FAA HORIZONS

Read 'Instant Weather' Page 2

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Minneapolis Controller Saves Little Boy's Life

MINNEAPOLIS—A controller at the Minneapolis Center, Terry B. Eliason, has been honored by the agency for saving the life of a two-year-old boy trapped in a blazing home. Eliason recently received the FAA Decoration for Valor during a special ceremony at the center. Center Chief Robert Ziegler made the presentation.

The citation commends Eliason for saving a human life "at great risk to his own life from fire and smoke inhalation."

Eliason was returning from work when he saw smoke pouring from his neighbor's home. A 14-year-old baby-sitter who had just escaped from the blazing house told him the child was still inside in a second floor bedroom.

Eliason attempted to enter the door but was driven back by smoke. He then removed his shirt, soaked it with water and put it over his head in a second effort to reach the trapped youngster.

"As I went in, I heard the little fellow screaming for help and I realized he wasn't upstairs at all, but downstairs somewhere," he said.

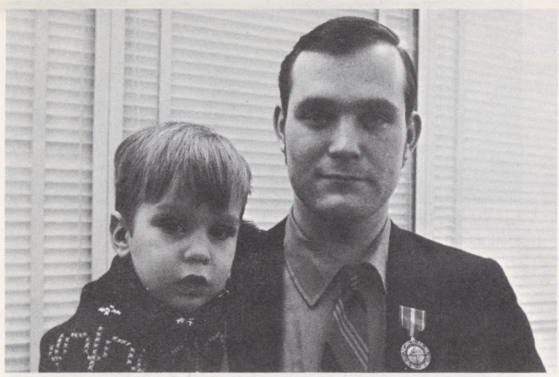
Eliason then crawled on his hands and knees across the living room floor, through dense smoke.

"I followed the sounds of the crying youngster and finally found him under a big chair in the living room where he'd taken refuge. Apparently, he had come downstairs by himself. He was covered with soot and smoke."

Cradling the terrified boy in his arms, Eliason crawled out of the house. The child was rushed to the hospital where it was found that, except for the fright he suffered, he came through unscathed.

"Eliason displayed unusual courage in rescuing Timmy," said Eliason's boss, K. W. Hollinger, Chief of the Minneapolis Center. "At the risk of his own life, he entered a house that was enveloped in smoke and flames. There is little doubt that a human life was saved by his valorous action."

Eliason joined the agency about a year ago after serving four years in the Marine Corps, where he was a ground control approach controller.



For Valor

For saving the life of two-year-old Timmy Norstad, ATCS Terry B. Eliason of the Minneapolis Center was recently decorated for valor. Eliason rescued the boy from the Norstad's smoke-filled, burning home.

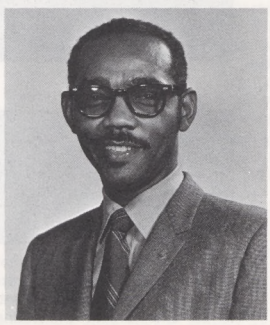
King Heads CR at Atlanta

ATLANTA—Howard O. King has been named the Southern Region's first Civil Rights Officer.

He has had 29 years of Federal service and came to the FAA from the Forest Service, which he joined in 1967. His Federal career includes a dozen years with the U. S. Supply Department and service with the Navy in World War II and later as a civilian personnel staffing specialist at the Pensacola, Fla., Aircraft Maintenance Base. He also has served as a Contract Compliance Officer with the Department of Defense.

As regional Civil Rights Officer, King is responsible for FAA's Contract Compliance and Equal Employment programs as well as implementing provisions of the Civil Rights Act of 1964 in areas of education, training and equal opportunities in the seven southeastern states, the Caribbean and the Canal Zone.

(Continued on Page 7)



Howard O. King

On Top of the World

That's the feeling of the staff of the Anchorage GADO as the result of being selected as one of the eight regional winners in the Flight Standards Service's "Field Office of the Year" program. Shown (left to right) are: Bud Seltenreich, GADO Chief; Ed Allen, Supervising Inspector; Bert Rhodes, Principal General Aviation Operations Inspector and Mrs. Lawrence Rodger, Administrative Clerk.

Top FS Offices Picked by Region; National Winner to be Named Soon

WASHINGTON—The agency's outstanding Flight Standards field offices have been selected under a new program aimed at giving special recognition to this category of FAA activity.

Winning offices were picked on the basis of overall operational performance with particular emphasis on results achieved in terms of contributions to aviation safety. As a minimum, the office must have sustained a level of performance reflecting satisfactory quality and productivity in all elements of the regular work program during calendar 1969.

Selection announced by the regions as winners of the regional "Flight Standards Field office of the Year" awards are:

- Eastern—ACDO 31, JFK International Airport.
- Southern—GADO 8, St. Petersburg, Fla.
- Southwestern—EMDO 43, San Antonio, Texas.
- Central—GADO 19, Springfield, Ill.
- Western—Aircraft Maintenance Base, Los Angeles.
- Pacific—San Francisco International Field Office.
- Alaska—GADO 1, Anchorage.
- European—Beirut Flight Safety Group, Beirut, Lebanon.

The awards are for the 1969 Calendar Year.

Other considerations on which the selections were based included work quality significantly above average, increased productivity, efficiency or economy of operation and acts or services materially affecting successful accomplishment of the Flight Standards safety programs.

Also taken into consideration were significant contributions to improved aviation safety by work or means above and beyond the regular work program and innovations or improvements in service to the public—including other government agencies.

Each winning regional field office received a plaque and a citation.

The eight regional winners are now in competition for the National Flight Standards Field Office Award.

The selection of the national award winner, to be announced in mid-March, will be made by a special board chaired by James Rudolph, Director, Flight Standards Service, and including the following Flight Standards Service officials: E. E. Mundy, Executive Officer; Allen M. Morrissey, Chief, Evaluation Staff; Herbert H. Slaughter, Jr., Chief, Engineering and Manufacturing Division; Joseph A. Ferrarese, Chief, Operations Division and William G. Shreve, Jr., Chief, Aircraft Programs Division.

Planning Review Conference Scheduled at Headquarters

By David H. Brown

WASHINGTON—The second annual government/industry National Aviation System Planning Review Conference will be held here April 14-17.

"Our initial experience indicates that these annual planning sessions serve the public interest by providing a continuing flow of fresh and innovating ideas for improving the National Aviation System," DOT Secretary John A. Volpe stated in announcing the conference.

"Moreover," he added, "it is a good example of the type of consultative planning effort by government and industry which this nation must have if it is to resolve its many and varied transportation problems."

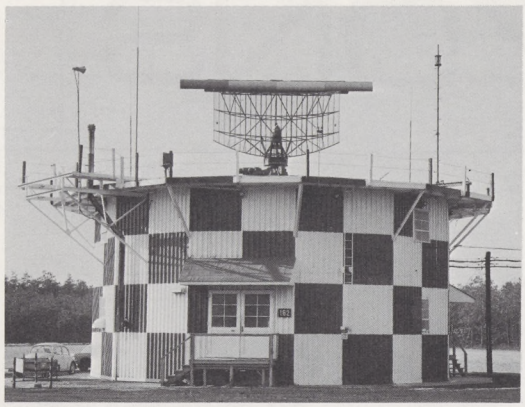
Administrator John H. Shaffer pointed out that the planning conferences benefit both government and industry, providing the former with "a means for tapping the resources and expertise of the private sector" and the latter with "an opportunity to shape the plans and policies which affect it most directly."

Both Secretary Volpe and Administrator Shaffer will speak at the opening plenary session where the keynote will be the need for an integrated transportation system. Following this session, there will be seminars where the conferences will focus on issues relating to policies and plans for the National Aviation System.

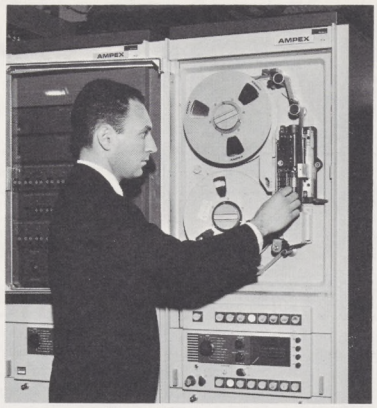
The tentative agenda for these seminars was issued in January and included such topics as research and development, airport planning, facility establishment criteria, new generation ILS requirements and future ATC operations, procedures and systems.

Comments received on the tentative agenda, together with the extent of industry participation determine the final agenda, which is scheduled to be issued the first week of March. A copy of the final agenda and program will be mailed to all who register for the conference.

Registration must be in writing and be addressed to: Office of Public Affairs (PA-10) at Headquarters.



This is a unit in the agency's 60-mile range terminal radar system that will be used in conjunction with a 200-mile range en route system to provide automated or semi-automated tracking and display of aircraft and radar weather perimeters. The agency has plans for automating such terminal radar systems at high density locations.



Special two-channel rotary-head tape recorder used in obtaining radar "weather signatures" is adjusted by Project Engineer Marty Holtz.

On Demand . . . at NAFEC . . .

'INSTANT WEATHER'

A storm, anyone? A fast-moving hurricane? A spectacular thunderstorm with lightning? Or perhaps a mild April shower? Name it, and it can be reproduced instantly and authentically on the radarscopes in research laboratories at NAFEC.

NAFEC's "instant weather" consists of segments of actual weather phenomena "captured" on magnetic tape by field crews using complex radar recording equipment. When "played back" in the laboratory, researchers are able to see the same sort of storm "pictures" that controllers must contend with on a daily basis. These weather sequences can be "replayed" again and again—and they frequently are—in NAFEC's continuing study aimed at taming a nuisance that complicates every controller's job: weather clutter.

Clutter is a kind of "static" that results when high-frequency radar pulses are reflected from concentrations of rain, snow and ice that permeate storms. Although radar pulse returns that show up on radarscopes as clutter "hit the spot" as far as weather observers are concerned, they are unwanted from an air traffic control standpoint because they can obscure or even eliminate radar returns from aircraft "targets."

Before the advent of the magnetic tape recording process, storms could not be simulated or recorded for study purposes. Therefore, even though studies of weather clutter could be made under "live" conditions, researchers had no standard of comparison in the laboratory when introducing experimental measures to control clutter. The best that could be done was to observe storms on a "one-time-only" basis, using conventional radar-indicating devices such as plan position indicators (PPI) and "A" scopes.

The problem was more acute in studying the rarer, more violent forms of weather phenomena such as tornadoes and hurricanes. Now, instead of waiting for another such violent storm to occur so it can be studied, it is possible to reproduce past storms in all their original intensity and with great fidelity, as many times as necessary.

As a first step toward reducing and—so far as possible, eliminating—weather clutter, it was necessary to collect a wide variety of weather recordings involving various kinds and quantities of clutter. To do this, the agency dispatched crews to a number of radar sites with special wide-band, rotary-head magnetic tape recorders, not unlike those used by commercial television stations.

Each storm was found to have its own distinctive radar "signature" depending upon the density and scope of the rain, snow, ice or other matter concentrated within it.

In addition to helping NAFEC make inroads on the problem of weather clutter, the "instant weather" recordings were found to be invaluable in helping to perfect the radar digital subsystem for weather and aircraft data.

This subsystem is part of the automated National Airspace System (NAS) that will provide automated or semi-automated tracking and display of aircraft.

Under the digital-processing subsystem, controllers will be given data on the location and progress of storms—data that is vital in vectoring aircraft and advising pilots—without having weather clutter from the storms obscure aircraft targets. This is because only storm perimeters or contours will appear on radarscopes.

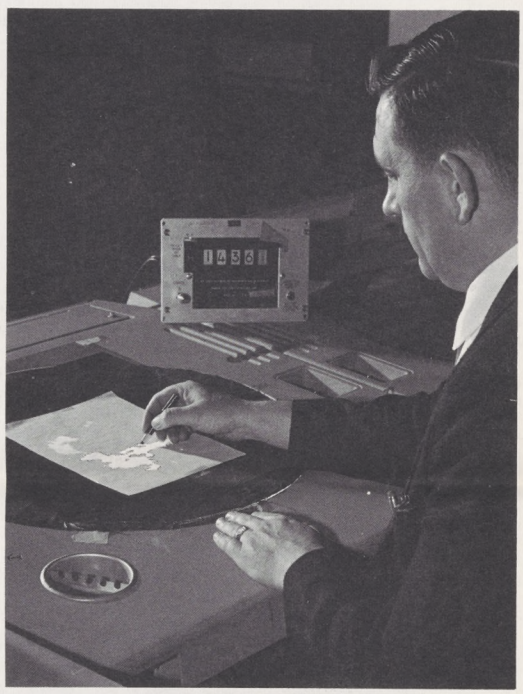
"Reproduced weather" is also being used at NAFEC as input into existing data processing and display hardware for research and development purposes. Through repeated playback, the operating parameters—in effect, capability—of this equipment can be optimized.

Computer analysis of "storm signatures" yields valuable scientific data. The weather recordings are "run through" a multi-level quantizer for recording on the IBM 7090 computer. Digital tape produced as a result of this special processing is then used in carrying out further programs of analysis. Analysis of the digital tape enables researchers to determine, for example, a number of the essential characteristics of radar "storm signatures," including power gradients, azimuthal correlations and range.

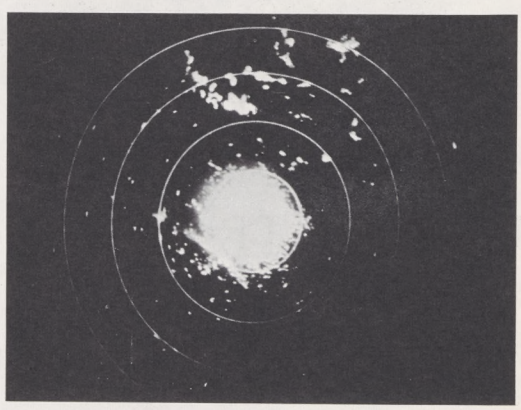
NAFEC's "instant weather" process is also used in recording and studying radar returns from aircraft beacons. In this connection, the recording equipment has played a key role in developmental work on the ARTS-III system, which gives controllers continuous aircraft identity and ground speed on transponder-equipped aircraft and provides altitude data for equipped aircraft.

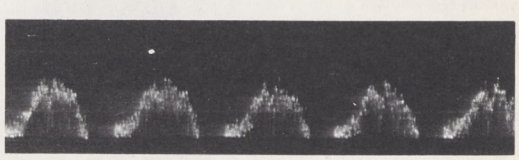
The NAFEC team dedicated to the vital job of increasing the capability of controllers to direct air traffic in bad weather is headed by Project Manager Howard L. McFann. He is assisted by Project Engineers Marty Holtz and Bob Delaney. Personnel from the MITRE Corporation, developers of much of the equipment used in the research, also are participating. Headquarters aspects of the studies are being coordinated by Karl F. Bierach, Jr. of the NASPO office.

Although total elimination of weather clutter has not been accomplished, NAFEC's "instant weather" is helping to point the way toward that goal. Meanwhile, clutter's worst features have been eliminated and significant advances have been made on other projects that will make the air traffic controller's job less onerous.



Contours produced on radarscope from weather recordings are evaluated by Air Traffic Control Specialist Charles McGee.





A typical plan position indicator display of weather clutter is shown in top photo. Magnetic tape recordings now make it possible to continuously repeat such storm data on laboratory radarscopes to assist in the effort toward eliminating the clutter. Bottom photo shows a single-sweep "A" scope display of a weather formation.

Oakland Center to Test Oceanic Display Unit

By Alex F. Garvis

WASHINGTON—A $210,000 contract has been awarded by the FAA to Information Displays, Inc., of Mt. Kisco, N.Y., for equipment and services in connection with a nine-month evaluation of an oceanic air traffic control graphic display.

The contractor will lease to FAA an off-the-shelf graphics display called IDIIOM (Information Displays Inc. Input-Output Machine) which will be installed in the Oakland Center for a nine-month evaluation beginning in June. During this period, the agency will evaluate the display of aircraft position information as reported by means of automatic digital data link to determine if such a display is adequate for the control of oceanic air traffic.

The automatic VHF (very high frequency) digital data link/graphic display will permit oceanic controllers to view an aircraft's position on a pictorial display as it travels from San Francisco to Honolulu. During the evaluation, controllers will receive digital position data direct from the aircraft to the display from about halfway to Hawaii, compared to today's radar capability of approximately 200 miles.

Pan American World Airways, whose Boeing 747 aircraft will be flying the route, and ARINC, the company that provides communications for the airlines, will cooperate with FAA during the test. The Pan American 747s will be equipped with VHF data links to provide the automatic position reports for the tests. ARINC will install an extended range VHF data link ground station in San Francisco to receive signals from the aircraft.

The IDIIOM graphic display, which will be used in connection with VHF data link, consists of a display processing unit, a programmable memory unit, input/output keyboard devices, and two 21-inch cathode ray tube or pictorial displays.

The pictorial displays will show the California coastline, the established U.S. to Hawaii air routes, the mandatory reporting points, a latitude-longitude grid, a symbol indicating the actual position of the aircraft along the route and also an alpha-numeric tag indicating the airline, flight number and the altitude of the aircraft.

These initial tests will use ground VHF data links which will restrict coverage to about half of the San Francisco to Honolulu route. However, when satellites are used, it will be possible to cover the entire route.

Installation of the equipment is expected to be completed by May 31 of this year.

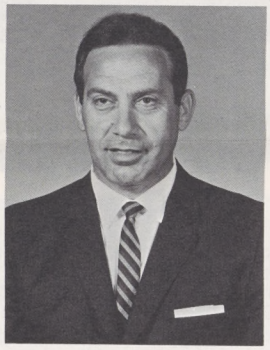
Chiefs Get Together

Members of the Air Traffic Automation Coordinating Committee discuss automation of air traffic control at a meeting at NAFEC. Regional Automation Branch chiefs and Headquarters officials are (from left): Isadore Goode, Eastern; Ernest Rice, Southwest; Albert Ridenour, Air Traffic Service; William Flener, Director ATS; Ted Carroll, Central; Al Andrews, Western; and Jimmy Roberts, Southern.

Graziano Heads Center's CR Staff

OKLAHOMA CITY—John V. Graziano has been named the first Chief of the Aeronautical Center Civil Rights staff.

A veteran of seven years with the agency, he first joined the Eastern Region as a Compliance and Security officer. In 1965, he moved to Oklahoma City, where he became Chief of the Center's Compliance and Security staff.



John V. Graziano

He held this job until the Center's Civil Rights office was established last summer, at which time he was appointed its chief.

Before joining the agency Graziano was an investigator for the Civil Service Commission. His work there included investigations to determine suitability of applicants for positions involving national security.

Graziano was an Army paratrooper and served in the Pacific theatre of operations during World War II and with the occupation forces in Japan. As a member of the Eleventh Airborne Division, he participated in 18 jump operations.

A 1951 graduate of St. Johns University, New York City, he has attended the FAA Management Institute and the Executive School and has taken numerous postgraduate courses in management outside of FAA.

He is a member of the board of directors of the Oklahoma City Urban League and serves on the planning committee for the annual labor-management seminar sponsored jointly by the University of Oklahoma and the National Conference of Christians and Jews.

Texas 'Saucer' Exposed

FORT WORTH—When he snapped a photo of the future site of the Acton VORTAC, FAA Civil Engineer Paul Freund expected it to show only a section of flat, Texas prairie land. When the snapshot was developed, however, it showed what looked like a flying saucer.

What caused the phenomenon? To determine what really appeared in the photo, the Compliance and Security Division sent the negative to Air Force Intelligence. The negative was referred, in turn, to the Eastman Kodak Co. for analysis. That firm reported that the "flying saucer" was actually "a contaminant on the surface of the film, which produced differential development."

The Acton facility site, a few miles southwest of Fort Worth, is one of the four "corner-post" VORTACs that will serve as navigational points for the Dallas-Fort Worth Regional Airport, now under construction.

As a civil engineer with the field installation section of the Southwest's Region's Airway Facilities Division, Freund is overseeing preparation of the site for construction of the new VORTAC.

Southwest's 'Saucer'

When an Airway Facilities engineer took a picture of this proposed site for a new VORTAC in the Fort Worth area, the sky seemed clear of extra-terrestrial traffic. The print, however, shows a "flying saucer" above the fields. *Photo by Paul Freund*

FAA Honors Crew of Airline

By Robert M. Beasley

WASHINGTON — The flight crew of an Air West F-27 which responded to an in-flight emergency and landed the plane and all passengers safely has been granted the FAA's Award for Distinguished Service.

"The expertise of the crew, in working as one to cope with this emergency, reflects the highest standards of skill and competence, characteristic of those entrusted with the safety of today's aircraft and their passengers," DOT Secretary John A. Volpe said.

The awards, consisting of a silver medal, lapel rosette and a certificate signed by Administrator John H. Shaffer, were presented recently at Air West's headquarters in San Mateo, Calif. Lee Warren, Deputy Director, Western Region; Hervey Aldridge, Manager, San Francisco Area Office; and Darcy Short, FAA Principal Operations Inspector assigned to Air West, made the presentation on behalf of the agency.

Capt. James M. Cutler, First Officer Robert M. Monson and stewardess Katherine A. Renwick and three passengers were en route to Portland, Ore., from Pasco, Wash., on Aug. 30, 1969, when a fire broke out in the right engine. While Cutler and Monson went through the engine shutdown and fire-extinguishing procedures, Miss Renwick prepared passengers for an emergency landing. Although the crew was able to contain the fire, they were not able to put it out completely.

Captain Cutler first decided to attempt a crash-landing on a cornfield, but when the fire seemed to be diminishing, he changed his mind and told the Seattle Center that he was going to make an emergency landing at the Sunnyside, Wash., Airport. During their final approach to the airport, the fire re-kindled to such an extent that hot metal thrown from the aircraft engine caused small fires on the ground during the final phase of approach and landing. The Washington State Patrol and Sunnyside Fire Department, which had been alerted to the emergency, were standing by when the plane pulled to a stop. Firemen quickly extinguished the blaze while the crew and passengers evacuated the plane.

The FAA awards program for non-agency personnel is designed to recognize significant achievements in aviation. Special recognition is given to individuals whose contributions are compatible with the mission of FAA and which have benefitted the entire aviation community and the American public.

V/STOL Meeting Planned

WASHINGTON—A three-day conference to take "a second look" at airworthiness standards for certification of transport category V/STOL (vertical and short takeoff and landing) aircraft has been scheduled for Apr. 21-23 at Headquarters.

The meeting is a followup to one held in April 1968, when the agency met with industry representatives and others to formulate "tentative" airworthiness standards for V/STOL aircraft. The first draft was published in July 1968 under the title, "Tentative Airworthiness Standards for Vertiraft/Powered Lift Transport Category Aircraft," (known as the "Yellow Book").

The conference is expected to attract some 150 persons and will start at 10 a.m., Apr. 21. It will follow the general plan of the 1968 meeting, with an opening plenary session followed by group discussions in four specialized areas—flight, propulsion, airframe and systems-equipment.

Chairman of the three-day meeting will be Herbert H. Slaughter, Chief of the Engineering and Manufacturing Division, Flight Standards Service.

Technical papers to be presented will be, generally, those based on actual experience gained in development and flight testing of V/STOL transport aircraft and directed either pro or con to the concepts advanced in the agency's "Yellow Book."

The updated "tentative" airworthiness standards are expected to be published about Aug. 1. To date, no aircraft has been certificated by the FAA as a V/STOL transport category aircraft.

FAA HORIZONS

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Through busy gates at Washington National Airport routinely pass congressmen, senators, celebrities and business tycoons. Here FSS Chief Joseph J. Greten (left) greets Rep. Daniel J. Flood (11th Dist., Pa.). Business jet in background underscores fact that station handles jet-type planes in a 3-to-1 ratio over piston aircraft.

Photos by Charles H. Ritter

Modernization of the room shared by teletypes, Military Flight Service and Flight Data position has brought increased efficiency to Washington FSS. Personnel on duty are (clockwise): Sam Stover, Ronald L. Oakley, Garland Holloman, Ray Clark, Gregory Faith, Dennis Donahue and Robert Abbey. Holloman, who is Watch Supervisor, formerly headed training. (See "before" photo insert below.)

Tomorrow's FSS—Today

By Thom Hook

Equipment modernization, improved communications and a better all-around working environment are planned for the agency's flight service stations during the next decade.

Expenditure of approximately $56 million for reconfiguration and improvement of flight services is set forth in the "National Aviation System Ten-Year Plan," scheduled for issuance the end of February.

According to the plans, the agency by 1980 will have 155 full-time FSSs, 416 part-time stations and 400 unmanned stations within the conterminous United States.

Improvements planned for FSSs over the next decade include relocation in some instances, facility modernization and replacement of obsolete equipment.

Also planned under the NAS ten-year plan are systems improvements in the International FSS system and the FSS systems in Alaska and Hawaii.

An FAA industry planning conference scheduled for Apr. 13-17 in Washington to discuss the agency's total programs, including the portion relating to FSSs, will bring together FAA and aviation industry representatives to discuss the proposed plan in detail and receive appropriate industry comments. Then, conditional on Executive and Congressional approval of fiscal budgets required, the plan will be implemented.

Improvements have already been made at some flight service stations under "Operation Bootstrap," an agency program based on local initiative for self-improvement of ATC facilities (ARTCCs, towers, TRACONs and FSSs) and aimed at bettering the FSS environment to the extent that is possible under present allocations.

Washington Sets Pattern

One of the first to complete an overall face-lifting is the Washington FSS at Washington National Airport. It literally sets the pattern—today—for tomorrow's FSSs.

Serving some of the nation's most prominent persons—congressmen, senators, industrialists, entertainers and noted sports figures—the Washington FSS will be among the nation's most modern when all 311 U. S. stations celebrate the FSS 50th Anniversary this summer.

According to FSS Chief Joseph J. Greten, a veteran of 30 years with the agency, recently completed physical changes have added greatly to the efficiency of his complement of 64 employees. Attractive paneling has been installed throughout. The FSS has been soundproofed. Modern chairs, updated communications equipment and a conveyor belt system for speedily processing flight plans have been installed. The station, one of the first seven to be established, earned the Outstanding Facility of the Year Award from the Eastern Region in 1967.

Open 24 hours a day, the "station with the new look" serves an area encompassing 55 civilian airports, 12 military bases and eight omni ranges. Flight Service Area boundaries extend north to the Westminster, Md., VOR; south to Fredericksburg, Va.; west to the Skyline Drive and east to Chestertown, Md., (including the busy parachute jumping site at Ridgely, Md.).

Handle Volume of Flight Plans

"The 67 airports we serve generate in excess of 10,000 flight plans a month," said Frank Kraemer, Assistant FSS Chief, who has been with FAA 22 years. "Most flight plans come in by phone, but we also give many face-to-face briefings."

The conveyor system speeds the steady flow of flight plans. Included among a broad range of other services performed by the FSS are:

Pilot Automatic Telephone Answering Service (PATWAS). This service is a complete taped weather briefing that pilots can obtain simply by dialing one of three numbers serving Washington and Baltimore. Washington FSS currently services 22,000 such calls monthly—a figure that has increased by 5,000 monthly within the last quarter. The three-minute taped weather information is updated six times daily or as needed.

Transcribed Weather Broadcast (TWEB). This broadcast, produced by the station, enables the flying public to keep in touch with the weather simply by listening to their portable multiple-band low-frequency radios. The broadcast emanates from a 15-cartridge communications unit at the FSS, which plays in sequence and is heard over 332 KhZ in the office, residence or hotel room of the flying businessman or legislator.

VOR Weather Broadcasts. These broadcasts are produced by the In-Flight position at the FSS for simultaneous transmission over seven of its omni ranges 15 minutes after every hour.

Notice to Airmen (NOTAMS). A specialist is on duty at all times to advise pilots of pertinent changes affecting any of the area's 67 airports. The specialist in this NOTAMS position passes on changes to his associates for inclusion in their briefings where pertinent. He also decides whether a NOTAM should be broadcast at the end of weather reports, transmitted over the teletypewriter, phoned to local airports, or forwarded to the National Flight Data Center at Headquarters for inclusion in an upcoming Airman's Information Manual (AIM).

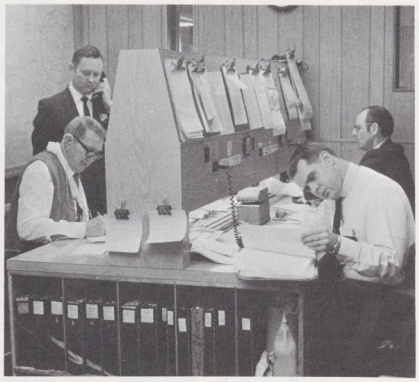
This position also handles the dissemination of flow control information concerning terminals in the Washington, Atlanta, Cleveland and New York control areas. The flow information also is sent by electrowriter to airlines concerned at Dulles and Washington National.

Radio Speakers Speed Briefing

In-Person Pre-Flight Briefings are given at the modernized counter near the FSS's open front door. At busiest times, pilots queue up several deep awaiting personal briefing. Several radio speakers have been installed nearby. By simply pushing a button, pilots can hear a transcribed weather report prior to asking specific questions.

The type of briefing given and its length is determined by the size of the pilot's aircraft and the weather itself. With CAVU (Ceiling and Visibility Unlimited) weather, the briefing can be completed within a few minutes. If weather is bad, however, the briefing may require as much as 20 minutes. This would include any pertinent NOTAMS and the status of en route navaids.

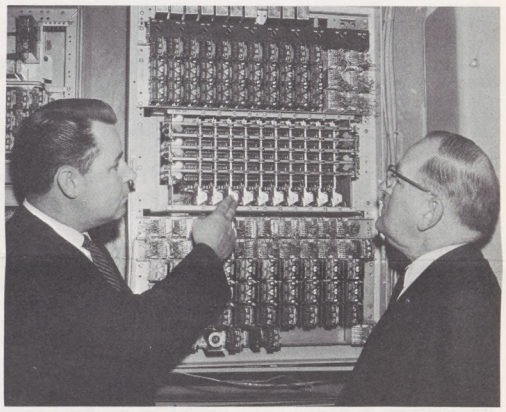
In the Flight Data position at Washington FSS, Gregory Faith (right) processes flight plans received on new belt conveyors from the Pre-flight Briefing position. VFR flight plans drop through to the Air-Ground position; IFR plans are transmitted to Washington Center computers. Dennis Donahue transmits a flight plan to Andrews AFB from the Military Flight Service position. 10,000 flight plans are processed monthly by the busy facility.



Briefing is given airborne pilots and position reports are taken to follow flight plan progress at the Pre-flight Telephone Briefing console. Calls come from outlying satellite fields to the automatic call allotter. (Foreground left), Specialist Joseph Zeel fills out a telephoned flight plan. Behind him, Garland Holloman takes a call. (Right foreground), Gilbert L. Shade checks Airman's Manual to answer pilot's question about destination airport. Behind him, Specialist Clayton Deckman mans telephone.

New paneling enhances the environment of the pilot briefing lounge as commuter airline pilots are briefed by Gilbert L. Shade while Clayton Deckman (left) takes flight plan from corporate pilot (obscured by Shade).

Being at FAA's "front door of general aviation", Washington's FSS Chief Joseph J. Greten (left) and his staff always have their best foot forward in dealing with the flying public. Here he chats with Page Airways dispatcher Chuck Murer (right) and Dick Perreault, JetStar pilot for Pratt & Whitney Div., United Aircraft.



A new automatic telephone call allotter that takes all incoming calls and places them in sequential order for answering in proper turn is discussed by telephone company representative Bill Wood (left) and Joseph J. Greten, Chief of the Washington FSS.

A tape cartridge giving new weather information is checked by FSS Maintenance Technician Jim Durham before replacing it in its bank of 15 cartridges that play in sequence for broadcast over low-frequency radio beacon. Durham has been with the agency 14 years.

A specialist briefs pilots of light aircraft on surface conditions and sky visibility at each Weather Bureau reporting post along his entire route. He briefs pilots of larger aircraft, such as DC-3s and Lodestars, for the altitude they will be flying—and if flying IFR, they will be advised about turbulence or icing possibilities at their flight levels. He briefs pilots of corporate jets on wind velocity and temperatures at their higher flight levels, plus giving them all the other information they will need weather-wise.

To make his briefing, the FSS specialist uses reports received over the teletypewriter service, plus maps sent by the Weather Bureau over the national facsimile circuit as well as pilot reports (PIREPS).

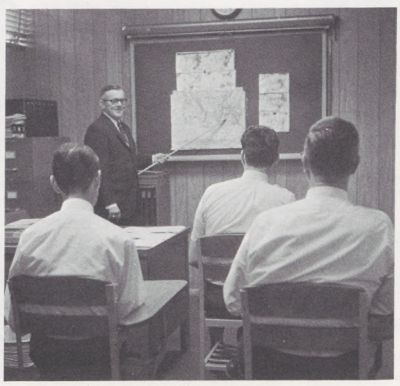
Intensive Training Required

Prospective specialists are selected by Civil Service and begin by taking a 14-week Air Traffic Service course at Oklahoma City. Returning to their FSSs, the employees embark as GS-7s on a lengthy 2,080-hour training course to qualify. In a year, the specialist should become a GS-9. He must study to check out in each position. Courses in Teletypewriter and Broadcasting (TWEB) are four weeks each; courses for Military Flight Service and Pilot Weather Briefings posts are both of six weeks duration.

In-Flight Position requires that in order to work aircraft on the radio, the specialist must be tested for a general knowledge of the entire area served, plus a detailed knowledge of terrain within a 100-mile radius of the station.

Many Washington FSS specialists are pilots, and some have been flight instructors. In their efficient new environment, they easily answer all the usual questions, plus the stumpers frequently received, such as: "I'm having some horses flown in from South America. When will they be on the ground?" or "I want to know all about Category II landings—nationwide. . . ."

Pleasant surroundings of the kind that will be common in tomorrow's FSSs help Washington FSS employees do a better job.



Specialists in a "weather briefing" class are lectured by Washington FSS Training Instructor Ronald Culp. After completing the course, each man gets a written and oral exam from a Weather Bureau quality control officer to get individual briefer's certificates.

With no loss in manpower effort, the station can monitor airmen taking exams under secure conditions through the window built for Washington FSS. Specialists Ervin Crenshaw (left) and Jerry Morrison give briefing assistance to pilots over the radio while keeping an eye on examinee.

Aircraft Registration Rule Change Is Made

By Irv Ripps

WASHINGTON—A new rule requiring owners of U. S. civil aircraft to submit annual reports verifying the current eligibility of their aircraft has been adopted by the FAA.

The reports must be submitted to FAA not later than June 30 of each year, with the first one due not later than June 30 of this year.

No fee for annual reporting nor any user charge will be required.

The reporting burden on the aviation public will be minimal. The agency is now preparing to mail some 180,000 preprinted, two-part forms (called "Aircraft Registration, Eligibility, Identification, and Activity Report, AC Form 8050-73") to current owners of U. S. registered aircraft. Much of the data on the form will be preprinted from aircraft registration data on record as of Dec. 31, 1969. Owners need only verify the preprinted information, correcting items as necessary or supplying additional information needed for updating.

Forms Preprinted

Preprinted aircraft registration data includes owner's name and address, whether U.S. citizen, aircraft make, model, registration and serial number, and whether the aircraft has been registered under the laws of a foreign country.

Completed forms must be mailed to FAA Aircraft Registry, AC-259, Post Office Box 25082, Oklahoma City, Okla. 73125. Aircraft registrants who do not receive a form in the mail can obtain blank forms at approximately 85 GADO and 344 FSS facilities.

Verification and completion of Part I is mandatory. Failure to submit the required annual aircraft registration information could result in suspension or revocation of the registration certificate.

Accurate aircraft inventory and aircraft location information on the civil aircraft fleet is vital if the FAA is to accomplish its role of promoting aviation. This data will be used for the orderly development and location of civil airports and for pinpointing needs for enroute and terminal area navigation equipment and for other facilities.

Better Service

Also, by having accurate updated information available on the civil aircraft fleet the FAA can better serve the public by ascertaining its inspector personnel requirements according to the numbers and geographical location of aircraft.

Part 2 of the form deals with aircraft activity and related information. This part, which is voluntary, covers the base airport of the aircraft, name and address of the principal aircraft operator if other than owner, make and model of aircraft engines, identification of communication and navigational aids capability of the aircraft, and aircraft activity in terms of hours flown and purpose of flight (i.e., business, corporate, personal, air taxi, instruction, aerial application, etc.).

Flight hours is an important exposure criterion in measuring safety. Since FAA is responsible for maintaining and improving safety and efficiency in the aviation community, it is vital that FAA have current reliable data on what kinds of planes are flying, for what purpose and how much. Accurate data on flight hours improve the chances of obtaining a solid data foundation upon which forecasts of necessary facilities can be developed as well as rules for the safe use of navigable airspace. Principal aircraft operator information will enable FAA to distribute airworthiness directives to the people who need them in a timely fashion, thus enhancing safety. Base airport data is needed for sound airport, facility and inspection personnel distribution.

To avoid duplication, the new two-part form will replace a current requirement for reporting certain similar information. FAA believes that voluntary reporting of Part 2 information will provide sufficient data to satisfy agency needs.

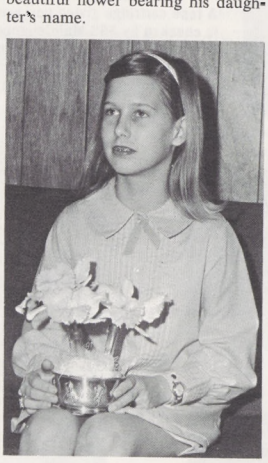
The new rules make possible the elimination of obsolete aircraft files on a current and continuing basis. For the first time, FAA will have the capability to maintain an updated aircraft registry based on current registration data. The new program will also fill a long existing FAA need for adequate knowledge on the identification and activity of U.S. registered civil aircraft.

Orchid Is Named For Little Girl; Dad Is FAAer

HOUSTON—Orchid lovers the world over will soon be asking for the "Kathryn Von Rosenberg Cattleya" orchid, named for the ten-year-old daughter of a Houston Center controller.

Kathryn's uncle, an executive in the orchid-growing industry and aware of his niece's love of orchids, arranged for a recently-developed strain to carry her name. The "invented" orchid, which required seven years to develop, is now registered by the Royal Orchid Society in London. It will be marketed throughout the world.

SATCS Martin Von Rosenberg, the father, is a crew chief at the Houston Center. As other fathers would be, he is enthusiastic and happy that orchid lovers in the years ahead will be admiring a beautiful flower bearing his daughter's name.



Orchids for Crew Chief

A crew chief at Houston Center, Martin Von Rosenberg, has the unusual distinction of having a new "Kathryn Von Rosenberg Cattleya" orchid in the immediate family, Daughter Kathryn holds the beautiful new orchid.

Spanish Version

The Spanish language version of the "Private Pilot's Handbook of Aeronautical Knowledge" is becoming a "best seller" among aviation publications south of the border.

Pilots in Mexico Acclaim Handbook

OKLAHOMA CITY—A Spanish version of the *Private Pilot's Handbook of Aeronautical Knowledge* is becoming a best seller south of the border.

The handbook first appeared in 1963 and was translated into Spanish in 1968. Since that time, the handbook, always a leader among aviation publications in the U.S., has become popular with aviation enthusiasts in Mexico.

It has been made available at no charge to Mexican flight schools, universities and interested individuals through the U. S. foreign aid office, the U. S. Embassy in Mexico City and the Regional Aviation Assistance Group at the Aeronautical Center.

The handbook was translated and reproduced in Spanish through the cooperation of the Agency for International Development. It was developed by the operations branch of the Aeronautical Center's Flight Standards Technical Division here.

The *Private Pilot's Handbook of Aeronautical Knowledge* contains practical information on flying techniques, climatology and basic navigation.

NAFEC Workers Give the 'Boot' To Job Injuries

ATLANTIC CITY—Many a potential sore toe for NAFEC workers is being avoided because of a recent FAA safety order calling for all employees in jobs vulnerable to foot injury to wear special safety shoes.

Those getting the shoes include shop personnel, maintenance men, flight line mechanics and warehousemen.

Specifications for the shoes are more stringent than those for any general type of safety-work shoes available commercially, according to Center Safety Officer Winfred B. Hughes, who developed them.

The shoes have non-marking soles and Dacron thread stitching impervious to oils; raised serrations for traction; storm welting, heat-resistant linings and a special metal safety toe.

Hughes says that several serious foot injuries have been avoided in the past at NAFEC by employees who happened to be wearing safety shoes.

New Terminal Begins Serving Air Commuters

By Don Byers

WASHINGTON—To serve the rapidly-growing numbers of air travelers using commuter airlines at Washington National Airport, the Washington National Commuter Airlines Association officially opened a new commuter airlines terminal in FAA facilities at the airport Feb. 18.

Secretary of Transportation John A. Volpe, who cut the ribbon marking the official opening of passenger services, pointed out that the facility is one of the very few—possibly the only one—catering exclusively to passengers of the commuter airlines in the United States.

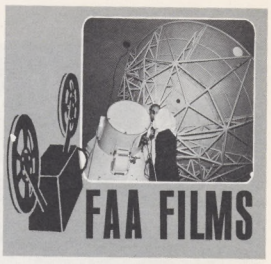
"We view this as a most significant development," he added. "It is symbolic of the incredible growth in the entire scheduled commuter airlines business—from 15 operators in 1964 to more than 240 in 1969."

The new facility is located in the former Military Airlift Command building at the south end of the general aviation terminal building. It was not damaged in the recent fire in the general aviation complex.

The commuter airlines fly modern twin-engine aircraft holding up to 17 passengers on a published schedule. They link smaller communities with infrequent or no scheduled air carrier service to the major metropolitan centers. The 13 commuter airlines operating into Washington National Airport, for example, link the nation's capital directly with 32 cities and provide connecting links to about 70 additional cities scattered over the Middle Atlantic Seaboard from Boston to Richmond to Pittsburgh.

The new commuter airlines terminal was renovated by FAA's Bureau of National Capital Airports to meet rapidly growing needs of commuter airlines at Washington National.

The interior of the new facility was furnished by the Washington National Commuter Airlines Association, an organization formed three years ago when commuter traffic began to boom. The association presently has 13 members, all serving Washington National.



By Sue Silverman

In a world suddenly grown smaller, flight has become a powerful unifying force. It has changed the whole world's way of living, thinking and doing business.

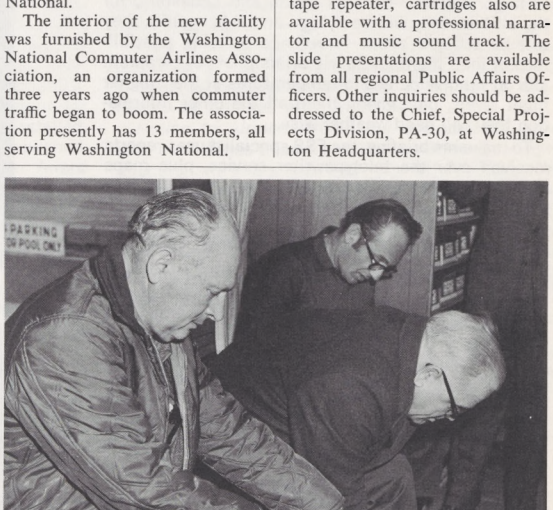
To give the American public a better insight into how the FAA keeps the mushrooming growth of flight on safety's centerline, a new 20-minute color slide presentation is being made available to any agency employee who wants to use it for a public speaking program. In fact, the 20-minute format was determined in part by the time limit established for programs by many civic clubs. In brief, the presentation is the story of the FAA—what it is and what it does— and how the agency's worldwide employees constantly seek to set the highest standards of flight safety.

Round-the-Clock

It gives a panorama of what modern aviation comprises and particularly zeroes in on round-the-clock services the FAA provides to keep the nation's air networks safe. Further, it explains why greater public and private cooperation is needed at all levels to overcome aviation's pressing problems. The presentation also explains the relationship between the FAA and the other administrations which constitute the Department of Transportation.

The slides are packaged with a printed narration script which includes photographs of the slides in proper sequence.

For those who have an automatic tape repeater, cartridges also are available with a professional narrator and music sound track. The slide presentations are available from all regional Public Affairs Officers. Other inquiries should be addressed to the Chief, Special Projects Division, PA-30, at Washington Headquarters.



A Safety Step

Safety shoes, issued to NAFEC warehouse employees in accordance with an agency order for protection on the job, are tried on by (from left), Carl Esposito, Ervin J. Heary and Lewis J. Levy.

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 Acting PT-1, Federal Aviation Administration, 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 contrary to agency policy to transfer three persons from a five-man facility and replace them with unqualified, untrained employees, thus preventing the two remaining employees from taking annual leave for several months?

Answer: A specific answer to your question is not possible on the basis of the facts submitted. However, the "transfer" you speak of may be a planned management action to better utilize manpower resources at a particular location, or may have resulted from employees "bidding out" to take advantage of promotion opportunities. Your best bet is to discuss the matter frankly with your supervisor so that a mutually-agreeable leave schedule precluding loss of annual leave can be worked out. You also should be able to obtain an explanation for the transfers.

Question: In a previous issue, it was stated that forfeited annual leave cannot be returned. Isn't it agency policy to ensure that this does not happen? Is there no recourse for an employee who is denied annual leave?

Answer: It is FAA policy to assure that employees not be required to forfeit annual leave, but it is not always possible to schedule time off to coincide with employee preferences. Operational considerations relating to air safety require that an adequate number of employees be on duty at all times in most facilities. Employees are encouraged to try to resolve leave problems through informal discussions with supervisors and personnel representatives. If this cannot be done to your satisfaction, you may wish to resort to the grievance procedures. Under certain conditions, the Civil Service Commission will investigate complaints based on procedural or regulatory violations. Your personnel office can advise you on such matters.

Question: If an employee with financial problems is making an honest, sincere effort to liquidate his indebtedness, can he be fired because his creditors are not satisfied with his ability to pay?

Answer: For a number of reasons, it is unlikely that an employee would be fired for indebtedness based on the circumstances you cite. The authority to discipline an employee for indebtedness rests with his superiors, not his creditors. Although the agency expects employees to honor their just debts, it does not permit itself to be used as a collection agency for commercial obligations or claims based on court judgments. If an obligation is disputed or denied, the complainant is advised that FAA will take no further action pending determination of the claim's validity through civil proceedings. It is FAA policy to counsel employees in order to arrange reasonable, practical schedules of payments for valid claims. Check Handbook 3750.4, paragraph 58, for a full discussion on financial obligations.

Question: If the above-mentioned employee were to be fired, would the FAA's action be final?

Answer: A dismissed employee has the right to appeal to the FAA or the Civil Service Commission, but not to both at the same time. If an employee appeals first to the FAA and loses his case, he may appeal to the Commission afterwards. (See 3770.2, Adverse Actions Appeals and Grievances, Chapter 3.)

Question: Handbook 3600.2, Absence and Leave, paragraph 78h states: "Employees who volunteer to donate blood to the Red Cross, or in emergency situations to local hospitals, will be excused from duty for a period of-not more than four hours. Travel and recovery time following the donation of blood are included in the four-hour maximum." I interpret this to mean that a person donating blood will be given excused leave for recuperative purposes not to exceed four hours. Is my interpretation correct?

Answer: Yes. A person donating blood can be given up to four hours of excused absence for travel and recuperative purposes. "Recuperative purposes" would be as specified by proper medical authority. The intent of the regulation you cite is to encourage participation in the blood donor program.

Question: The Sept. 29, 1969 issue of Direct Line states that the agency decided to discontinue use of aptitude tests for certain maintenance positions in the NAS ATC Subsystem, because experience and job related skills were found to be better indicators of success on the job. Was there a large percentage of failures in the use of this aptitude exam?

Answer: No. Most candidates demonstrated an acceptable level of aptitude on these tests.

King

(Continued from Page 1)

A native of Pensacola, the 44-year-old King is a graduate of Washington Junior College there and holds a B.B.S. from Florida A & M University in Tallahassee. He was an evening division instructor in addition to his government work at Washington Vocation School in his home city from 1957-1965. An active member of the Bi-Racial Committee there, he was the organization's secretary for two years.

King and his wife, Lillie, have three adult children. Currently, the new Civil Rights Officer also serves on the Budget Committee of the Community Chest and is training committeeman for the Boy Scouts of America.

Cryptic Numbers Decoded at Last; They're Airways

WASHINGTON—The symbols atop the Oklahoma City hangar were incorrectly explained in the Feb. 16 *Horizons*. The digits "17 30 51 77" were not coordinates as assumed. Here is what the symbols meant, according to an Aeronautical Center expert who used to fly the system.

In the mid- and late 40s, the designation for junctures of various airways (Amber, Red, Blue and Green) were noted on the roofs of hangars and in some cases on civil buildings. In the one pictured, the 1 N referred to one-mile distance north to the beacon light marking the juncture of the various airways legs. Each leg, besides having a color designation, had a number. Victor 77 is still in use, although at that time it was called Amber 77. The 17, 30, and 51 were likewise legs of airways (Skyways) intersecting at that light beacon.

Aviation Career Seminar Is Held For Counselors

NASHUA, N.H.—As a result of an agency sponsored Aviation Career Opportunity Seminar conducted here recently, hundreds of high school students in the Eastern U.S. are expected to get the word on aviation opportunities—including FAA opportunities—available to them.

The seminar was held to reach these students through their counselors, 53 of whom attended the day-long meeting.

For many of the counselors, it was the first seminar at which aviation opportunities were discussed in such detail.

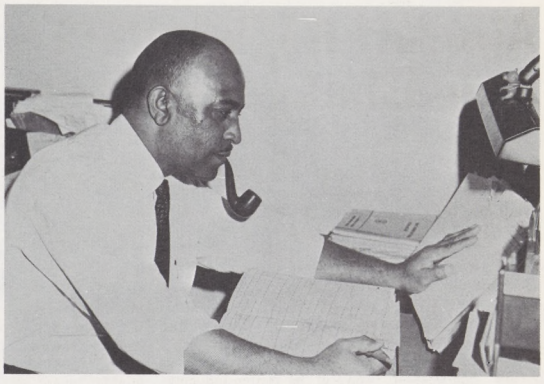
The counselors were briefed on how to give high school students an initial thrust toward careers in aviation. Establishment of aerospace education courses as part of the high school curriculum and the incorporation of such courses into students' preparations for college also were taken up.

Opportunities Discussed

FAA career opportunities were discussed by Carl Amelio, Boston Area personnel officer. Methods of developing aerospace education programs were outlined by Robert O'Neil of the Office of General Aviation Affairs. Directing the interest of disadvantaged young people toward opportunities in aviation was stressed throughout the seminar.

Panel participants included Prof. Frank Truesdale, assistant dean of Northeastern University; Prof. Clifford Youse, Applied Sciences Program director, Northeastern University; Brig. Gen. Harrison Thyng, director, New England Aeronautical Institute; Dr. Kenneth McLaughlin, president, Nathaniel Hawthorne College; and Dana Fitzgerald, admissions director, East Coast Aero Technical Institute.

Seminar participants were welcomed to Nashua by William E. Cullinan, Jr., Boston Area Manager. Cullinan and other FAAers later conducted the group on a tour of the Boston ARTCC located here.



After Uphill Struggle

Looking every bit the aerospace engineer he now is, Al Farrar of Eastern Region Flight Standards studies specifications as part of his duties in the Propulsion Section.

Engineer Attains Goal By Determination, Toil

By Frank Puglisi

NEW YORK—Al Farrar's middle name could very well be "Perseverance" instead of Thomas. Formal engineering studies he began 20 years ago have resulted in his finally qualifying as an aerospace engineer with the Eastern Region's Flight Standards Division.

Until becoming an engineer recently Farrar was a mechanical engineering technician, a position he had held since coming to the agency in 1961.

After a wartime stint in the Army Air Corps, Farrar enrolled in New York University's evening division as an engineering student, back in 1946. As a family man trying to make ends meet, it wasn't easy. After a year, he was forced to give up his studies.

Two years later, however, Farrar's burning ambition to make a go of it prevailed and once again he sacrificed some of his leisure time to evening studies at New York University. This time, he persisted for five years, only to surrender again to life's realities, including an energy-draining daytime job and a family of three children who needed and deserved their father's loving presence. But the time working was well spent, since Farrar began absorbing engineering background on the job to serve as a basis for possible future employment.

His first step toward an engineering career came in February 1961, when the FAA hired him as a technician. Working with engineers and often doing the same type of work further prepared Farrar for his big break. That came in July 1969, when he learned through a regional notice that an examination to qualify employees as engineers was being offered by the Educational Testing Service of Princeton, N.J. under its National Program for Graduate School Selection.

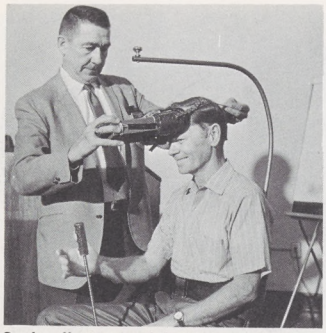
Farrar remembers the exam day well. It was a hot, humid Saturday in July and he would have preferred being at the beach rather than in a stifling classroom at Columbia University, where the eight-hour exam was held. When it was over, he was certain he had flunked.

In September, however, he was elated to receive notification that he had passed. Losing no time, he submitted all necessary papers to the regional personnel division. There—with the green light from his pleased Flight Standards supervisors—wheels were set in motion to establish a position for him as an aerospace engineer.

Farrar modestly debunks the idea that he has accomplished anything speical. He feels it has been just a matter of setting a goal for himself and persisting until that goal was achieved. His modesty notwithstanding, not many men nearing middle age, with a wife and three grown children to think about, could have made it the way Al Farrar has.

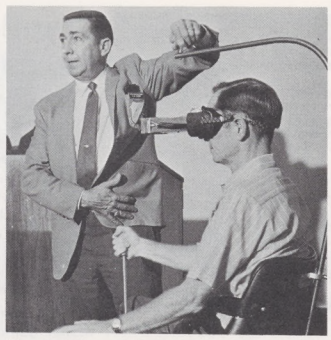
Learning Their ATCs

New England educators who recently toured Boston ARTC Center at Nashua, N.H. learned about radar operation from Boston Area Manager William E. Cullinan, Jr., (left). The tour was part of an agency sponsored Aviation Career Opportunity Seminar. Cullinan's audience included (left to right): Carl Amelio, Boston Area office; Robert O'Neil, FAA, Washington; Prof. Frank Truesdale, Northeastern U.; Dr. Kenneth McLaughlin, president, Nathaniel Hawthorne College; Brig. Gen. Harrison Thyng, director, New England Aeronautical Institute; Prof. Clifford Youse, Northeastern U.; and Dana Fitzgerald, admissions director, East Coast Aero Technical Institute.



Gowin adjusts a hood that helps simulate the loss of orientation a pilot experiences under certain conditions, including darkness and bad weather. Twelve of the vertigo inducing chairs are currently in use in the Southwest Region's accident prevention program.

Gowin starts the chair and Carley begins spinning toward the right. Fluids in the inner ear governing one's sense of spatial orientation are set into motion.



The direction of the chair is reversed. Now, it's moving to the left. But Carley believes it's still going right—a "dangerous" sensory illusion of the kind that causes aircraft accidents.

The chair is stopped for 35 seconds. Carley is unaware it is motionless. His sensations mislead him into believing he's still travelling to the right and, as a matter of fact, is doing so at a greater rate of speed. Such sensations can convince the unwary pilot that the attitude of his plane has changed when it hasn't. The result is disorientation, confusion and, almost inevitably, a serious accident.

THE CHAIR THAT MAKES FLYING SAFER

It goes 'round and 'round—and when it stops, no pilot knows. But the lesson it teaches can save his life.

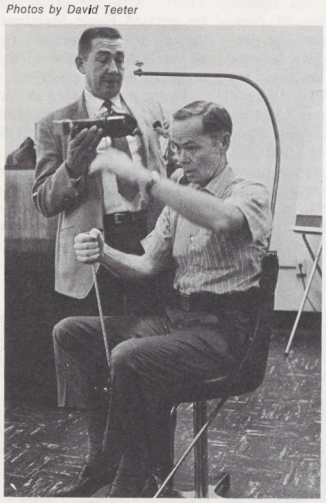
It's a very simple chair—actually a "motorized" stool—but it's helping to make general aviation safer.

The vertigo-inducing chair is being used by FAA accident prevention counselors to teach pilots a lesson best learned by experience: you can trust your plane's instruments more than you can trust your own senses.

Literally hundreds of pilots have "ridden" these chairs in the Southwest and Central Regions and have come away full-fledged believers in this doctrine.

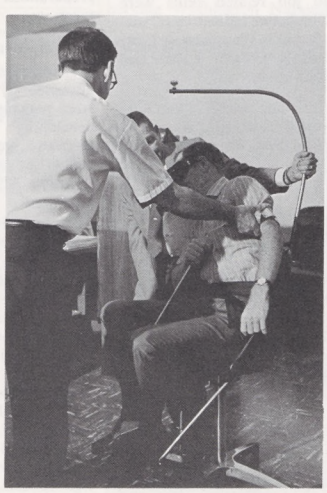
Among the fully-convinced is Frank E. (Pat) Carley, watch supervisor at the Dallas-Fort Worth TRACON. Let's watch him take his "ride," under the supervision of Hamilton B. (Ham) Gowin, Accident Prevention Specialist at the Fort Worth GADO. The sequence starts at the upper left-hand corner of the page and continues clockwise.

Photos by David Teeter



With his "ride" over, Carley's hood is removed and, like other pilots who have taken the demonstration, he becomes "a believer." By actually experiencing vertigo—dizziness—pilots learn to trust their instruments even though their senses indicate otherwise. (Actual instrument failure is a rarity, says Gowin.)

So disoriented is Carley by this time that both Huntsman (left) and Gowin must forcibly restrain him from plunging to the right and forward. Accident investigators attribute many aircraft tragedies to this kind of sensory confusion, brought about by conditions of weather visibility and orientation beyond the pilot's flying skill.



. . . when Carley straightens up. Preceding movements have given Carley the sensation he is pitching rapidly backward. To counteract this sensation, he plunges forward. Glen Huntsman, a co-worker at the TRACON, has to keep Carley from falling off the chair. In an aircraft, a similarly disoriented pilot might be convinced his instruments are wrong and his sensations are right.

To prepare Carley for another phase of the spatial disorientation demonstration, Gowin asks him to reach to the floor to pick up a pencil.

Gowin next tells Carley to look quickly over his left shoulder as if to check a switch. Normal physiological reactions as a result of these motions cause complete disorientation . . .