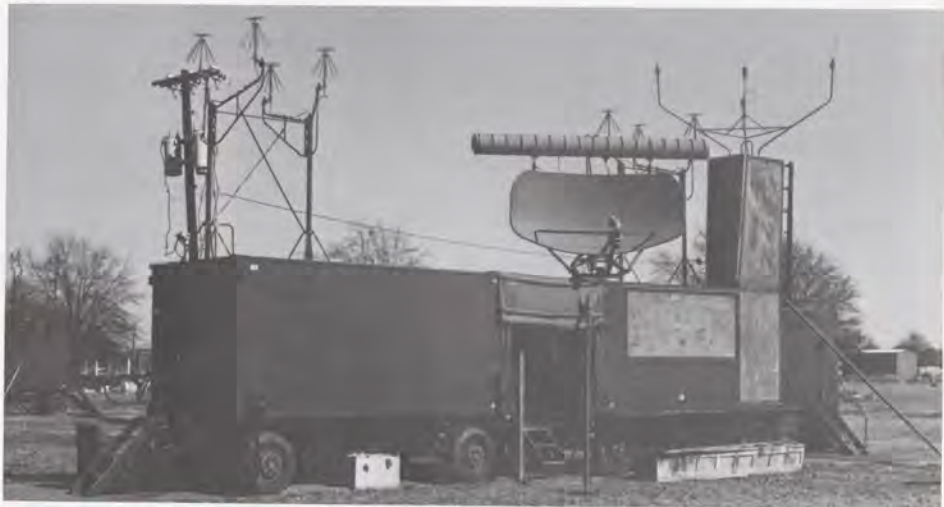
By Geraldine T. Cook

An assistant public affairs officer in the Southern Region, she also has been published in aviation trade journals.



# Eyes for Fort Myers

## Boom Brings Immediate Need



These linked trailers house the communications equipment (left) and the radar.

When the need is greatest in a move western, the cavalry arrives in the nick of time. This seldom happens in real life; events are not so clear-cut, so predictable. But when it became apparent that Fort Myers, Fla., needed radar, FAA responded quickly.

For years, Page Field, with a non-radar approach control tower, served the area well. Air traffic counts did not call for radar. But a home-building boom was in progress in the Seventies, fed by fuel shortages in colder climes. Over the decade, the population doubled, and, according to the Southern Region's Air Traffic Division chief Tom Protiva, air traffic has increased in southwest Florida by about 20 percent a year for the past five years.

That rate of air traffic growth is expected to continue.

Since deregulation of the airlines, four additional major air carriers began flying to Page Field, whose complement is now Delta, Eastern, TWA, United, Pan Am's National and Northwest Orient. General aviation also has been growing rapidly. During 1979, the tower recorded 139,730 airport operations and 47,883 instrument operations. In addition to Page Field, the tower also provides non-radar instrument approach service to airports in

Charlotte County, Naples and Marco Island.

Lee County also wasn't that fast to see the demographic handwriting on the wall and its impact on aviation. A new Southwest Florida Regional Airport is now under construction and is expected to be completed near the end of 1982, the first such project to be undertaken anywhere in the country since the Dallas-Fort Worth Airport in 1974.

FAA has jumped into the breach with a temporary mobile radar system—temporary until a new ASR 8/ARTS II radar system is commissioned next year in a TRACON being built at the new airport, about 15 months before the regional airport tower will be completed.

The FAA has borrowed a rapid-deployment Tactical Mobile Approach Control Model MPN-14 Radar with a TPX-42 Beacon Decoder from the U.S. Air Force at Patrick Air Force Base and is in the process of readying it for commissioning. One hangup is that the Air Force sent the wrong radar antenna and is



Charles Weaver of the region's Airway Facilities' Communications Staff discusses the trailer-borne TRACON with a telephone company representative.



Mobile system or not, the communications side requires a maze of antennas.

replacing it. The system consists of three vans for radar equipment, communications equipment and operations—the TRACON, that is. The radar has a primary range of 60 miles and a secondary range of 200 miles and produces five video map displays simultaneously. Each position has full VHF and UHF radio with 20 channels. A fourth trailer has been added to serve as an office for the Airway Facilities radar unit chief and as a briefing ready room for controllers.

Under actual military operations, the unit is staffed by 19 controllers and six electronics technicians. This same type radar was used at Saigon and Danang air bases during the Vietnam War for traffic comparable to that of Chicago-O'Hare. Similar TPX-42 beacon systems are



After military and Airway Facilities personnel combined to set up the mobile radar at Page Field, Tony Gavio (right), chief of the Fort Myers Sector Field Office, accepted the change of command of the radar from Air Force Chief Master Sergeant John Burns.

still in service around the country, including Augusta and Columbus, Ga., Asheville and Fayetteville, N.C., Columbia, S.C., and Lexington, Ky., in the Southern Region.

"It's a good radar," says Bill Branch, Fort Myers tower chief. "It gives good, sharp targets, and we're very happy to be getting it."

"The interim, mobile system, however, will in no way delay installation of the permanent, more sophisticated ASR-8 system at the new regional airport," says Bill Rucker, Airway Facilities Division chief. The new system will be in a one-story base building at the regional airport, to which a 98-foot-high control tower will be added. Then the MPN-14 will shuttle back to Patrick AFB. ■

Order 3000.10, Ch. 2, Para. 12(2) states that Airway Facilities Sector first-line supervisors must be certified on at least one major facility under their jurisdiction. When the first-line supervisor is also the chief of a sector field office, does this order pertain to him? Can this requirement be waived and, if so, by whom? Is there a time limit to this waiver?

The requirement that Airway Facilities Sector first-line supervisors must be certified is established by Para. 40.b. of Order 3400.3E, "Airway Facilities Maintenance Personnel Certification Program." The statement in Order 3000.10, "Airway Facilities Maintenance Technical Training Handbook," is included as one criterion used to determine the number of personnel to be trained. The terminology in 3400.3E is slightly different in that it cites a requirement for certification on at least one complex system rather than on one major facility. This requirement does apply when the first-line supervisor is also the chief. There is no provision for the requirement to be waived. Under normal circumstances, the time limit allowed to obtain the required certification is one year; however, there are conditions—the unavailability of a resident training quota, for instance—when it may be necessary to extend the time allowed. The granting of such an extension is a management decision for the sector manager.

There is some disagreement here over the interpretation of Para. 421 of the

ATC Manual, 7110.65B. One position is that an aircraft can be radar vectored as soon as it commences a missed approach, even though it hasn't passed the missed-approach point, as long as the conditions in Para. 773 are complied with. The other position is that an aircraft which commences a missed approach must reach the MVA (minimum vectoring altitude) or the missed-approach point before it can be vectored. Which is the correct interpretation? How should Para. 421 be changed to be clearer on this and who could make the change?

The Air Traffic Service in Headquarters is responsible for the interpretation of procedures in the ATC Handbook. When a local facility or regional air traffic division is unable to clarify a procedure, a request for interpretation should be sent to the Chief, ATC Operations and Procedures Division (AAT-300), along with specific details or situations involving the issue. Currently, Paras. 350, 421, 773 and 1171 are being reviewed to determine what adjustments are needed to these procedures.

The intent of Para. 421 is to ensure that the aircraft remains in an area that provides approved obstacle clearance. The radar vector may commence at any point

if the vector path ensures obstacle protection based on (1) an IFR departure procedure, (2) the published or alternate missed-approach procedure, (3) application of (terminal instrument procedures) TERPS' diverse-departure criteria or (4) it is known that obstructions are not a factor. Proper vectoring techniques are based on a combination of air traffic activity, Flight Standards obstruction criteria, ATC procedures and terrain avoidance.

Remember that the position of the aircraft relative to the desired flight path is of paramount importance. For example, if an airborne aircraft has not reached, or is laterally displaced from the centerline of the runway or navaid on which obstruction criteria in (1) through (3) above is based, random vectoring may not ensure terrain avoidance. Obviously, if there is any doubt concerning the aircraft's location with respect to safely avoiding obstacles (as could be the case where surrounding mountains cannot be prominently displayed on radar), the controller should withhold the issuance of vectors and allow the aircraft to continue to climb via an approved departure/missed-approach procedure until reaching the MVA. Incidentally, this same rationale applies to the requirement in 7110.65B-350 for controllers to obtain pilot concurrence before issuing departure headings at certain airports.

While enroute across the country to represent my region at a cabin safety and crashworthiness workshop, I was called off the airplane midway and

told of the sudden death of my father. After receiving such news, I was emotionally not able to represent the best interest of the government and was told to return to my home; another person was assigned to take my place at the meeting. My supervisor placed me on sick leave, and the regional flight surgeon agreed with this decision. Even though I was on sick leave, I was required to pay my own fare to return home. Why does the government require its employees to pay their own way from TDY to their duty station when there is a death in the immediate family? I was away from my duty station at the request of the government, so why shouldn't they be responsible for getting me back when something like this occurs?

The general rule that travelers who return to their official stations for any reason before completing a temporary duty assignment must pay for their own expenses is based on a Comptroller General decision and applies to all government employees. Indeed, your own protest claim to the Comptroller General was turned down. The general rule has been in effect for many years and must be applied to all travelers.

In "Direct Line" of the May 1980 issue, you mentioned a requirement of 100,000 instrument operations annually before an electronics technician

position is qualified for upgrading to GS-12. The DOT Classification Guide for ETs at GS-12 requires being certified in two or more complex systems, and I have not seen the requirement for the 100,000 instrument operations. At my facility—a Level II with fewer than 100,000 instrument operations annually—we technicians are GS-11 and fully certified on and responsible for the certification of ASR-4D radar, ARTS II, TRDP, BRITE IV, ARTS COMM, ATCT, RTR, FDEP, W/ALT, TTY, MCR, ATIS, ATCRB and ATCBI-3. Aren't we qualified for GS-12?

On another matter, we have a work assignment schedule posted, and the three technicians are required to rotate—one technician working from 7:00 a.m. to 3:30 p.m. Monday through Friday for a two-week period, while the other two technicians work from 8:30-5:00 daily (not the administrative shift, which is 8:00-4:30) and weekends, also 8:30-5:00. Does this constitute a rotating shift, since all three technicians rotate each two weeks and two of them cover more than eight hours a day?

As stated in the "Purpose and Coverage" section of the December 1972 DOT guide for electronics technicians, an approach control facility must have 100,000 or more annual instrument operations before it is covered by this guide. All approach-control facilities with fewer than 100,000 instrument operations are excluded from coverage and are to be classified using the criteria in the Civil Service Commission's Position Classification Standard for FAA Positions issued in October 1962. In applying the October 1962 standard, the po-

sitions described are properly classified as GS-856-11.

The work situation described does constitute a rotating shift.

In the event that an employee suggestion is rejected at the regional level, is there any appeal to a higher level? If so, what is the procedure?

If your suggestion has not been adopted at the regional level, you should have been provided with copies of all the evaluators' comments, and the evaluations should contain sound rationale for nonadoption. If a suggestion is not adopted, it may be because the suggester did not provide adequate documentation of research and substantiation of the merit of the suggestion. If this is the case and you can provide additional information to rebut the reasons for rejection given by the evaluators, you may resubmit the suggestion with the supplemental supporting information and ask for a reconsideration. In your supplemental data, discuss savings—time or money—or benefits—tangible or intangible—that will accrue to the government from your idea.

By wire from APT-200, dated Aug. 11, 1980, the procedure for technical suggestions has been amended. Airway Facilities employee suggestions, technical and/or beneficial, that are rejected by the regions or centers should no longer be forwarded to Washington for further evaluation. There is no formal appeal procedure for a suggestion that has not been adopted. The procedures covering employee suggestions are governed by FAA Order 3450.7C.



A matter of contrasts—Lancaster Airport, Pa., boasts a Level II tower in the heart of farm country where many Amish and Mennonites till the soil and restrict

themselves to transportation modes common at the time of the birth of our country.

Photo by Richard Reinhold, *Intelligencer Journal*

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