FAA HORIZONS

In This Issue:
A Review of
FAA's Past Year

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Air Pioneer Honored

Holding his special chromed-reel of the new FAA film, "The Inspectors," premiered at a Los Angeles presentation in his honor, Lt. Gen. James H. (Jimmy) Doolittle, (USAF., Ret.), is escorted by Western Region Director Arvin O. Basnight to a special luncheon following. The general, now 73 years old, stars in the 25-minute film about flight inspectors' important work.

Progress of Legislation Augurs Well for Future

WASHINGTON — Highlighting developments of national scope during 1969 was the resounding House passage of the ten-year, $5 billion airport and airways development package. Senate action on the measure, geared to the nation's expanding aviation needs, is pending.

Plans for an additional 5,015 agency employees, including 3,800 more controllers, 995 Systems Maintenance personnel, 140 Flight Standards personnel and 80 to be employed in training activity came a step closer on Dec. 26 when the President signed the DOT appropriations bill which included $1,178,550,000 for the FAA. Included in the recommended appropriation was $10.8 million for the construction of 54 new air traffic control towers in 30 states and Puerto Rico.

A comprehensive study of the agency's regional structure and its applicability to the President's "standard region" concept was completed, with further studies scheduled to take place in 1970. Among other national highlights during 1969:

- John A. Volpe was sworn in as Secretary of Transportation on Jan. 22 and John H. Shaffer became the fourth FAA Administrator on March 24.
- President Nixon visited Headquarters and spoke to key officials in February.
- A $35 million contract for automated radar tracking systems (ARTS III) was awarded.
- Members of the national aviation press honored Deputy Administrator D. D. Thomas in April.
- An intensified Civil Rights program within the agency was launched with appointment of Quentin S. Taylor as its head and the appointment of field staffs.
- George S. Moore was named one of ten winners of the National Civil Service League's 1969 awards for outstanding public service.
- The Administrator appointed a high-level agency task force to develop additional FAA-sponsored programs to improve the ATC career system and the Controller Career Committee, headed by Dr. John Corson, began its study after establishment by Secretary Volpe.
- Area offices collocated with regional offices were merged.
- The new Boeing 747 was given provisional type certification by the Western Region.
- Brig. Gen. Gustav Lundquist reported Aug. 1 as NASPO director.
- Plans were prepared for modernization and expansion of 19 ARTC centers.
- Secretary Volpe dedicated the new Anchorage Center Aug. 21.
- After months of testing, an anti-hijacking system developed by the agency went into operational airline use at key locations.
- Murray Snyder, Assistant Administrator for Public Affairs, died Nov. 2.
- To reduce congestion, a reservations system was put into operation at key airports in New York, Washington and Chicago, resulting in reduced delays.
- Proposals were advanced on positive control of aircraft and noise and smoke emission levels among others.

Employee Benefits Expanded in '69

WASHINGTON—The Office of Personnel reports that 1969 was a good year for FAA employees. Paychecks rose an average 9.1 per cent last July and new retirement benefits were signed into law by President Richard M. Nixon in October. Other personnel highlights of the past year were:

In Pay

- A new classification guide for Manufacturing Inspector positions updated the application of standards for non-supervisory positions in the GS-1825-0 aviation safety officer series.
- The AF Occupational Study was begun and will be completed during 1970. In addition to the study, implementation guidelines were issued for classification of sector supervisory positions, GS-12 watchstander positions, the "technician-in-depth" work situation, relief technician and others.
- Special pay rates were continued for certain air carrier operations inspectors and specialists, medical officers, engineers, architects, physicists, and other scientific positions.
- A new wage setting procedure —the Coordinated Federal Wage System—assured that all Federal wage grade employees in a local wage area doing the same kind of work get the same rates of pay.

In Benefits

- There were two annuity increases last year keyed to rises in the cost-of-living index—a 3.9 per cent raise on March 1, 1969 and a five per cent increase on November 1, 1969.
- An "Open Season" for health benefits was conducted.
- Lower optional life insurance rates were announced with an "Open Season" to be held in March.
- A significant change to FAA's Recognition and Awards Program streamlined and clarified the program in two principal areas: awards for suggestions and awards for superior job achievements.
- A revised handbook (3430.3) improved guidance on the Performance Improvement Program.

In Career Opportunities

- FAA adopted a plan, with Civil Service Commission approval, for additional exceptions to the time-in-grade requirements (Whitten Amendment) for promoting controllers to implement effectively the new ATCS Classification standards. Last year, 7,136 exceptions were approved.
- Continuation of the Cooperative Engineer Development Program provided an opportunity for employees with two or more years of engineering education to continue their education and achieve professional engineering status.
- The Administrator appointed a high level agency task force to develop additional FAA-sponsored programs to improve the ATC career system. Recommendations included: placement programs for the medically unqualified, an early retirement package, a retraining program and a program to permit controllers to transfer from high-density to low-density facilities with either pay or grade retention.
- A new "FAA Career System Handbook" will enable employees and managers to evaluate career

(Continued on Page 7)

Air Traffic Training Tempo Is Accelerated at Academy

OKLAHOMA CITY—Aeronautical Center Highlights for 1969 included acceleration of air traffic control training, obtaining six new North American Sabreliners for flight inspection, and construction and dedication of the $2.4 million Systems Training Building.

The decision to centralize all air traffic control training at the FAA Academy was made in mid-1968. Training actually started in November 1968, but it was January 1969 before the potential in new trainees began to be noticed. During the year, 2,541 air traffic control trainees were graduated from courses in en route, terminal and flight service station training. Using an accelerated but thorough method of classroom and laboratory training, 1,867 were graduated in en route, 496 in terminal (or tower) and 178 in flight service station operation.

Projecting air traffic training through calendar 1970, it is expected that 2,700 students will be graduated in en route training and returned to their facilities, 1,600 in terminal training, and 220 students graduated in flight service station training. The total will exceed 4,500 students during the year.

To meet space requirements for additional initial trainees during 1970, construction of seven new classrooms is underway and should be finished in February 1970.

By September 1971, one terminal laboratory and two en route radar laboratories should be fully automated and configured to resemble and perform as ARTS III and NAS Stage A facilities. Training of terminal data systems specialists will start in late 1970 after initial training by Univac in Minneapolis.

Flight inspection saw the leasing of six new North American Sabreliners during 1969. These fleet jets are being used in high altitude inspection of air navigational aids around the world. Five of the new jets are now in operation. The sixth is being used for pilot training. One Sabreliner has been stationed in Alaska, two are headquartered in Tokyo, and one has been assigned to Frankfurt, Germany. One Sabreliner will operate out of Oklahoma City, home of the National Flight Inspection Division.

On Oct. 30, Secretary Volpe dedicated the newest building of the $40 million Aeronautical Center complex, the $2.4 million Systems Training Building, designed to house simulators and other equipment used in today's controller and flight standards training.

The two - story - and - basement structure houses an IBM 9020 computer, used in training systems maintenance electronics engineers and technicians and data systems coordinators who work with the automated equipment at field facilities.

A specially-constructed high-bay area houses flight simulators, such as the B-720, DC-6 and CV-340. Other space in the building is used for Link Trainers, a Lear Jet simulator and a 727 cockpit procedural traininer.

General operations training at the Academy has been moved to a newly-built hangar across the airport from the Aeronautical Center. Some 41 people were involved in the move to classroom, office and storage space.

Classroom Tour

After dedicating the new training building in October, Secretary Volpe toured classrooms at the Academy and shook hands with students, including Leon J. Sedlak, Central Region. With the Secretary is Fred M. (Dick) Marks, Chief of the Air Traffic Training Branch at Oklahoma City.

From left to right, Seymour Blum, Director, Office of Management Systems, and Don Rock, Chief, Data Systems Division, listen as Jack Martini explains the operation of the Univac 2000 Data Communications Terminal. In the background is part of the agency's in-house computer installation.

ADP's Bright New Offspring . . .

TIME-SHARING

By John H. Martini

Special Assistant to the Chief, Data Systems Division, Office of Management Systems

Now, FAA managers can "talk" to computers.

By merely dialing a number they can gain immediate access to the full scope of computer power. In a matter of seconds, they can give commands to a computer and receive instant answers. As a result, agency problem-solving activity is accelerated, productivity is increased and substantial manpower savings are realized. This is "time-sharing," one of Automatic Data Processing's fastest growing activities.

Development of systems using time-sharing is being coordinated by the Office of Management Systems, headed by Seymour (Sy) E. Blum, as a part of OMS's responsibility for providing ADP support services. Don Rock's Data Systems Division in OMS provides assistance to offices requiring data processing support. The Data Systems Division gives advice, develops new programs, provides facilities and schedules training if required.

What is Time-Sharing?

In conventional ADP operations, jobs are "fed" into a computer one at a time. They remain in the computer's "memory" bank until completed, a procedure known as "batch processing." The computer customer receives his finished product in the form of a machine listing.

Under "time-sharing," however, multiple users at remote geographic locations contact computers via commercial telephone circuits linked to computer hubs. At these hubs, segments of time are allocated to various jobs which the computers are asked to do—hence, "time-sharing." Several users can enjoy simultaneous access to computers. By telephone, the FAA user can, from his remote terminal, build, "debug" (modify or change) and execute programs. He can create, add to, delete from and destroy data files. He can perform these operations and others without administrative and scheduling delays inherent in conventional ADP operation.

Why and How?

Computer capabilities have increased enormously over the years. ADP operations formerly measured in seconds now take place in millionths of seconds. Because of the amount of time required for moving information into and out of the computer, computers spent more time "waiting for work" than working.

Under time-sharing, "turnaround time,"—the elapsed time between feeding data to the computer and receiving responsive output—is virtually instantaneous in many systems. This allows user-computer interaction, a back-and-forth "dialogue" with the computer which facilitates solution of problems in which the next step to be taken depends on the answer to the preceding step. Rapid turnaround time also permits the user to examine at once ADP output arising from a given decision. Then, if further analysis is required, the user can change the program, the data or other parameters, re-run the program and immediately obtain new answers to be re-evaluated.

Time-sharing vendors—commercial companies set up and equipped to meet this type of need—cater to analysts, scientists, engineers or occasional users by maintaining on their computers, available for common use by any subscriber, pre-written, tested "canned" programs. These programs cover such diverse fields as electrical engineering, statistics, probability, mathematics, investment and many others. They are generalized procedures, or patterns of action preset into the computer, telling it how to process particular types of requests which come to it. This eliminates the need for writing special programs to meet individual situations. By using "canned" programs, the FAA engineer can perform a network analysis, the statistician can evaluate relationships between sets of data, the economist can forecast traffic growth and the budget officer can develop cash flow analysis.

One of the more interesting recent applications of time-sharing in FAA was the data reduction and information retrieval performed in connection with the aircraft hijack problem. This program, developed for the Office of Aviation Medicine by Warren Lichtenberg and Dick Dardano of OMS's Management Engineering Branch, permits the analysis team to search through records of persons involved in air piracy and to develop profiles based on consideration of multiple physical and behavioral attributes. Computer technology makes it possible to look at more than a hundred items, individually or simultaneously, during this analysis.

Engineers Use Daily

Time-sharing is used daily by engineers in the ATC Development Division of the Systems Research and Development Service. These engineers develop their own programs dealing with such diverse problems as sensor alignment in dual beacon systems, calculation of memory size requirements for the ARTS III computers, and multi-target tracking problems. Donald L. Scheffler, Computer Programming Section Chief, says he is highly gratified at manpower savings and increased productivity resulting from time-sharing.

Time-sharing has been used by the Analysis Branch, Systems Maintenance Service to solve problems dealing with manpower allocation, radar antenna propagation patterns and various analyses of facility reliability and availability. A number of special-purpose computer programs have been developed to permit rapid solution of recurring problems, previously accomplished manually at a high manpower cost.

Text editing is a somewhat different type of time-sharing. Text material is typed on a specially-equipped typewriter linked by telephone to the time-sharing computer. Once the material is entered, it may be changed, printed back in various formats or written out on magnetic tape for input into special typesetting equipment. Changes can be made in words, lines, paragraphs and pages. Thus, corrections and additions can be accomplished without retyping or repetitious proofreading.

Under the direction of Frank Giannini, Chief of the Directives Management Branch, the Office of Management Systems uses text-editing time-sharing in preparing the National Field Office Directory, the Technical Directives Catalog and the FAA Glossary. Planned applications include the FAA Organization Manuals and the Directives Handbook.

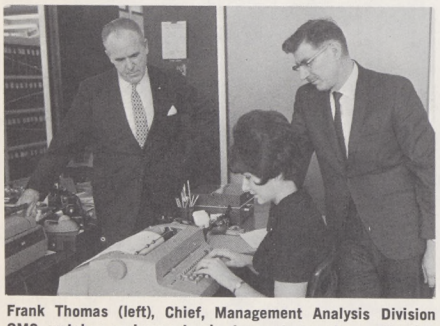
Looking Ahead

Since time-sharing is still in its infancy, additional applications will undoubtedly continue to emerge. As the potential of time-sharing becomes better known, it is probable that key FAA managers may some day have a terminal at their desks, capable of providing them with many types of information required for decision-making, and permitting drastic changes in present record and file maintenance practices. This could signal the end to the "paper explosion" and eliminate for all time coat closets full of machine printouts.

Time-sharing is challenging and provides the DOT and FAA an opportunity to apply modern technology to administrative operations much in the same manner as the automated NAS system has been integrated into the operational program.

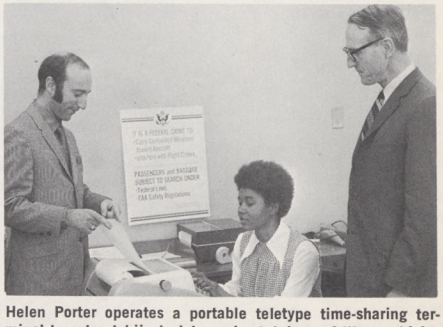
Through time-sharing, FAA managers are pushing the door open and entering the future. They are beginning to "talk to their computers." As a result the answers FAA needs to do a better job are becoming available faster.

Departmental policy concerning time-sharing is embodied in Order DOT 1370.1, "Utilization, Administration and Financing of Automatic Data Processing Remote Access Computing," dated May 23, 1969. Within the FAA, both for Washington and the field, the procedures for obtaining time-sharing computer services are set forth in Order 1370.32, "Acquisition and Use of Commercial Computer Time-Sharing Service."



Frank Thomas (left), Chief, Management Analysis Division OMS, watches as Luann Lewis demonstrates the application of text-editing time-sharing, while her boss, Frank Giannini, looks on.

In the ATC Development Branch Systems Research and Development Service, the teletype terminal is in a coat closet. Here, Don Scheffler (left), tells Rose Marie Orlandi and James Goeller his requirements for the next problem.



Helen Porter operates a portable teletype time-sharing terminal to extract hijack data under tutelage of Warren Lichtenberg (left), Chief of Management Engineering, and Aviation Medicine's Psychology Staff Chief Dr. John T. Dailey.

Kennedy Controllers Take NAFEC Training

ATLANTIC CITY—Thirteen air traffic controllers from the New York Common IFR Room at Kennedy International Airport in New York City recently completed a three-week advanced radar training session at NAFEC and a second class is now under way.

In the center's air traffic simulation lab, configured to represent part of the Common IFR Room, New York traffic is duplicated on lab radar, using simulators to take the place of actual aircraft. JFK controllers, working with six veteran New York instructors, handled simulated New York arrivals and departures.

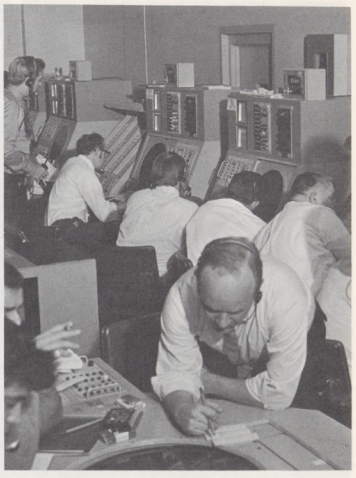
The Common IFR Room handles arrivals and departures at the three major New York airports from a single radar room at JFK.

The concentrated program enabled the controllers to complete technical training in weeks that would have required months at Kennedy, where intense supervision would be required because of the "live" traffic.

Training Officer Al Annunziato of JFK headed the instructors. Working at NAFEC with the New York group were Arnold Corradino, William R. Crimbring and G. Errol Porter.

Controllers who successfully completed the first course in a continuing series of classes were: Donald B. Odine, Joseph C. Piquet, Theodore C. Bertsche, Stanley Hale, Charles W. Hackbarth, Joseph Iannucci, Harvey Scolnik, Seymour Turkel, Ronald Ivey, Raymond Yonker, Vincent Clark, John Biddle and Peter Durmer.

The six instructors were: Richard Smith, Raymond B. Utkiewicz, Raymond Holleran, Ben Meier, Richard Lopez and Warren Norton.



Cram Course

At left, simulated New York IFR traffic is directed by Kennedy Airport controllers (from left): Joseph Iannucci, Instructor Richard Lopez and Seymour Turkel in NAFEC lab. At right, more of the 13 controllers who reached higher proficiency through three-weeks training near Atlantic City than they could in months of learning on the job.

Remembering the Vets

A hundred-thousand trading stamps saved from Eastern Region's employee purchases are accepted by Dr. Philip Casesa (center), director of the Brooklyn, N.Y. Veterans' Administration Hospital. Presenting the stamps, which will be traded in on useful items for hundreds of patients, are Accounting Division Chief Lester Lord (left) and Executive Officer Irving Mark.

Eastern Meets Air Traffic Challenge

NEW YORK—Accommodating an ever-increasing volume of air traffic continued to be the region's greatest challenge during 1969. The New York area, with the Nation's largest concentration of air traffic, was given the greatest attention in the region's efforts to eliminate bottlenecks. The quota system and advance flow control were among measures undertaken to minimize delay. Regional air traffic experts completed a project to improve and revise air traffic procedures in the New York area. This project will be implemented April 2, 1970. Called "Metroplex," the plan is expected to provide better airspace utilization and increase the efficiency of the air traffic system, enhance safety and provide potential for added capacity.

In April 1969, the region certificated as airworthy the mammoth engine that powers the Boeing 747, the jumbo jet marking another major advance in air travel. In December, the 747 flew to New York's Kennedy Airport for the first time, where to the satisfaction of sound engineers and airport neighbors it proved much quieter than the present family of jets.

Other highlights of the year included:

A STOL demonstration at Mitchell Field, the abandoned Air Force Base on Long Island proved conclusively the feasibility of STOL operations in a large metropolitan area.

Republic Airport, Farmingdale, L.I., was acquired as a general aviation airport by New York State with $3.15 million FAAP assistance. The airport is expected to become one of the chief general aviation airports in the New York area, with an FAA manned control tower being provided some time in 1970.

A study was started in mid-year for establishment of a Common IFR Room at Philadelphia. It is expected that the new facility, compatible with the New York CIFRR and the planned Washington facility, will improve ATC in the high density Northeast Corridor.

The ABC-TV Network televised an hour-long documentary in August seen throughout the country which showed the gravity of the airport congestion problem and the need for more airports. Filmed with the assistance and cooperation of the Public Affairs office, many of the scenes were shot at FAA facilities and included interviews with FAA personnel.

The regional director's staff was enlarged to include a planning staff, an appraisal staff and a civil rights staff.

The alphanumeric subsystem was placed in service at the New York CIFRR. Basic data displayed on the radarscope consists of aircraft identification and altitude.

Helpful Trio

Special Service Awards and $400 checks went to (from left): Edward L. Ward, Kotzebue, Alas., FSS; Mandel Moskow, Kahului, Hawaii FSS/Tower; and James C. Holyfield, Key West FSS, for outstanding ground assistance to aircraft in trouble in 1969. Henry Till, also from Key West FSS, was cited similarly. Looking on are Deputy Administrator D. D. Thomas and Air Traffic Service Director William M. Flener (right).

Agency Training Boosts Youth's Career

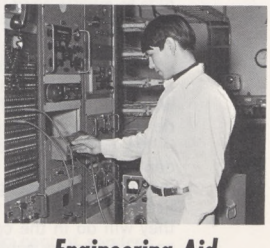
KOTZEBUE, Alaska — A job with the FAA plus technical training is helping a young Eskimo bridge the gap between the ancient ways of his people and the promise and challenge of the 70s.

In the Arctic village of Noorvik where Edmond Harvey grew up, life today is not vastly different from what it was many generations in the past. Natives still depend on hunting, fishing and trapping for a meager livelihood.

The promise of a new kind of life opened up for Harvey last February, when he was selected as an FAA electronics trainee through the Bureau of Indian Affairs subsistence program.

He became an engineering aid with the FAA and began the DFF-90 Directed Study Course. When he completed this with a high average and turned in excellent performance in his Kotzebue FAA job, his supervisor recommended him for the communications equipment course in Oklahoma City.

For Harvey, it was his first major trip "outside" and before he left Alaska recently he paid a visit to his parents at their remote Noorvik hunting camp, accessible only by boat. He made arrangements for a bush pilot to pick him up at Noorvik and take him back to Kotzebue so he could catch his plane to Anchorage. When the bush pilot failed to show up, Harvey had to get back to Kotzebue by riverboat, arriving just as the Anchorage plane was due to take off. There was no time to pack clothes or get out of his "Kobuk River attire" — heavy trousers, a turtleneck sweater, a heavy down jacket and hunting boots.



Engineering Aid

During a Communications Equipment Course at Oklahoma City recently Edmond Harvey, engineering aid from Kotzebue, Alas., tests electronic equipment. His co-workers helped him overcome difficulties in getting to Aeronautical Center in time for the start of a class that is launching a new way of life for him.

In Anchorage, Desmond Edwards, Alaskan Region EEO specialist, helped outfit Harvey for his Oklahoma City trip and Kotzebue co-workers sent additional luggage to him after he arrived at Oklahoma City.

With completion of the course at Oklahoma City, Harvey will be in line for further steps up the agency career ladder, and a way of life undreamed of by his people will begin to open up to him.

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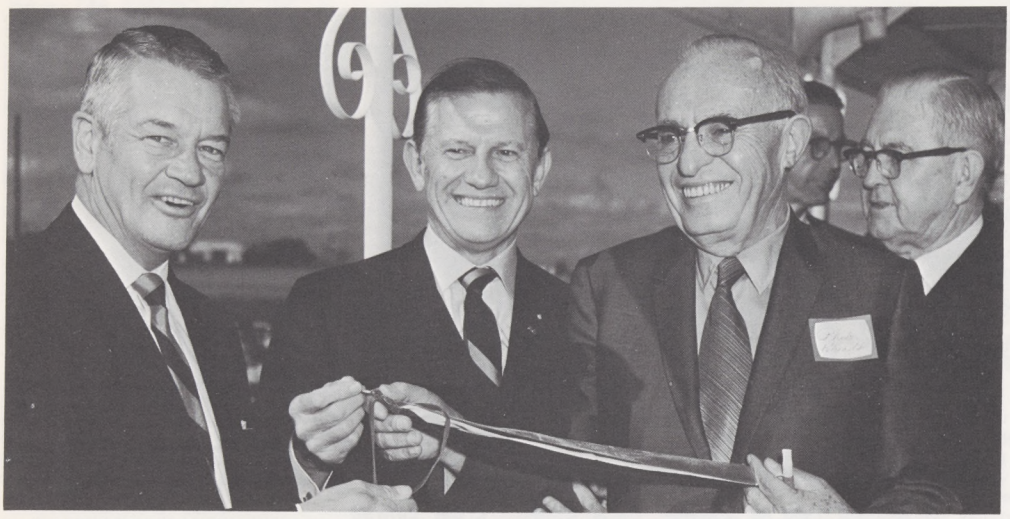


Academy's global role is administered by Aeronautical Center Director W. Lloyd Lane (left), standing with Secretary Volpe during dedication of the new Systems Training Building. The Secretary and Lane are receiving the symbolic "key" to the new building from Oklahoma City Airport Trustee Philip M. Rhoads. Congressman Tom Steed from Oklahoma's 4th District is in background.

International students from 21 nations presented the
CARI building at the Aeronautical Center. The foreig
have passed through the Academy's halls since it was e

All Set for the 70s . . .

FAA Academy Has Global Role

By Thom Hook

Flags of seven nations fluttered in the breeze and 25 foreign nationals listened intently as Secretary of Transportation John A. Volpe dedicated the agency's new Training Building at the FAA Academy in Oklahoma City recently.

Dressed in colorful native costumes, students from Ghana were among the foreign contingent at the dedication. Other nations represented included Bolivia, Tunisia, Thailand, Greece and Mexico.

Building international goodwill and fostering the adoption of American aviation technology on a global basis have been the valuable byproducts of the agency's policy of opening Academy doors to students from many lands.

More than 4,000 students and visitors from abroad have participated in the various courses given at the Academy since foreign nationals began to be enrolled 11 years ago.

The Academy accommodates about 400 foreign students each year. These foreign nationals take back to their aviation jobs abroad a knowledge of the latest in aviation technology and the specific skills to put knowledge into practice. More than that, they are being equipped to teach others through instructor training courses provided by the General Training Branch at the Academy.

Some 102 countries have been represented at the Academy through the years, according to Darwin T. Maurer, International Liaison Officer. The experience of these students has ranged from beginning controllers to positions as the heads of national aviation departments. In age, they have varied from 20-year-olds to middle-aged.

The Academy staff tries to see that foreign students are not forgotten outside the classroom. Instructors and other students routinely invite foreign visitors to numerous social and athletic functions, according to Walter E. Philips, ATC instructor. The language barrier between instructors and students is bridged both in the classroom and in off-duty activities. Most students quickly adapt to instruction in English, which is the official language of air traffic control. They realize that the greater their skill in English, the better they will do in the courses they are taking. For their part, instructors achieve greater skill in communicating because they must convey complex concepts in the simplest possible terms. They also quickly learn that certain common American expressions can have entirely different connotations to foreign nationals.

Because most foreign nationals have unique food preferences, they live in special quarters at the Oklahoma Hotel. Usually, a pair of trainees will share kitchen privileges, allowing them to cook their own native dishes as often as they wish to do so.

Among those in the audience during Secretary Volpe's dedication speech at the opening of the Academy's Systems Training Building were these natives of Ghana in their colorful national costumes. Though they make up only a tiny percentage of the students on the FAA "campus," their presence gives an international atmosphere to the Academy.

Foreign students at the Academy enjoy access to the world's most modern complex of classrooms and laboratories devoted to training associated with aviation, including the new Systems Training Building dedicated recently by Secretary Volpe, who is shown chatting with Academy students following the dedication ceremony.

presented the colors of their native lands during the program dedicating the er. The foreign nationals above are among the more than 50,000 trainees who since it was established.

Many foreign students attend classes in their native costumes. Brightly-colored apparel, such as the multi-hued robes worn by Ghanians, are often seen in the Academy's gleaming modern buildings, but the traditional American business suit is worn by most.

Among the courses being taken by foreign students are: flight inspection, engineering, accident investigation, air navigation facilities and electronic maintenance.

A major proportion of the foreign students are given air traffic control training, although producing journeyman controllers is not the immediate aim of the courses. Following 22 weeks of instruction in the basics of air traffic control (T-301), many foreign students receive instructor training. This is usually followed by a 12-week advanced air traffic control course, topped off by a four-week facilities administration course.

After graduating from Academy classes, foreign students usually embark on familiarization tours that take them to air traffic control facilities. Many receive on-the-job training at various FAA facilities. By the time they return to their native land, most of these students have a thorough grasp of American concepts of air traffic control and facility maintenance.

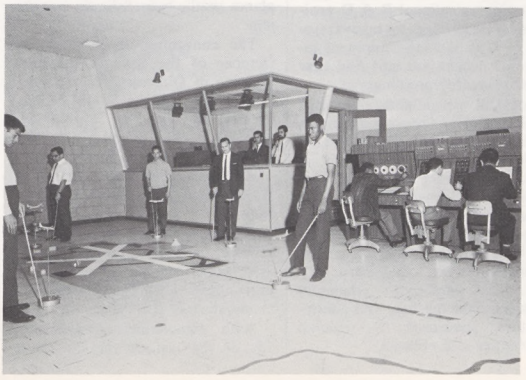
Instructors at the Academy seek to instill a broad knowledge of the American aviation system, and by the time foreign students complete Academy courses, most of them are able to:

- Recognize and identify the use of various navaids in the system.
- Identify procedures governing pilot action generally in the airspace segments and relate actions to air traffic control.
- Interpret and use various aviation data required to provide air traffic services.
- Recognize the need for and be able to provide flight advisory services.
- Use air traffic control terminology to solve practical problems.
- Compose ATC clearances and advisories appropriate to traffic situations.
- Be able to strip-mark and apply ATC procedures.
- Recognize and solve various unusual control situations.
- Recall fundamental radar traffic control services principles and practices.
- Recognize the information needed for reporting incidents or accidents.

Other students with needs relating to specific aviation requirements of foreign countries receive intensive training in their specified fields.

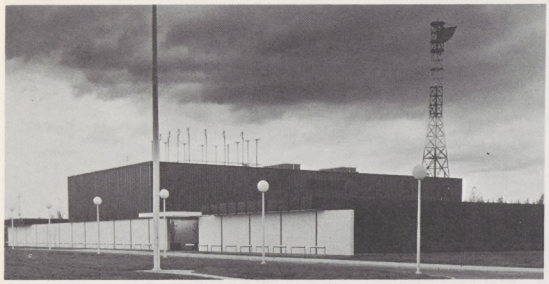
As a result of all these aviation activities at the Academy, international understanding is being fostered and the benefits of modern aviation technology are being more widely distributed over the globe.

Having graduated from a four weeks "Air Traffic Facility Administration" course, these 12 foreign nationals gather for a class picture. Earlier they completed a 12-weeks "Advanced ATC" course, and before that, a three-weeks "International Instructor Training" course. Expenses for students are met by either the Agency for International Development (Department of State), or by the International Civil Aviation Organization, or by their own government. Five are from Thailand, four from Ghana, two from Greece and one from Bolivia.



International students in VFR tower lab rotate through all tower as well as pilot positions at FAA Academy. Students control battery-operated model airplanes in accordance with ATC instructions from simulated tower. Runways duplicate Will Rogers World Airport at Oklahoma City.

FAA Regions, Centers Review Year's Achievements



Dedicated

The new Air Route Traffic Control Center in Anchorage was dedicated by Secretary of Transportation John A. Volpe on his visit to Alaska in August.

Alaskans Win Honors

ANCHORAGE—The past year was studded with honors for the Alaskan Region.

The Kenai FSS was named the outstanding facility of its kind in the nation. Deputy Director D. D. Thomas conferred the honor.

The Elmendorf RAPCON was chosen as the Alaskan Region's winner for the outstanding Radar Approach Control Facility in 1968.

Mrs. Patricia Mayo was named top Anchorage woman by the Federal Executive Association. Mrs. Mayo, the region's Equal Opportunity Officer, also was picked as "Outstanding Woman Federal Employee." George Woodbury, Jr., Personnel and Training, was the FAA nominee for the "Outstanding Man Federal Employee."

Edward L. Ward, Kotzebue air traffic control specialist, was a national flight "save" winner, receiving his award from Secretary Volpe in Washington.

In the career-academic field, the region pioneered a program under which high school students are given practical training in regional office on-the-job situations. The region also played a commanding role in utilizing the talents of Alaska's Eskimos and Indians in the FAA program. Through arrangements with the Bureau of Indian Affairs, the Civil Service Commission and other agencies, special on-the-job training programs were worked out to utilize the skills of these minority members.

Dedication of the new Anchorage Center by Secretary Volpe in August was another 1969 highlight.

Administrator Shaffer spent four days in Alaska in June and visited facilities at Anchorage, Nome, Barrow, Fairbanks, Bethel, McGrath and King Salmon.

The national and international spotlight on FAA activities in Alaska was cast by articles featured in "Ebony" and "Paris Match" magazines which were obtained through liaison with Public Affairs.

Western Cites Progress

LOS ANGELES—Effective utilization—both now and future—is the subject of a continuing Western Region group effort in Southern California to study problems and possible solutions. Launched last spring, the broad action program has won support in quarterly meetings and day-to-day practice of airport operators, community leaders, general and air carrier aircraft operators, pilot groups, the military and the FAA. A similar group effort launched in November for Northern California also is making progress, with more effective use of scarce airspace a goal applicable to other national program areas.

Basic contacts with minority candidates made by the Western EEO staff have led to more than 600 referrals of minority applicants, about 400 of whom are concerned with Project 150—named for the 150 positions authorized for recruitment of air traffic and airway facility trainees at the GS-4 level. The region also continues to work with the Federal Executive Board, the Post Office and other agencies to recruit under-utilized but qualified minority personnel for Air Traffic Control.

The FAA and major aircraft manufacturers are using systems planning to anticipate air operations volume problems through computer techniques, and Western's aircraft engineering personnel devoted much of the year to Type Certification on the Boeing 747.

The role of Local Coordinators was expanded by assigning them the responsibility for decision-making for local budget planning, administrative space management, management of other common administrative functions and co-location of agency organizations to share clerical personnel and file agency directives.

Thanks to a Western Region suggestion, a national R & D project was established to take a second look at navaids equipment installation techniques and find new ways of weatherproofing.

Regional highlights included firming of plans for a major jetport at Palmdale, Calif., commissioning of the first turnkey ILS system, at Santa Ana, purchase of San Carlos Tower, whose operations average a thousand a day; reducing illicit drug flow by working with other federal and state agencies on "Operation Intercept," and participating in 40 areospace education workshops for teachers and administrators, sponsored by regional universities and colleges.

Southern Pushes New Automation In JAX Center's Data Processing

ATLANTA—"Accomplishments of the men and women of these seven southeastern states and the Caribbean during the past year are worthy of a great deal of pride," said Southern Region Director James G. Rogers.

Among Southern Region highlights was introduction of automated flight data processing at the Jacksonville Center, the first facility at which NAS Stage A equipment was installed. Another "first" for the Jacksonville Center was installation of the first uninterrupted power source (UPS) which assures that, in the event of power failure, vital automated equipment will receive the required electrical load until standby generators can take over.

NASA's Apollo 11 and 12 moonshots each attracted approximately 1,000 general aviation aircraft and more than a million spectators to Florida. Working closely with the Air Force and NASA, Southern Region air traffic personnel handled the vastly-increased workload with no accidents or incidents and few delays.

The General Aviation Systems Worthiness Analysis Program (SWAP), successfully pioneered in the Southern Region, was implemented nationally by the agency this past fall.

Working with Miami-Dade Junior College, the Miami Area Office established the nation's first FAA-approved electronics technician cooperative training program, similar to the first-of-its-kind air traffic cooperative training program already functioning at Miami-Dade and the Miami Center.

Working with the Aerospace Defense Command, Regional Headquarters and the Miami and Balboa areas developed, printed and distributed to pilots brochures explaining the ADC air defense identification zones in the region.

Through the dedication of Southern Region employees, facilities were restored in record time after Hurricane Camille struck the Gulf Coast near Gulfport and Biloxi, Miss.

It was a year that brought honors to a number of Southern Region employees. Herber Spencer, Chief, Airports Engineering Branch and Paul Beckman, Airport Lighting Engineer, were commended by the Agency for International Development for work they performed in developing specifications for the International Airport at Ascuncion, Paraguay. Cutting costs for AID with their engineering skills, the airport engineers were able to design and have constructed a 11,000-foot runway for $34,000 less than the estimated cost of the originally-proposed 9,000-foot runway.

Receiving national awards for the "Outstanding Flight Assist" during 1969 were James C. Holyfield and Henry Till, of the Key West FSS. Secretary Volpe presented the awards in Washington.

Earlier in the year, Herbert Willis, Miami Area Airport Engineer, received FAA's "Outstanding Handicapped Employee of the Year" Award from Deputy Administrator D. D. Thomas.

Backup for Apollo Missions Supplied by Pacific Region

HONOLULU—From the earliest Apollo flights to the latest "giant leap" in November, FAA in the Pacific Region has played an integral supporting role. Splashdown zones in the Pacific were secured against non-mission air traffic and uninterrupted communications were provided via the FAA Ewa transmitter and Molokai receiver station. The Samoa IFSS played a role in the Apollo 10 and 12 splashdowns while Honolulu Center participated in those of Apollo 8, 9, and 11. During the Apollo 11 mission, the Air Traffic Division developed special AT procedures to permit firing of laser beams from Mt. Haleakala Observatory (Maui) to a laser reflector on the lunar surface.

Honolulu Center, which is assigned the world's largest airspace, gained special honors by being named winner of ATCA's Earl F. Ward "Facility of the Year" Memorial Award for its support of the war effort in Vietnam and Apollo missions.

Kahului (Maui) CS/T controller, Mandel Moskow, and four others received a Special Service Award from DOT Secretary John A. Volpe for guiding a small aircraft from 200 miles at sea to a safe landing clear of intervening mountains under adverse night weather conditions.

The Pacific Region modernized its Far East flight inspection fleet by replacing three propeller-driven planes with two Sabreliner twin jets.

The convening in Honolulu in October of the Seventh Informal Meeting of Directors of Civil Aviation, Asia and the South Pacific, chaired by Director Phillip M. Swatek, marked the first time this group met on United States' soil.

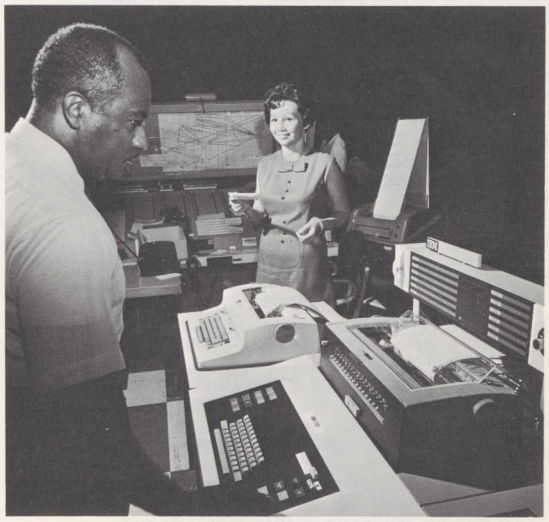
ATC secondary radar service at Wake Island was commissioned on May 29.

A record 90 per cent contributed to this year's U.S. Savings Bonds drive—an increase of 18½ per cent above FAA givers-of-record at the start of the drive.

With completion on February 15, of the last of the 20 tower communications systems for the U.S. military in Vietnam, the project's scope has been limited to technical assistance and follow-up support.

After 20 months in South Vietnam, FAA has completed—via its flight procedure specialist detailed there—the formidable task of developing 106 instrument approach procedures for safer flying into the more than 50 airfields in South Vietnam.

A milestone was reached in the Trust Territory of the Pacific in December with commissioning of a tropospheric scatter system linking the Guam IFSS with the communications station at Saipan. The reimbursable project was undertaken by FAA for the Trust Territory government. Ultimately the five District Offices will also be linked with Saipan, utilizing modern HF communications equipment.



New Computer

Automation came to the Honolulu ARTCC in Diamond Head Crater with installation of an IBM 1130 Computer System which will compute, process and print out flight data. Pictured are Roland Holt, radar controller, and Jodie Lee ACTS trainee.

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: Workload has required addition of another position to our three-man maintenance station, qualifying the station for "unit" status and warranting a GS-12 Unit Chief. As supervisory technician-in-charge, GS-856-11, should I be promoted to the GS-12 chief's job without going through competitive promotion plan procedures since, in my opinion, achievement of unit status constitutes reclassification of my position?

Answer: Not necessarily. If your job has gradually grown to encompass additional duties (usually termed a gradual accretion of duties), you may be eligible for a non-competitive promotion as specified in Chapter 4 of the Merit Promotion Handbook (3330.1A). On the other hand, if additional duties were added through planned management action (such as a transfer of duties and responsibilities from another position), the resulting job would have to be considered a new position. Such a position would have to be filled under competitive merit promotion procedures. The confusion in this instance may result from the use of the term "supervisory" in the phrase "supervisory technician-in-charge". This title may be helpful organizationally, but it can create misunderstanding. A more acceptable term, "technician-in-charge," is the one used specifically by the Civil Service Commission in the GS-856-0 Classification Standards. Under this heading, assignments to a non-supervisory position may include duties of a relatively minor supervisory nature which are not grade controlling.

Question: How many air traffic controllers have suffered fatal or non-fatal heart attacks since 1946?

Answer: This information is not available for a number of reasons. The term "heart attack" could include a variety of conditions, such as coronary thrombosis, various types of heart block, palpitation and neurocirculatory asthenia. Medical records maintained on computer tapes at the Civil Aeromedical Institute in Oklahoma City did not, until 1966, when the present medical program began, segregate controller records within the larger banks of airman records. Another reason reliable mortality figures are not available is that most controllers who sustain heart attacks are retired, thus no agency record is kept. During 1966, 1967, and 1968 the following cardiovascular type diagnoses were recorded for controllers disqualified from air traffic control duties: hypertensive cardiovascular disease, 53; myocardial heart disease and coronary thrombosis, 16; valvular heart disease, 6; other heart conditions, 12.

Question: How can we get facility management to hold more frequent facility personnel meetings?

Answer: Keep pursuing the point with your immediate supervisor. If this doesn't work, discuss the problem with a representative of your servicing personnel office.

Question: What is the policy on regional evaluation specialists holding personnel interviews and meetings during facility visits?

Answer: Comments, opinions and ideas concerning facility operation and the ATC system in general should be solicited and encouraged. Handbook 7010.1, paragraph 301.3 cites free discussion with facility operating personnel as a valuable source of information.

Central Cites Air Safety

KANSAS CITY—The Central Region's leading role in the general aviation accident prevention program highlighted activities during 1969. As a result of a hard-hitting "grass roots" program the general aviation accident rate in the Central Region continues below the national average.

Other Central Region highlights during 1969 were:

• Work continued on the new Consolidated Communications Center at Kansas City—a circuit and switching nerve center of national and international scope. The new center will provide fully automated message switching service and a means for providing routine teletype communications to a number of the 110 ICAO nations, replacing service now provided by international metorological relays.

• Cutover of equipment and operational activities to the new control tower at St. Louis Lambert Field was accomplished Nov. 14.

• Construction of the new, 199-foot Chicago O'Hare Tower was completed in August and installation of equipment is underway.

• Construction of a new tower for Detroit City Airport was completed in October. Commissioning is expected this summer.

• A new tower at Madison, Wis., (Truax Field) was completed in August.

• An Instrument Landing System was installed at Appleton, Wis. It was the first airborne instruments laboratory ILS to be installed in the National Airspace System.

• New airports to serve Chicago, Kansas City, Minneapolis and St. Louis are under study or in various stages of development.

• Preliminary terminal control area plans have been developed for Chicago, Detroit, Minneapolis, Kansas City and St. Louis. A preliminary plan for Indianapolis has been accomplished.

• Instrument landing systems have been approved for Category II operation at Chicago, Milwaukee, Detroit and Minneapolis.

Big Airport Highlighted

FORT WORTH—Development of the new Dallas-Fort Worth Airport—which may be the world's largest—was a 1969 highlight in the Central Region. The region worked with the Dallas-Fort Worth Regional Airport Board and the North Central Texas Council of Governments on coordinated land use plans, zoning and building codes. Construction continues.

Another key highlight was the general aviation accident prevention program, stressing pilot involvement. It is showing encouraging results.

Other Southwest Region highlights of the past year:

• Houston's elegant, new Intercontinental Airport opened in June.

• Segments of the certification effort for the B-747 were conducted in the Roswell, N.M., area.

• The region issued a type certificate to Windecker Research for its unique new AC-7, a plastic fuselage aircraft.

• A nine-goal program for improving the overall terminal radar environment was instituted.

• Flight Service Stations at Fort Worth, Tulsa, Abilene and at Jonesboro, Ark. received new modular consoles designed to enhance and facilitate FSS functions.

• Equipment at the region's communication control center was modernized.

• The region worked with predominantly minority colleges in recruiting potential FAA employees, while pushing other programs in the civil rights and EEO fields.

• The "Operation Raincheck" program to familiarize pilots with agency air traffic operations was extended from the region's centers to the San Antonio and New Orleans towers.

• U.S.-Mexico cooperation was further advanced in December when the region sent a crew to flight check six VORs in Mexico.

Benefits

(Continued from Page 1)

progression avenues and follow a uniform procedure in establishing career plans.

• Implementation of the new Merit Promotion Plan gave employees better opportunities for promotion consideration and the agency greater assurance that the best qualified are being promoted.

• New rating schedules for aerospace system inspection pilots and flight test pilots were developed for applicants in the Aircraft Operations series, GS-2181.

In Special Programs

• FAA hired 1,385 youths under the 1969 Summer Youth Opportunity Campaign, including 1,202 disadvantaged youths. In addition, 29,101 youths were hired during the summer as a result of FAA's efforts to provide opportunities with contractors and members of the aviation community.

• The "150" program—designed to provide greater opportunity for qualified minority members to enter the air traffic and electronic technician occupations—was launched in early November. Agreements were negotiated with the Post Office Department to recruit trainees in the lower grades.

• Eighteen Equal Employment Opportunity recruiting specialists were hired for field personnel functions.

• Continuance of Organizational Bias Seminars increased managers' understanding of civil rights issues. About 160 managers attended sessions in Seattle, Houston, Oklahoma City and Kansas City.

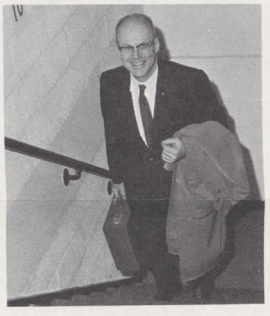
• James A. Krueger, Western Region Aerospace Engineer, was named one of the ten finalists in a governmentwide program for the Outstanding Handicapped Federal Employee of the Year Award.

• A new EEO directive, 3300.6A, consolidated the contents of five separate directives and provided guidance to promote and achieve full equal opportunity in FAA employment without regard to race, color, religion, sex or national origin.

In General

• On Oct. 29, President Nixon signed a new Executive Order (11491) "Labor Management Relations in the Federal Service." The new Executive Order became effective January 1, 1970 and contains substantial changes in regard to labor relations in the Federal government.

• The disabling injury rate (i.e., number of injuries per million manhours worked) dropped from 2.1 in fiscal 1968 to 2.0 in fiscal 1969.



Keeping Fit

After 31 years climbing control tower stairs, Deputy Administrator D. D. Thomas can't break the habit. The former controller makes the 190-step ascent each morning to his tenth floor desk at FAA Headquarters. "It's a good way to stay in shape for my annual pilot physical," he says.

By Sue Silverman

We are five days into the seventies, but many of the problems brought about by the successful sixties still remain to be solved. It's like the Red Queen said: "We have to run as fast as we can just to stay in one place."

Time and distance take on peculiar dimensions at FAA's research and development facility near Atlantic City. Yesterday is today and today is tomorrow on the 5,000 sandy, pine studded acres encompassing the National Aviation Facilities Experimental Center (NAFEC), where there are between 150 and 200 air safety projects going on at one time. The motion picture "Today for Tomorrow" tells the story of NAFEC and her 1,500 skilled professionals who work around the clock turning months to minutes and summer to winter, all in the name of safety. The film is in color, is accented by a crisp upbeat musical score and has a running time of approximately 15 minutes.

The film explains NAFEC's experimentation with new concepts in air traffic control, all-weather landing, jet takeoffs and landings in slush and hazardous winter conditions, wake turbulence, systems to support V/STOL growth, aircraft survivability, gelled fuels, aircraft fire containment, fuselage stress—all in laymen's terms.

The film contrasts the NAFEC installation with Atlantic City, less than ten miles away, illustrating that while beaches and boardwalks take man's mind off the complexities of his modern world, there is no diversion, no relaxation at the R & D center. The film highlights some little known first flight facts associated with Atlantic City, emphasizing that NAFEC is still making aviation history.

Research Work Spotlighted

ATLANTIC CITY—Key research and development projects were successfully concluded at NAFEC during 1969 and work continued on some 260 others.

The NAFEC simulation lab was used in devising plans for handling New York's air traffic five years from now, taking into consideration introduction of area navigation. The lab was also used in developing air traffic routings at new airport sites for Chicago.

Approach control radar, using a BRITE-1 display, was placed in the cab of the Wilkes-Barre, Pa., Tower for field testing.

A ready means of putting identification and altitude of airplanes on radar displays at air route traffic control centers was evaluated by NAFEC engineers and controllers at Indianapolis and Atlanta. Work on DAIR, a system for presenting identification and altitude on terminal radarscopes, was completed.

One of the center's largest projects, NAS En Route Stage A, backed up by a large computer, is "exercised" daily. This is preparatory to placing the system in operation at centers across the nation.

Use of satellites to relay static-free short-range radio communications over long distances for trans-ocean flights is being studied.

Field testing of a two-step airborne ILS continues. Developed at the center mostly for noise abatement, it is usable at any airport within VOR range.

Flammability of materials used in airplane cabins was measured. Turbine engines were run using different techniques to sample exhaust gases and smoke in an air pollution study.

Stall warning devices were flight tested and compared.

Full-scale fire testing of various extinguishing agents was completed. Means of measuring friction on runways, both conventional and grooved, were correlated to aircraft stopping distances.

Flight tests were made on five types of STOLplanes, to develop information about STOLports. NAFEC has completed its own STOLport.

FAA's Man on the Move In Vietnam

By George Miyachi

A man on the move—constantly—for FAA in South Vietnam is the Pacific Region's John Reynolds. As a flight procedures specialist, Reynolds is making it safer for pilots who fly IFR into the many Army airstrips dotting the war-torn landscape.

In his 20 months in South Vietnam, Reynolds has developed 106 instrument approach procedures for more than 50 Army airfields—a remarkable feat, considering the adverse conditions under which he operates.

During the peak of U. S. involvement in South Vietnam, many airfields were hastily constructed for tactical aircraft as well as for transports. Practical instrument approach procedures had to be developed for all types of military aircraft.

The U. S. Army turned to the FAA for help in developing approach procedures. Reynolds was assigned to the job and arrived in Long Binh on March 27, 1968. Reynolds' qualifications included experience as a controller, flight check pilot and flight procedures specialist.

In South Vietnam, Reynolds flew over much of the nation methodically conducting on-site surveys to validate available data on airfield configurations and obstructions. Frequently, he found the information available either erroneous or outdated. At one airfield he discovered that a radio beacon station was plotted on a map two miles east of its actual location.

Following exhaustive surveys, Reynolds designed approach procedures that met terminal instrument procedures (TERPs) criteria. Any deviation from the standards was made only if Reynolds was satisfied there was no compromise to safety.

When an approach procedure was completed, Reynolds coordinated its approval through many-layered military channels, including Vietnam's Director of Civil Aviation, who authorizes civil use of the procedures.

Reynolds also advised military officials on departure procedures, airways routing and flight inspection. He also acted as an advisor on air traffic matters to Air Force officials in South Vietnam and Thailand, and to Thai government officials.

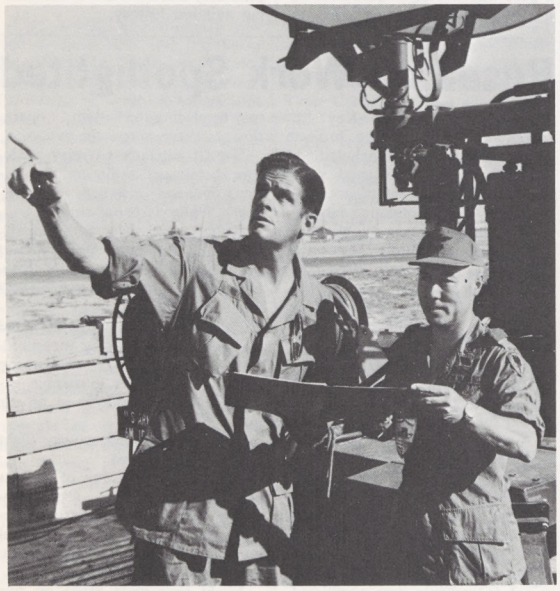
A former U. S. Navy carrier pilot, Reynolds received two Distinguished Flying Crosses and four Air Medals for valor in the Korean conflict.

His South Vietnam hitch is now over. He is scheduled to return to Pacific Region Headquarters for reassignment and a well-deserved rest.

A pause is taken in Reynolds' busy schedule to visit a memorial statue in a soldier's cemetery near Saigon.

Proposed instrument approaches developed by John Reynolds, FAA procedures specialist, are reviewed with Pham Duc Khue in the office of the Vietnamese Directorate of Civil Aviation.

Tracking flight-check aircraft on GCA approach, FAAer John Reynolds verifies accuracy of glide-slope settings at the Kontum Airfield in South Vietnam while SFC John Myers records data.



FAA procedures specialist John Reynolds discusses ground control approach procedures with Lt. Col. George Kent, Commander of Phu Heep Airfield in South Vietnam. In his two year stay, Reynolds has established approach procedures at more than 50 U. S. Army airfields in South Vietnam.

During fuel stop at Qui Nhon Aerodrome, in South Vietnam, FAA's John Reynolds (center) goes over flight check information with Army Majors Thomas Rankin Jr., (right) and Charles Parker, Jr.