



### Lost, Then Found

A World War II fighter once flown by present day Crew Chief Robert F. Thomas of the New York ARTC Center during his Navy career is guided by frogmen to the Pacific Ocean's surface after resting 3,400 feet below for 26 years. For the full story of Thomas's unusual experience, read, "Hellcat with Nine Lives," Page 8.

## Spartanburg's Daniels Named 'Top Controller'

HOLLYWOOD, Fla.—James R. Daniels, veteran FAA air traffic controller at the Spartanburg, S.C., Tower, has been named "Controller of the Year" for 1970. The honor was conferred on Daniels by the Aircraft Owners and Pilots Association at its recent annual "Plantation Party."

Daniels and his wife were honored guests of AOPA at the five-day industry and pilots get-together at the Diplomat Hotel. An FAA employee for more than 28 years, Daniels was chosen from among 19,000 controllers in 333 towers and 27 centers in the United States to be honored by AOPA, the nation's largest association of general aviation pilots. The plaque and citation were presented to Daniels

by J. B. Hartranft, Jr., president of AOPA, representing 150,000 private aircraft owners.

The citation called attention to Daniels' past seven years at Spartanburg Tower, during which he "performed an outstanding job in promoting public relations and educational achievement in the general aviation area. He is the epitome of devotion to his work and to the image that the FAA gives to the public."

Spartanburg airport serves a town of about 50,000 population.

#### Dedicated Service

In submitting Daniel's record as an award candidate, Spartanburg Tower Chief Joe B. Shirley said the recommendation was based on the top controller's continuing dedicated service to the flying public. In addition to collateral duties as facility training officer and safety officer, Daniels finds time to spend many hours of his own time to speaking before general aviation, civic and youth groups. Always in demand as a speaker, Daniels has made numerous out-of-town trips, arriving home long after midnight many times, all at no cost to the FAA or to the taxpayer. Audiences hearing Daniels' talks have included pilot groups, flying clubs, civic and fraternal organizations, colleges and schools.

Upon getting the award, Daniels, in turn, commended fellow FAAers in the tower, who enabled him to spend many hours promoting aviation before various groups.

"My fellow workers often rearranged their working hours so I could talk to or instruct a group, such as Boy Scout and Girl Scout Troops," said Daniels.

Along with the AOPA award, Daniels also received commendations from Spartanburg's Mayor, South Carolina's Governor Robert E. McNair and State Senator Ernest E. F. Hollings.



### He's Tops

An Air Traffic Controller at the Spartanburg, S.C. Tower for the past seven years, James (Jim) R. Daniels recently was selected from 19,000 controllers to receive the Controller of the Year Award by the Aircraft Owners and Pilots Association (AOPA).

## Magazine To Supersede 'Horizons'

By Thom Hook

WASHINGTON—With this issue of *FAA Horizons*, this newspaper will be superseded by a new monthly magazine, *FAA WORLD*, as one of the ongoing internal media of communication for employees of the FAA. As times change, format, content and scope of publications change, and after more than seven years under the *FAA Horizons* title, now the publication's bound issues in FAA libraries will continue to serve as a valuable research tool for persons consulting what programs were going on during half the agency's existence.

Scholars wishing the whole picture of internal communications also can go back to two earlier publications which represent FAA's total illustrated communication effort to serve its employees.

With establishment of FAA in late 1958, an *FAA News Memo* was born and published, under the auspices of the first Administrator, E. R. Quesada. Within a few months, in April 1959, its name was changed to *Fly-By*. The letter-size, eight-pager was issued from the agency's Personnel Relations Branch for four years.

#### Name Changed Under Halaby

In May 1963, under Administrator Najeeb E. Halaby, *Fly-By* was superseded by *FAA Horizons*, which for the next year was an especially exacting taskmaster for all connected with putting it out on time. Each of the seven regions-plus the Aeronautical Center issued its own edition out of the Office of Information Services at Headquarters.

Twelve pages of each 20-page issue contained national content; the other eight pages contained local regional news, custom-made for separate editions.

"There was a deadline every time you turned around," says Marshall C. Benedict, now Airports Service Staff Assistant, who then edited the publication as Chief of the Employee Information Division. Securing balanced input on a custom basis from the many different sources proved unwieldy, and at the end of a year *FAA Horizons* became a more manageable 32-page monthly magazine of uniform content throughout for all regions and centers. It continued in such format for two years until the findings of a survey of employees indicated that a tabloid newspaper might provide an opportunity to present news and features twice a month instead of monthly.

#### 91 Issues Published

The present newspaper evolved during the time of Administrator William F. McKee, and 91 issues have appeared since its first issue of June 12, 1967. Now, after three-and-a-half years—the longest period holding the same format—a current survey has indicated that an improved monthly format and new thinking can better meet the changing times and needs of FAA employees. The staff connected with the outgoing newspaper, committed to parameters set by the tabloid format, now looks with enthusiasm to the opportunity of reporting in depth on the many

(Continued on Page 7)

## New Data Link Improves Flight Position Monitoring

OAKLAND, Calif.—A new concept in oceanic air traffic control to improve aircraft route position monitoring and ease the workload of controllers is being evaluated at the Oakland ARTC Center.

The concept automatically provides a graphic display of aircraft position by using data link.

A continuous readout of aircraft position and other information at any point along the San Francisco-Hawaii route within the coverage of the extended range VHF communication station of San Francisco (about 400 miles) is now available. Unlimited coverage will be possible when satellite communication techniques are fully implemented.

The agency is using off-the-shelf graphic displays and ancillary equipments leased from Information Displays Inc., of Mt. Kisco, N.Y.

#### Has Extended Range

Using extended range VHF, the system covers twice the distance of the present long range radars used at FAA's centers.

The new system graphically displays on a TV-type screen (cathode ray tube) the actual geographic coordinates (latitude-longitude) of aircraft as they fly between San Francisco and Hawaii. Also displayed, alongside a diamond-shaped symbol denoting a data link position report from an equipped aircraft, is the aircraft's identification, flight number and altitude. In addition, the controller can manually insert flight information and calculated positions

through the use of a teletype machine.

To function in the system, an aircraft must be equipped with an inertial navigation system, an altitude transducer and data link transmission equipment. Other elements include a ground communication station which receives and transmits data, and the processors, computers and displays at the Oakland Center.

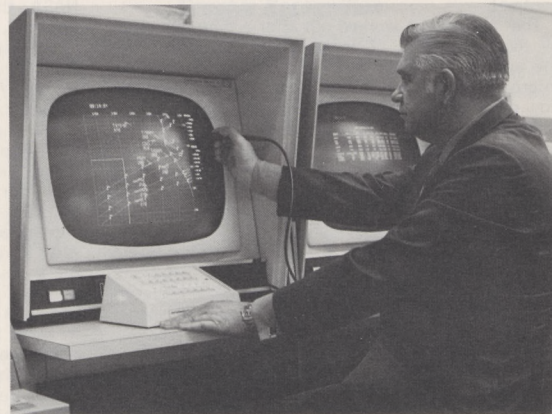
#### Airlines Cooperate

A number of scheduled commercial aircraft equipped with data link are cooperating with the FAA in this test and evaluation. Pan American World Airways is already supplying data from two of its 747s on flights to Hawaii. Other airlines are expected to join the tests later. The future oceanic ATC including use of satellites will depend heavily on this type equipment.

The inertial navigation systems provides position information—latitude and longitude—which is formatted by the airborne data link modem and transmitted to the ground through a VHF transceiver. In addition, the altitude and aircraft identification is transmitted by the aircraft.

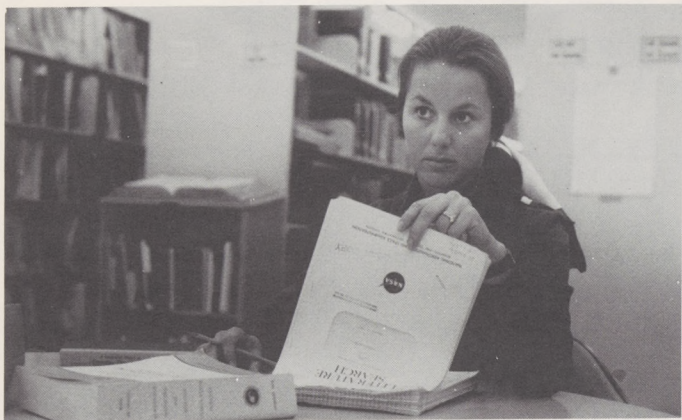
The ARINC Communication Center at Foster City near San Mateo, Calif. is cooperating with the FAA in this test and evaluation program. The aircraft data is transmitted to ARINC via a tropospheric scatter antenna atop a hill in Palo Alto on the coast. The antenna is linked to the ARINC

(Continued on Page 7)



### Oceanic Control Concept

FAA Team Supervisor Mike Grba of the Oakland ARTC Center is seen using a new experimental graphic situation display that now automatically shows an aircraft's position for the first 400 miles on flights from San Francisco to Hawaii. The new technique was unveiled recently at Oakland Center.



Under the new FAA-NASA information retrieval agreement DOT Reference Librarian Maria Haywood reviews a NASA "literature search" on aircraft noise. If the technical reports needed are in the DOT Library, she will compile a bibliography for the patron.



Use of the Central Region's new microfilm reader-printer is demonstrated to Airports Division Chief William C. Knoepfle by Elizabeth Melkild, former Central Region Librarian.



Assistance in retrieving information using microfilm reader equipment in the regional library in Atlanta is given by Southern Region Librarian Doris Little to John Vogel, Chief of the Engineering and Manufacturing Branch of Flight Standards.



Larry Parks, NASA, Scientific and Technical Information Division, explains the new FAA/NASA information retrieval system to FAA regional librarians. Shown (clockwise) are: Doris Little, Southern; James Gourley, Aeronautical Center; Lucille Beaver, DOT Library; C. O. Segarra, Office of Management Systems; Madeleine Losee, NASA; James Williams, NAFEC; William Ranger, Pacific; Jo Ann Griffin, Southwest; and Frances Taylor, Western. Also attending but not shown were: Elliot White, Central; Mildred Hamond, Eastern; Catherine Smith, Alaska; Robert Wertz, Acting Chief of the Publication and Library Branch, OMS; and Yvonne Hill and Kirby Payne, DOT Library.

## INFORMATION- IN MILLISECONDS

In a recent science fiction movie, the computer on a spacecraft became so sophisticated it plotted to do away with the humans who controlled it.

No such shenanigans are anticipated from the highly sophisticated computers at NASA's information "nerve center" located at College Park, Md. Their "magic" will be employed for much more constructive purposes—including providing information to the FAA—under a recently concluded FAA-NASA contract.

That agreement, worked out after a thorough study by the FAA Office of Management Systems, gives the agency access to technical reports and similar information included in the more than half a million documents stored in NASA data banks at the College Park Scientific and Technical Information Facility. At the same time, the agreement places at FAA's disposal the NASA computer complex's amazing faculty for ferreting out answers to statistical, technical and scientific questions confronting FAA managers, planners and engineers.

Thus, a vast storehouse of material, ranging across the scientific, technical and mechanical spectrums, has become available to the FAA. The formal agreement with NASA was recently signed for the agency by Clarke Harper, Associate Administrator for Administration.

How will the new system work? Under ground rules established, the service is available only through FAA libraries. FAA librarians have visited the NASA installation and know precisely how to expedite service. Requests for information should, therefore, be directed to librarians anywhere within the FAA library system, including the DOT headquarters library and those in the nine regions and centers. At field locations, when an FAA library is not immedi-

ately available, employees are encouraged to telephone or write to their appropriate FAA Chief Librarian, outlining their information needs. The librarians will be ready and anxious to help.

In those instances where the FAA library system has the desired information, it is supplied by the librarian routinely, as in the past. If, however, it turns out from a review of bibliographies and lists, that part or all of the information is available only from NASA, the request is forwarded to NASA by the librarian.

NASA personnel may be able to fill the request from film report reproductions already in their files. Or, NASA personnel can "ask" computers at the Scientific and Technical Facility to conduct a search for all material available on the subject and "crank out" a bibliography listing this material.

The computer instantaneously carries out this request for a "literature search." It then prints out a detailed list of abstracts, reports and other publications available on the subject of FAA's request. After a review of this list, the FAA asks NASA for the items of information desired. NASA supplies this material to the agency in the form of microfiche copies. A microfiche copy is a film negative on which as many as 70 pages of material can be reproduced, greatly reduced in size. When inserted into a microfiche reader, the print is enlarged sufficiently to be easily read. Where combined microfiche reader-printer equipment is available, selected individual pages of the material desired can be "printed." All agency libraries have either reader or reader-printer equipment.

The recently concluded agreement makes available to the FAA two major bibliographies of special relevance to FAA activities. One is on aviation medi-

cine and the other on aeronautical engineering. These bibliographies are published monthly and are updated at regular intervals. Copies will be supplied to the Office of Management Systems for FAA distribution early in 1971.

The FAA will also get the twice-monthly NASA Scientific and Technical Aerospace Reports (STAR) Journal. This publication lists, with brief abstracts, worldwide report literature in the space and aeronautics fields and includes much material of interest to the FAA.

Periodically the agency will also receive lists of material recently added to NASA's data banks. Arrangements have been made for inserting into these banks material considered to be of special interest to FAA. Requests for inclusion of such material in NASA's information storehouse can be initiated by any agency employee, through a request to the FAA librarian that a particular report or study be acquired and incorporated into the system. The librarian reviews this recommendation and decides whether to obtain the requested material for retention in the library or to ask for its inclusion in NASA's data base.

At a meeting held recently at headquarters, agency librarians discussed the new information retrieval system in detail. Interested NASA personnel also participated and plans for utilizing the system were worked out.

As a result of this agreement, a new information "era" has dawned for FAA. Machines are being put to work to make it easier for men to think. It is hoped that employees will take advantage of the agreement to help them do a better job, by giving more of the "work" to the computers so they can use more of their own time to "think."

# Workshop on EEO Held in Alaska

ANCHORAGE—To improve and standardize counseling techniques, the Alaskan Region recently conducted a two-day "Counselor-Area Representative Workshop" here. A first-of-its-kind in the agency, the workshop was attended by representatives of all DOT operating administrations in the 49th state. It followed the format of a similar workshop conducted at Oklahoma City last summer by the DOT Civil Rights Staff.

William Bradshaw, chief of the Region's Civil Rights Staff, cited these objectives in conducting the workshop:

### Objectives Cited

- To explain the full scope of the EEO program.
- To emphasize the Department's total commitment to this endeavor.
- To bring participants up to date on regulations pertaining to counseling.
- To develop participants' abilities to answer questions about the EEO program.
- To provide participants with an opportunity to meet and consult with their counterparts throughout Alaska.
- To develop and improve liaison

between the conferees and the Civil Rights Staff

"Virtually every conceivable grievance situation was fielded by the conferees, with no punches pulled," said Bradshaw. "The dialog was spirited and intense. Everyone learned something. They were really communicating. It takes such full commitment by every employee—from the top to the bottom—to remove the last vestiges of discrimination in employee-management relations."

### Important Link

The counselor is the most important link in solving problems of alleged discrimination, Civil Rights Specialist Frank Austin said.

"We've discovered that an employee who feels aggrieved usually wants to talk the problem over with someone. This is especially true in matters concerning discrimination, real or alleged, pertaining to race, sex, religion, color or national origin," Austin said. "The employee may feel he is wasting his time trying to discuss the matter with his supervisor or he may feel inhibited for some other reason. This is where the counselor can do the most good."

Counselors trained to "sift the wheat from the chaff" can, in the majority of cases, patch things up merely by talking the problem over with the employee.

"By hearing the employee out, the counselor is able to detect where the communication process broke down between the employee and his boss," Austin said. "If the counselor believes the employee has a case, he can check with the supervisor to get the other side of the story."

Austin pointed out that very often the supervisor isn't aware a problem exists. "If the problem can't be solved by talking to the supervisor, it is brought to the attention of the Civil Rights Staff," he said.

### Wide Representation

"Counselors represent all grade structures—from GS-4 through GS-14—assuring that the employee is not awed or does not feel intimidated by the 'rank' of the counselor. He's more likely to level with a fellow employee nearer his own grade. This enables the counselor to put himself in the employee's shoes, analyze the situation and determine if there are grounds for a grievance action."



### EEO Luncheon

Bob Willard (standing), executive director of the Human Rights Commission, addresses a luncheon meeting of the Alaskan Region EEO Workshop held recently in Anchorage.

# Test Relay of Radar Proves Successful

ST. PETERSBURG, Fla.—Terminal radar has been relayed to another airport using a low-cost microwave system, for the first time in actual service.

Three months of field tests were recently completed here to see if primary radar can be shared with nearby airports which are within microwave coverage and have control towers but no radar. Results of the project, which could have nationwide applications, are now under study.

### TV Camera Scan-Converts

For the testing, the ASR-5 search radar at Tampa International Airport fed signals to BRITE-2 equipment which used a TV camera to scan-convert a conventional PPI display to a composite video signal.

The signal was then interfaced with a microwave transmitter and relayed through a dish-to-dish configuration 11 miles across Tampa Bay to the control tower at

St. Petersburg-Clearwater Airport. Here, the signal was processed through a microwave receiver and fed to a BRITE-2 display in the tower cab.

The tests are expected to show how useful the 16-inch diameter BRITE-2 display is to tower controllers handling VFR traffic and what reliability can be expected from the equipment in a high rainfall region.

### Tampa Weather Selected

The Tampa Bay area was selected because its weather offers challenging conditions for testing, according to E. Henry Wright, NAFEC project manager for this phase of testing.

As part of the evaluation, controllers at St. Petersburg tower were surveyed for reactions and opinions as to the quality and usefulness of the radar picture. Recorders also measured signal variations which were correlated with weather to note effects. Test results

are now being evaluated and will be published early next year in a NAFEC technical report.

Among those active in the tests are Wilbur Peaire, chief of the Tower here and Ray Barclay of AFS-38600. The equipment will remain at the site for an undetermined time, they reported.

### Coaxial Cable Limited

Coaxial cable, normally used to relay radar from station to control tower, is limited to distances up to 10,000 feet. Conventional radar microwave link equipment is not being considered by the agency because of high cost, equipment complexity and overcrowding frequency bands.

The microwave relay system under test is manufactured by Collins Radio. The system has a one-watt output and operates in the 15GHz spectrum. It was set up under the direction of Max Greenberg, who conducted technical tests on the equipment at NAFEC a year ago.



### Views BRITE-2 Display

Donald Weaver, a supervisor in the control tower at St. Petersburg-Clearwater Airport, looks at a BRITE-2 display, relayed to the tower cab via microwave equipment from the search radar at Tampa International Airport, 11 miles distant.

# Agency Sponsors Pacific Meeting

HONOLULU—Among the seven transportation officials from Micronesia who came to the Hawaiian Islands for ten days of meetings sponsored by the FAA and held at agency headquarters as well as making airport visits were Elias Okamura, Deputy Chief, Transportation Division and Leon Camacho, airport manager, Marianas District. The FAA conducted meetings for some of the visitors while others were given on-the-job-type familiarization at the Lihue FSS.

The Pacific Islanders were there to participate in specialized aviation training programs involving systems planning, executive administration, airport management and flight service communications procedures.

# FAA Researcher Honored

OKLAHOMA CITY—As senior author of an outstanding research article published in the journal "Human Factors," Dr. W. Dean Chiles of FAA's Civil Aeromedical Institute, has received the 1970 Jerome H. Ely Award.

Dr. Chiles, chief of Complex Performance Research in the Psychology Laboratory of the Institute, received the award at the annual meeting of the Human Factors Society in San Francisco. He shared the honor with two co-investigators, one from the University of Louisville and the other from Lockheed-Georgia Company.

The trio conducted the research project, "Work Schedules and Performance during Confinement."

The scroll, awarded to Dr. Chiles as senior author, cites the project as the outstanding research article published by the scientific journal during the previous year. The scroll for the project, recognized as a significant contribution to human factors research, was presented to Dr. Chiles by Dr. David Meiser of the Bunker-Ramo Corporation.

Dr. Chiles has been with the FAA since 1967. Prior to that, he was in aeromedical research at Wright-Patterson AFB in Dayton.



### Graphic Recognition

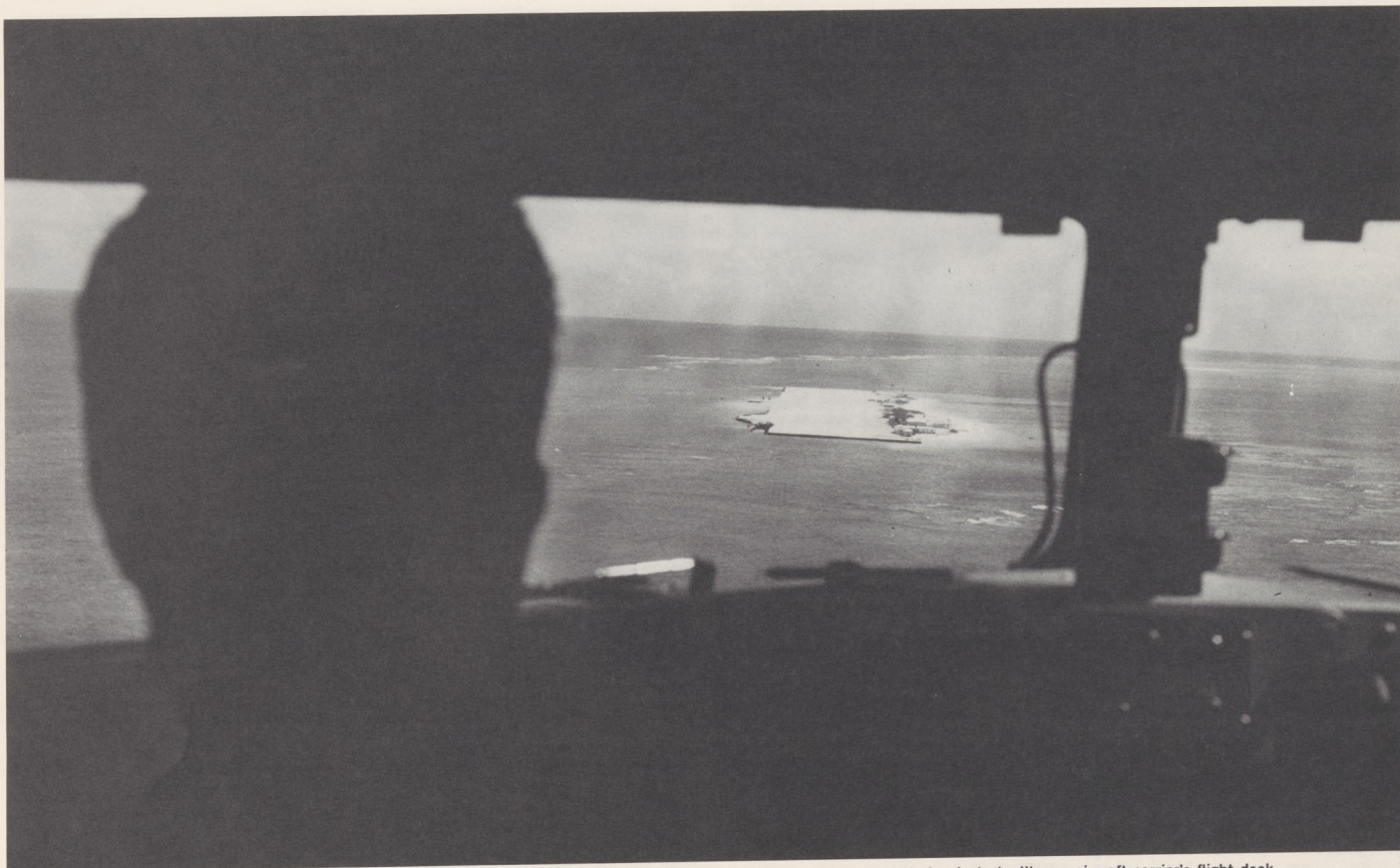
Internationally known for his work on performance measurement, Dr. W. Dean Chiles (left), chief of Complex Performance Research at the Civil Aeromedical Institute in Oklahoma City, recently received the Jerome H. Ely award for an outstanding article in the journal, "Human Factors." With him, is Aeronautical Center Director A. L. Coulter.



# HORIZONS

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To the FAA pilots bringing supplies to the Coast Guard Station in French Frigate Shoals, tiny Tern Island airstrip looks like an aircraft carrier's flight deck.

## FAA—Coast Guard Teamwork Demonstrated in . . .

# Joint Pacific Mission Of Mercy

**Text and Photos By John M. Reynolds**  
*Chief, Airspace and Procedures Section*  
*Flight Standards Div., Pacific Region*

A slow-moving merchant marine freighter's quiet, daily routine was shattered abruptly recently when the ship was about 575 miles southeast of Honolulu.

A young seaman slipped on the deck and plunged through a hatch, falling 30 feet to the bottom of a hold. He suffered severe contusions, compound fractures of both legs and shock.

The ship's captain realized that the injured man should be flown to a Honolulu hospital as soon as possible. However, the nearest island with an airstrip was tiny Tern Island in the French Frigate Shoals, a midpoint in the 1,600-mile long Hawaiian Archipelago.

The freighter's call for help was received by Lt. (j.g.) Herman Hirsch, who commands the Coast Guard Station on Tern—the site of a vital LORAN communications link.

Hirsch immediately contacted the pilot of the weekly FAA DC-3 logistics flight which had just arrived at the island and was offloading supplies.

### Aid Requested

"A freighter will be here in five hours with an injured seaman aboard," Hirsch told the FAA pilot. "Can you hold up your return to Honolulu until he can be brought ashore and put aboard your plane?"

"Glad to," said Airspace System Inspection Pilot Robert A. Luxton, Jr., then with the Honolulu Flight Inspection Group (FIG) and later assigned to the Honolulu Air Carrier District Office.

With Luxton were two other FAA crewmen—co-pilot Norman A. Lahti, a flight operations specialist with the Pacific Region's Flight Standards Division, and Harry Tome, flight mechanic with the Honolulu FIG.

When the freighter reached Tern, the badly-injured seaman was brought to the island with the help of a launch from a nearby U.S. Navy missile tracking ship and a 16-foot Coast Guard boat.

Tern's medical man, Hospitalman First Class J. M. Hubbard, got aboard the FAA "Gooney Bird" with the injured seaman. Three hours later, the plane reached Honolulu. The seaman was rushed to the hospital and is now on the road to recovery.

FAA-Coast Guard cooperation at Tern dates back to 1968 when the Coast Guard began replacing its obsolete HU-16 flying boats with the much faster, long-range C-130s. Although suited to the Coast Guard's search and rescue mission, the new planes could not carry the tonnage required to supply Tern because of the island's tiny runway.

### Coral Ingested

Another problem encountered was ingestion of coral in the C-130s engines during the few times the planes set down there.

FAA's DC-3, on the other hand, could safely carry 1,700 pounds of cargo, non-stop from Honolulu to Tern or 2,300 pounds if it refueled en route at Barkling Sands, Kauai.

Accordingly, the FAA agreed to release a DC-3 from its Pacific Region flight inspection fleet once a week to undertake the logistics mission to Tern Island.

Except for the weekly FAA flights, Coast Guardsmen on the island are literally cut off from the "outside world." Because duty at Tern is so isolated, the 19 men on the island each receive an extra month's compensatory leave following their one-year duty tours.

Coast Guardsmen get their first look at Tern from the windows of an FAA DC-3. When they complete their tours, they see the island for the last time from

the same vantage point.

To FAA pilots approaching Tern's tiny runway, it looks stark white in the sun's bright glare—not unlike the flight deck of an aircraft carrier. And pilot's agree that, after the long over-water flights from Honolulu, the runway is a most welcome sight. No less welcome to the island's 19 inhabitants is the sight of the "Gooney Bird" as it touches down each week with mail, supplies—and sometimes personnel replacements.

### Islanders Marooned

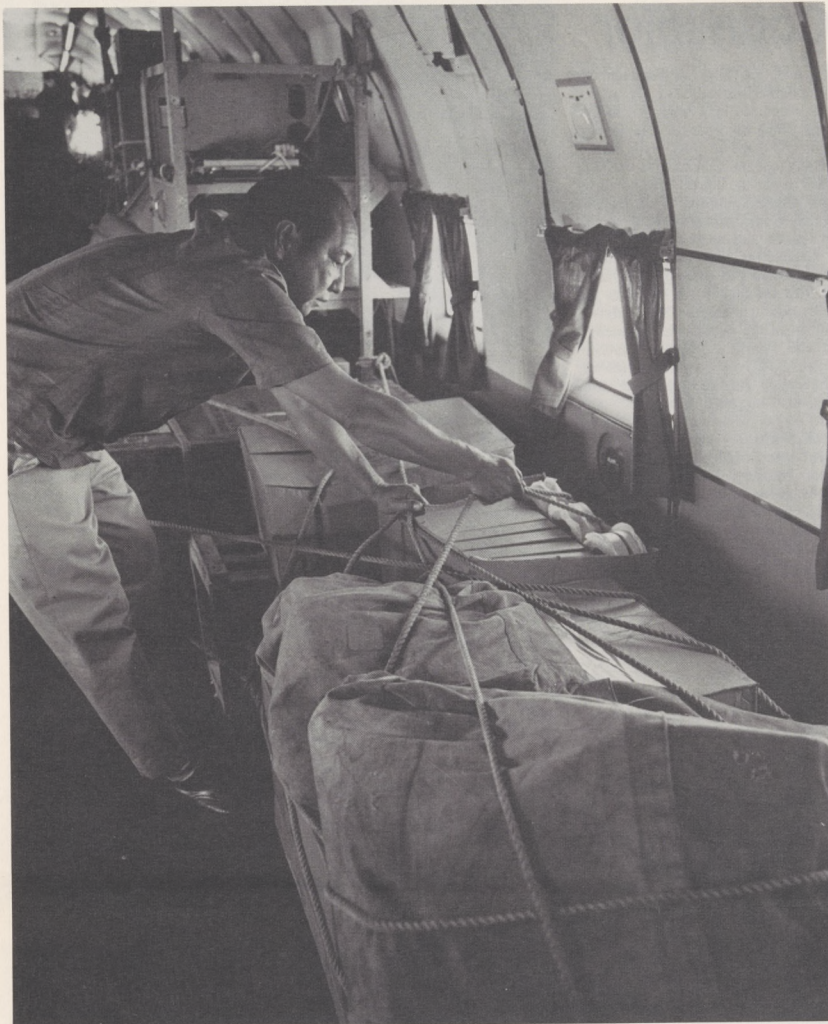
Although this part of the Pacific is not affected by typhoons—they occur farther west—life on Tern is not without danger. In December 1969, continued strong winds to the north generated huge waves which completely inundated the low-lying island. Coast Guardsmen were marooned on the roof of the concrete LORAN building—the only island structure above water—and had to be evacuated by helicopter. Damaged facilities were soon rebuilt and the LORAN station was promptly put back "on the air."

Close FAA-Coast Guard cooperation on Tern is only one example of the teamwork that has characterized the long-standing relationship between the two Department of Transportation agencies.

Not long ago N-98, FAA's long-range flight inspection C-135 which is used also to fly supplies and personnel to FAA facilities on Wake, was in Oklahoma City for overhaul and modifications. The Coast Guard's C-130 fleet took over N-98's regular logistics missions to Wake in the interim period.

And recently, a Coast Guard C-123 flew an FAA crew with a portable flight inspection package to Guam to complete the flight inspection required to restore Andersen AFB's ILS localizer to service.

Both the FAA and the Coast Guard have found that working together really pays off on land, at sea and in the air.

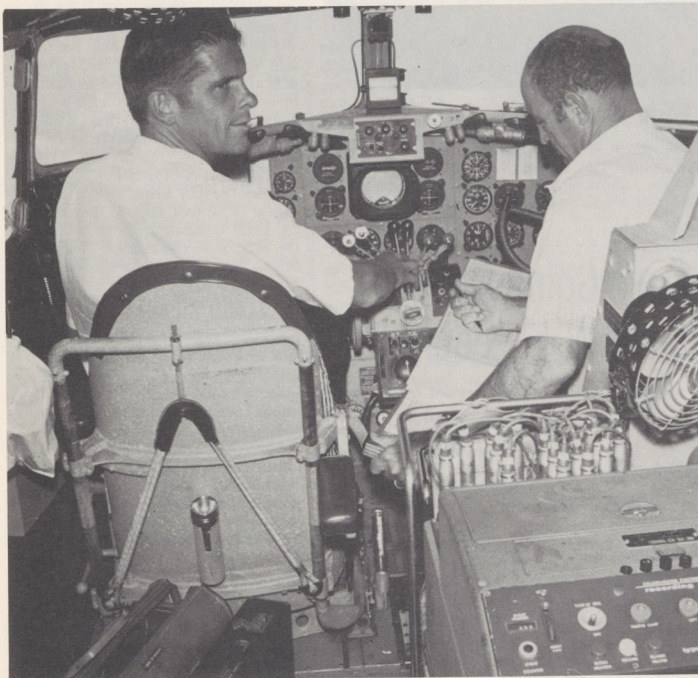


A vital cargo of mail, food and supplies is fastened and secured by Flight Mechanic Stanley S. Yamamoto of the Honolulu Flight Inspection Group before FAA's N-23, a DC-3, wings its way on its weekly trip to tiny Tern Island.



Guardsmen wave arrival welcome to FAA's N-23 on its weekly logistics run to the U.S. Coast Guard Station in French Frigate Shoals, 500 miles northwest of Honolulu.

From a greater distance, "La Perouse Pinnacle" looks like a French frigate under full sail—hence the name of the shoals on the far horizon. Seals, giant turtles and a variety of sea birds inhabit the rocks and shoals.



Homeward bound after one of FAA's weekly flights to supply personnel of the Coast Guard Station in mid-Pacific are the DC-3's pilots: John M. Reynolds, Jr. (left), Alexander F. Wagner, of the agency's Honolulu Flight Inspection Group.



FAA pilots Alexander F. Wagner (left) and John M. Reynolds, Jr., check cargo manifest with Lt. (j.g.) H. F. Hirsch, USCG, Commanding Officer at the Coast Guard station at Tern Island, a remote outpost in the Pacific.

# Student Pilot Saved by Counselor

By David H. Myers

PEKIN, Ill.—Co-manager of the local municipal airport Dennis Hill is one of many people from varied occupations who are Accident Prevention Counselors for the FAA. The Certificate of Recognition he recently earned from the agency was for his outstanding support of the agency's accident reduction program—by volunteering as a speaker at aviation functions, sponsoring meetings, participating in seminars and "starring" in video

taped flight demonstrations used as training aids.

But Dennis Hill's recent role is the frosting on the cake of his achievements with FAA's ongoing Accident Prevention Program. Along with a handful of FAAers in nearby tower and flight service station, Hill helped save a hopelessly lost pretty girl student pilot.

As Hill was putting his aircraft in the hangar at dusk one day, his wife called him into the office to listen to some strange sounds com-

ing over the Unicom receiver. As the couple listened, they recognized the sounds to be a woman's sob. A faint voice then added that she was lost and low on fuel. Hill immediately got his Cessna 172 out and back onto the apron. He took off and quickly climbed to an altitude which would bring the distress call in louder and more clearly.

Contacting the worried pilot—who turned out to be Judith Heuser, lost on the fourth leg of a big cross-country flight—Hill advised her to switch over to the frequency of the Peoria Combined Station/Tower. There, as events unfolded, Supervisor Harold Page and Controllers Reginald Dawson and Gerald Gardner got her plane headed toward their airport. Minutes later, Hill sighted student pilot Heuser's Cessna 150 about three miles south of a closer airport, at Lacon, Ill. He then proceeded to help her land there—her first night landing, and without incident, on a short 2200 foot runway!

"If Judy thinks she is shaking when she got down," Hill said afterwards, "she should have seen me! She did a good job—following my instructions and those from the tower 100 per cent. This made a big difference in getting her down."

According to Peoria CS/T Chief



## Reason To Be Thankful

Student pilot Judith Heuser, who became lost while on a cross-country solo flight, thanks Dennis L. Hill, co-manager of the Pekin, Ill., Municipal Airport, for helping her to safety, and also extends her congratulations to Hill on receiving the FAA's Central Region Certificate of Recognition for his support and participation in the General Aviation Accident Prevention Program. Looking on are Mrs. Hill and Lee Ruebush, Accident Prevention Specialist, Springfield, Ill., GADO.

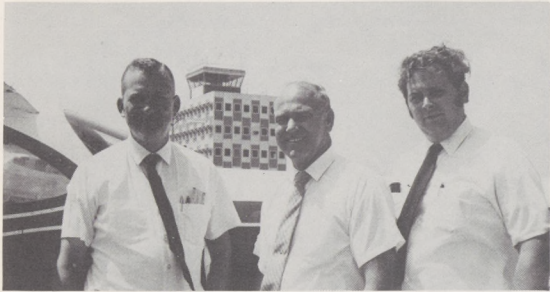
Lester Case, "Hill was almost entirely responsible for saving the aircraft and possibly the life of the pilot."

Several days later, Judy Heuser wrote a personal letter of thanks to Hill:

"Though Peoria and Joliet Radios were most helpful, my first realization that I could safely be landed came when you finally were

able to find me by directions from Peoria Tower," she wrote. "When those beautiful words came over the radio 'I've got you in sight,' I again could start to fly without fear."

Miss Heuser's letter concluded by saying she would be "forever grateful" for Hill's part in saving her life by taking off to find her, using his own airplane.



## Teamwork Paid Off

After helping lost pilot Judith Heuser get her plane down safely, the trio got together to breathe sighs of relief: Airport co-manager Dennis Hill; Peoria Combined Station/Tower Supervisor Harold Page and Controller Reginald Dawson.

# Laramie FSS Hosts Public At General Brees Airport

By Barney Brost  
FSS Specialist

LARAMIE, Wyo. — Laramie FSS, headed by Chief Wayne S. Rodriguez, recently held open house in conjunction with formal dedication of the newly-modernized General Brees Field.

Joining in to welcome the general public in a tour of new quarters in the renovated airport's administrative building was Charles Hillman, head of the Airway Facilities Subsector, and Electronics Technicians Andrew Lessenden and Stanley Swallow.

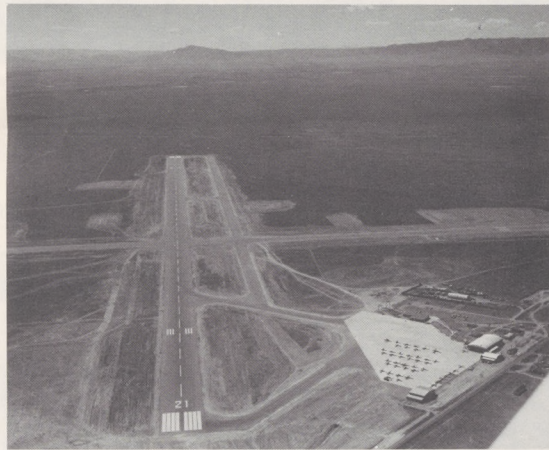
Airport improvements amounting to \$2.4 million were financed jointly by the city, county and the FAA under the Federal Airport Act. Among dignitaries who toured the facilities were Wyoming Governor Stanley Hathaway and state Senator Gale McGee.

Welcoming the touring public and officials was the staff of Laramie FSS. The station is manned

by the following AT Specialists: Mrs. Frieda Stinn, Joe McChesney, Earl Paustian, Orvis Clark and Barney Brost. The facility has been serving the airport for a quarter of a century.

Improvements at the airport include runway lengthening and construction, erecting an antelope-proof fence around the field and installation of new medium-intensity lights for runways and taxiways.

Most visitors conceded that the old municipal airport has come a long way from the 20s and 30s, when it was a refueling stop for aviation pioneers who flew the mail on the Salt Lake City, Cheyenne and Chicago route. Only 40 landings were logged, for example, from July 1928 to July 1929. Main hazards to the field were stray herds of horses and antelope, which occasionally broke boundary lights and constituted mobile hazards to any plane trying to land.



## Wide Open Spaces

Newly renovated by \$2.4 million in improvements, General Brees Field at Laramie, Wyo., has a modern new look through funds from the FAA, the city and the county under the Federal Airport Act. A flight service station and Airway Facilities sub-sector are located in larger quarters in building complex at right.

# New 'Mini-Tower' Handles Traffic With Efficiency

NORWOOD, Mass.—A portable-type control tower purchased to handle air traffic at the bustling municipal airport here has proven a real bargain buy since its commissioning last April.

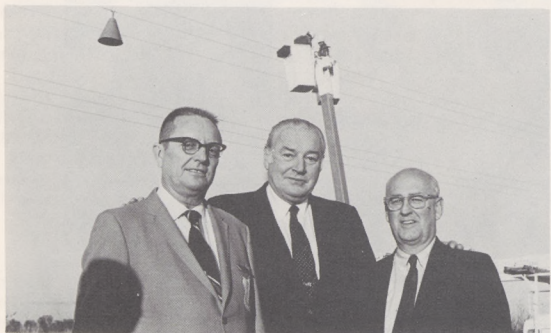
Purchased by the Massachusetts Aeronautics Commission and manned by FAA air traffic controllers, the Port-A-Con tower has made it possible to handle as many as 1,400 aircraft operations in a 12-month period.

Facility chief Louis Bell has a staff of five controllers who provide air traffic services and weather observations from 8 a.m. to 8 p.m. daily. Bell described the completely self-contained tower in enthusiastic terms.

"The Port-A-Con boasts a ten-foot by ten-foot tower cab at one end of a 30-foot trailer," he said. "A small equipment room houses the solid state transmitters and receivers, the center section contains a complete galley with electric stove, refrigerator and hot and cold running water, as well as lavatory facilities. The other end of the unit is where my office is located and it's quite plush. The entire space is wood paneled, air conditioned and carpeted from wall to wall."

Norwood Municipal Airport is located some 14 miles southwest of Boston's Logan International Airport. It is rated as one of the better general aviation fields in New England and is surrounded by scores of business firms that find it more convenient to use than the big city airport with its preponderance of air carrier activity.

Approximately 180 general aviation aircraft are based at Norwood, among them numerous corporate aircraft that include the smaller jets. In addition, Northeastern University maintains a well-attended flight school.



## Getting into the Action

As highlinemen of the Arkansas Power and Light Company prepare to add globe markers to the wires in the background, Arkansas Governor Winthrop Rockefeller (center) talks with Henry L. Newman (right), Southwest Region Director, and Tommy Hancock, aviation accident prevention specialist, Little Rock GADO. Gov. Rockefeller is the first state executive to become personally involved in the FAA accident prevention program.

# Safety Program Going National; Industry Praises W. L. Pederson

KANSAS CITY, Mo.—Initiated by FAA and put into operation on a two-year test basis in the Central and Southwest Regions, the Accident Prevention Program is now going nationwide.


Public reaction to the program in Indiana was evidenced at the annual Indiana Aviation Conference, when Accident Prevention Specialist W. L. Pederson of the Indianapolis Flight Standards District Office was invited to discuss the program from its inception in the fall of 1968.

Pederson has attended the conference each year, providing progress reports on the program's status. The recent conference at Marshall, Ind., saw 220 persons in attendance


who were impressed by the work FAA is doing through accident prevention programs at district, area, regional and Washington levels.

The Indiana Airport Officials Assoc. and the Indiana Aviation Trades Assoc., along with the State Aeronautics Commission of Indiana, recognized, not only the program but the man—Accident Prevention Specialist Pederson. Pederson received a Special Recognition Award for his efforts in promoting safety throughout the State. Pederson was cited for having changed the attitude of many pilots regarding safety itself and for engendering interest in the way the FAA promotes aviation safety.

## DIRECT LINE



This is your direct line to the top! Your questions will get answers! Employees are encouraged to discuss questions with supervisors or their local personnel office, but for those who do not have ready access to a personnel office, this column will provide an opportunity to get questions answered. Send your letter to: The Associate Administrator for Manpower, Direct Line, FAA, 800 Independence Avenue, S.W., Washington, D.C., 20590. Ground Rules: • All questions must be signed. • This column should not be used to supplant formal grievance and appeals procedures. • Questions should concern personnel and training policies, programs and procedures, not operational or technical matters. What's your question?



Question: Is it true that when an employee has 42 years in the Federal Retirement System, he has reached the maximum of 80 percent of his high-three average and all further deposits to the retirement fund are returned to him in a lump sum payment, upon retirement? I have 41 years in the Federal Retirement System—8 months of sick leave accrued. After 4 more months of civil service, would all deposits to the retirement fund thereafter be returned to me in a lump sum payment, upon retirement?

Answer: In cases where the employee's high-three average salary is \$5,000 or more, the maximum basic annuity of 80% of high three-year average pay is earned after 41 years, 11 months of creditable service. According to your letter you have a total of 41 years creditable service. In addition, you have 8 months sick leave balance. When you have 41 years, 11 months combination of creditable service and sick leave, your annuity is computed at 80% of high three-year average pay. If you continue to work until your service alone (not counting sick leave) exceeds 41 years, 11 months, the sick leave to your credit will increase your annuity beyond the 80% basic maximum earned annuity. Hence, it is evident your sick leave balance is given special and unusual treatment. Unless you should owe money to the retirement fund, retirement deductions from your salary after 41 years and 11 months of service may be credited to a voluntary contribution account for you to purchase additional annuity; or, those monies (with three percent interest) will be refunded to you if you request them before your annuity is granted. Direct Line cannot give you complete information about your individual retirement benefits. FAA personnel offices offer pre-retirement counseling to employees upon request. If you are contemplating retirement in the near future, you should contact your local personnel office to arrange for a personal retirement discussion. In the meantime, you should read Chapter 5 of the FAA Employees Benefits Handbook, 3800.5A, and the U.S. Civil Service Commission Pamphlet 18, "Your Retirement System." Both contain considerable information and some examples which will be of help to you.

Question: I began my career with the Federal Aviation Administration in June 1969 with four years of previous civil service and twenty-one years of military service. Due to the previous civil service and wartime military service, my service computation date was established as June 1960. When I am 55 years of age in June 1979, will I be eligible for civil service retirement pay if I waive my military retirement pay and, if so, how many years of service will be creditable toward civil service retirement?

Answer: In your case, the service computation date of June 1960

is used for leave accrual and reduction-in-force rather than for retirement purposes. If you waive your military retirement pay when you reach age 55 in June 1979, you would have 35 years of service (including active military duty) creditable toward civil service retirement. However, if you are ever eligible for an old age benefit from Social Security, the CS retirement will be re-computed to exclude all active military duty after Dec. 31, 1956. "Direct Line" cannot give you complete information about your individual retirement benefits. You should contact your local personnel office and read Chapter 5 of the FAA Employees Benefits Handbook, 3800.5A, and the U.S. Civil Service Commission Pamphlet 18, "Your Retirement System." Both contain considerable information and some examples which will be of help to you.

Question: Under the new upgrading for Electronic Technicians GS-856 working at high density high pressure maintenance sectors, are the training relief technicians with full systems performance certification responsibility being upgraded from GS-11 to GS-12?

Answer: No automatic upgrading for relief technicians is provided. However, the present guidelines for the allocation of relief technicians provide that the grades of relief technicians be established on the basis of the highest grade technician that the technician relieves when the following criteria are met: (1) the aggregate duration of relief duties of the highest level relieved is significant over a one year period; (2) the requirement is necessary to meet operational requirements which are expected to continue. Although no automatic upgrading is provided, the increased number of GS-12 positions to be relieved may provide a basis for additional GS-12 relief positions.

## Monitoring

(Continued from Page 1)

Communication Center by microwave radio and land lines. After processing the data, which is transmitted every 32 seconds by the aircraft upon interrogation by the ground station, the data is forwarded to the FAA's Oakland Center via modems and telephone lines.

At the Oakland ARTCC, the experimental oceanic ATC equipment is set up next to the present manual system. The new equipment being used at the Center consists of a programmable memory, a magnetic tape, input/output device, a teletypewriter, a light pen, a function selection keyboard, and two 21-inch cathode ray tube (CRT) displays.

One display provides a situation display of the oceanic area controlled by the Oakland Center. Pictorially, it illustrates the California coastline, the four established U.S. to Hawaii air routes, the mandatory reporting points, a

## 'Horizons'

(Continued from Page 1)

facets of agency programs and about the people responsible for getting the job done.

FAA Horizons as a newspaper offered its readers from June 1967 through December 1970 some 864,000 words and more than 3,100 pictures, with the constant aim to produce copy that was lean, terse and crisp.

As a result, the newspaper based on regular news and feature stories from the FAA Public Affairs Offices in the field and produced by Editor Cliff Cernick, Associate Editor Thom Hook, Features Writer Ted Maher and Secretary-Contributor Carol Lencki, won a Blue Pencil Award in the national Federal Editors Association Contest in 1969. The same people who contributed to the newspaper that won the recognition from its professional peers will continue on FAA World.

### Goals Set for Magazine

The new publication is designed to give its readers pride in being FAA employees; to develop loyalty, encourage self-development; communicate information that will add to personnel efficiency and effectiveness of personnel; provide information to increase productivity, encourage a mode of conduct and attitude that will preserve public confidence, and help increase a sense of job satisfaction. The staff feels these goals can be better reached through the new magazine format.

Goodbye, FAA Horizons. Hello, FAA World.

latitude-longitude grid, a symbol indicating each aircraft position along the route, and also an alphanumeric tag indicating the airline, flight number and altitude.

The geographical position is supplied by the aircraft's inertial navigation system and the altitude by an altitude transducer which is part of the aircraft's ATC radar beacon system.

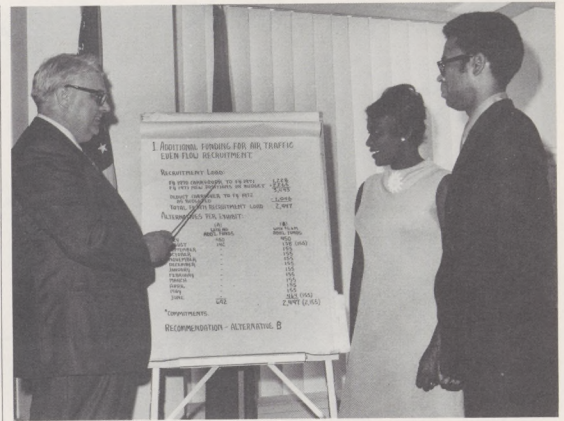
The second adjoining display of the system will provide tabular data required by the controller. It includes such information as the flight plan, weather, time to next reporting fix, and aircraft position.

### Other Info Displayed

Technological developments which have made this type of system possible include: the development of small, low-cost digital computers for rapid processing of aircraft positions, the development of extended range and satellite communications system which provide the increased range for VHF communications and the recently improved navigational capabilities made possible by the introduction into commercial service of the inertial navigation system.

The FAA is also evaluating the system's capability to predict potential conflicts. The system's computer sets off a warning signal—the blinking of the aircraft symbols, when two aircraft are on an apparent collision course. In addition, the computer displays the paths of the two aircraft and extends their courses to the computed point of collision. This graphic representation gives air traffic controllers an immediate picture of the situation, enabling them to make the necessary corrections with ease.

The free flowing information shown on the two TV displays reduces the controllers' bookkeeping and leaves them full time to make air traffic control decisions.



## Upward Mobility

Moving up the ladder from a secretarial position to one as a budget analyst is possible, though it takes preparation, determination and training. Mrs. Lillian Dickerson has demonstrated. Here, she receives congratulations on her new position from James Dow, FAA Budget Director (left), and Quentin Taylor, Civil Rights Director. The transfer, reflecting recognition of Mrs. Dickerson's professional potential, was effected through the efforts and innovation of the Office of Budget and Headquarters' Personnel Operations Division. Similar FAA opportunities are available for others who are qualified.

# 11-Sided Tower Serves Dual Parallel Runways

ATLANTIC CITY—Imaginative planning, coupled with the study of simulated aircraft movement in the air and on the ground, promises to give the Dallas-Fort Worth Regional Airport a traffic control tower compatible with future demands of the "world's largest airport."

A full-scale mockup of the tower cab—the largest ever designed—has been constructed at NAFEC. Teams of evaluators have judged it the best to serve this airport. Particular attention was given to console design and arrangement of equipment in the 620-square foot undecagon (11-sided) cab for the most efficient and workable use by controllers.

"We are planning for a 21st-Century airport and that is the character of the tower," Larry Robison, Southwest Region air traffic system planning specialist, said. "We had to use an imaginative design, one whose usefulness would project well into the future."

Robison is serving as regional monitor of the project and is assisted by Finis M. (Buddy) Lam-

bert, Chief of the Dallas Love Field TRACAB. Clifford L. Lutz, Southwest Region architect, is design engineer.

A double cab, in effect, is accommodated within the spacious, low profile cab to serve the dual sets of runways. The tower will be placed between two (parallel) runways, with controllers working independently in duplicate positions on either side of the cab to handle the traffic using their respective runways.

### Nine Runways

Ultimate development of the airport will give it a pair of dual (four) north-south runways, dual diagonal runways, a general aviation runway and two STOL runways for a total of nine runways.

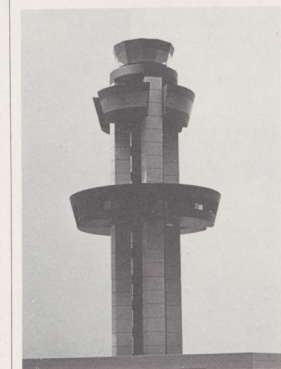
The Dallas-Fort Worth Tower will become an architectural landmark in the center of an eight-by-nine mile airport site. It will rise 185 feet above the ground, high enough for controllers to view the entire 18,000-acre tract. Construction of the airport, located midway between the two cities, began in 1969, and the first operations are scheduled to begin there in April 1973.

According to Architect Lutz, the undecagon design provides the greatest possible flexibility of operating positions and cab configuration for obtaining the best visibility at all positions. This design most nearly approaches a circle and provides the maximum floor space with good upward and downward visibility. Noise is reduced by the odd-number of sides as there is no true opposite reflecting side to the structure.

### Most Cabs Have 5 Sides

The largest tower cabs now being used cover about 400 square feet. Most of the agency's latest tower cabs were designed with five sides.

J. Roy Bradley and Hugh Milligan of NAFEC's Test and Evaluation Division began work with Southwest Region planners in May to prepare the mockup structure. They were assisted by David Clayton, Marion Jones, Edward Eddy and Enoch Loveland of the Plant Facilities Division.

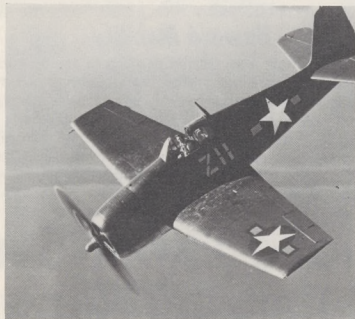


## Undecagon

This architectural landmark, seen here as a model, will rise in the center of the Dallas-Fort Worth Regional Airport. First of its type, the 180-foot-high tower will be topped by an 11-sided cab. The midway projection, at a height of 90 feet, is a round, 80-foot diameter, 2,200-square-foot Weather Bureau facility.

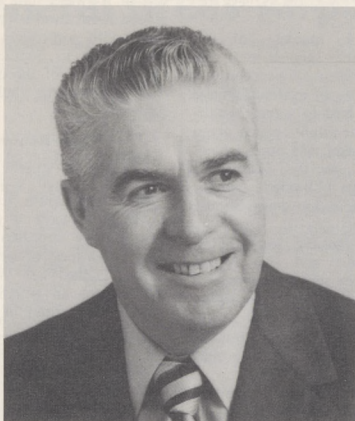
## A-OK, After 26 Years in Davy Jones' Locker . . .

Winched up through 3,400 feet of water from its resting place since Jan. 12, 1944 on the Pacific Ocean floor 12 miles off the California coast, this Grumman F6F Hellcat is now being studied by scientists because of its relatively minor corrosion. FAA Center Crew Chief Bob Thomas, then a U. S. Navy fighter pilot, ditched it after the engine stopped in a dive when his plane lost fuel pressure.



Deciding to check out his refurbished Grumman fighter, Thomas started a shallow dive, then closed the canopy and dove "everything out" toward the planes 13,000 feet below. Pulling out at 7,000 feet—he had reached 400 miles an hour—the engine stopped abruptly.

—Photo courtesy National Air and Space Museum.



A Crew Chief at the New York ARTC Center, Ronkonkoma, N.Y., Robert F. Thomas is shown as he appears today at top. At bottom, as he looked in January, 1944 when he was an ensign and fighter pilot for the U.S. Navy in World War II.



# HELLCAT with NINE LIVES

By Frank Puglisi

"We found something in the Pacific you lost 26 years ago," a Navy officer calling from the Pentagon recently advised Bob Thomas, a New York ARTC Center Crew Chief.

Now, you just don't lose too many things in the Pacific, so even though it was hard to believe, Thomas immediately knew what that "something" was—the Grumman F6F Hellcat fighter plane he had been forced to ditch because of engine trouble.

This strange Ripley-like tale began on Jan. 12, 1944. Thomas, then a Navy ensign and fighter pilot, was cruising at 20,000 feet off the California coast near San Diego in a newly-overhauled Grumman Hellcat when he spotted several fellow pilots below him on a training flight.

Struck with the thought that this would be a good opportunity for him to really check out the refurbished aircraft, Thomas pitched the nose downward toward the unsuspecting pilots, who were doing maneuvers at about 7,000 feet. The Hellcat went screaming down, reaching 400 miles per hour, and when Thomas was just above the other planes, he pulled the nose up. At that moment, however, the worst happened—because of fuel pressure loss, his engine quit.

Like most single-seat World War II fighters, the Hellcat was not much on gliding once the "fan" up front went dead. Thomas immediately yelled "May Day" into his microphone. "What's the problem?" a voice at the other end asked. Struggling to keep his stricken aircraft from nosing straight down as he fought to pancake in, Thomas could think of only one thing to say.

"I think I'm going in for a swim," he shouted back into his mike.

Seconds later Thomas, struggling to keep the nose up, hit the water flat. The plane, although it stayed in one piece, began to sink fast. There next were some uneasy moments, during which he actually went underwater. But thanks to his training in the "Dilbert Dunker" in getting out of a cramped cockpit while inverted in the water, Thomas popped to the surface with his Mae West inflated and a lot of the salty Pacific in his stomach. Fortunately, Thomas didn't stay in the water too long—a Coast Guard vessel cruising nearby, alerted by his "Mayday" call picked him up quickly and returned him to his base—soggy, but like his airplane, still in one piece.

That should have been the end of the story. But one day several months ago the Lockheed research submarine "Deep Quest" was cruising near the ocean floor off the California coast when the sonarman reported a "large metallic object." Moving in

on the object, the sub's skipper, was startled to see what turned out to be Thomas' World War II Grumman F6F Hellcat, resting on the ocean floor at a depth of 3,400 feet.

"The interesting thing was its excellent condition," he said. "We hovered over the plane and could look directly into the open cockpit. All the instruments and controls were plainly visible and had very little marine growth on them."

Some weeks later, Lockheed and the Navy combined efforts and resources to lift the plane to a floating drydock. It was then beached at Pt. Loma, Calif., where marine scientists have been examining it almost daily. Several theories have been advanced to explain the excellent condition of the Hellcat, the most logical of which involves the low water temperature and lack of oxygen at the 3,400 foot depth. Scientists are hopeful that information gained from their study of the plane may prove useful in the design and corrosion protection of underwater structures.

A technical report filed by inspectors of the Grumman Aerospace Corp. of Bethpage, L.I., builders of the sturdy Hellcat fighter planes flown by Navy and Marine pilots in the Pacific Theater, said the plane showed "very little corrosion and practically no evidence of pitting." The report added that "paint was excellent; flaps and ailerons moved freely; most rubber was good, and wing tip light assembly was perfect."

While his ditched aircraft sat out the rest of the war, Bob Thomas went on to become a Navy ace credited with shooting down five enemy aircraft in the Pacific and helping to disable a Japanese light cruiser that was later sunk by American battleships. In one air battle near Manila, he performed the amazing feat of knocking down four planes when he took on an entire enemy squadron alone. Here again, the Hellcat proved its durability by holding up with more than 200 bullet holes and every instrument except the clock destroyed.

In July 1951, Thomas began his FAA career at the New York ARTCC as an air traffic controller. He flew in the reserve until 1966. Some time later, Thomas was promoted to crew chief. He lives with his wife and children in quiet, suburban eastern Long Island. However, ever since a wire service story on the Lockheed find made the newspapers, the quiet life became much less so. Friends, neighbors and even former squadron buddies keep calling to talk about the amazing underwater discovery.

Last month, the plane was deeded over by Admiral Bringle to the National Aerospace Museum in Balboa Park, San Diego.