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MS-110

OFFICIAL EMPLOYEE PUBLICATION OF THE FEDERAL AVIATION AGENCY

Volume 2 No. 7

June 1960

More Mcs Allocated

Five additional megacycles of radio frequencies have been allocated for air traffic control communications for use by the FAA. When fully operational, the additional five megacycles will add one hundred channels to the air traffic control system.

Effective July 1, 1960, the frequencies from 126,825 to 128,825 Mc and 132,025 to 135.0 Mc (inclusive) will be added for traffic control communications. As a result FAA has developed a frequency deployment plan which will relieve congestion and interference on the very high radio frequencies used for communications in air traffic control.

Over 300 of these frequency changes will become operational at 4:00 a.m. (EDT) on July 7, 1960, with an equal number of changes being made in the 90 days following this date. Information on the locations and radio frequency assignments was published in the April 12, 1960 edition of the Airmen's Guide.

Requirements of all classes of aircraft users--private, business, airline, and military--were carefully considered and are reflected in the basic guide lines of the frequency deployment plan. FAA has taken this difficult step since a fast, reliable communications system is essential to the control of air traffic.

The plan is in accordance with recommendations of the Radio Technical Commission for Aeronautics. To establish the plan, FAA has worked extensively with the Federal Communications Commission, the Department of Defense and civil aviation organizations.

Assisting FAA were: Air Transport Association, National Business Aircraft Association, National Association of State Aviation Officials, Aeronautical Radio, Inc., Airline Pilots Association, Aircraft Owners and Pilots Association, Independent Air Carriers Association, Independent Airline Association, Airline Dispatchers Association and National Pilots Association.

Research Program to Affect ATC Working Environment

Volunteers from among the FAA's 17,000 ATC and communications personnel will participate in an extensive research program into the many and complex factors affecting employees working in the ATC environment.

The ultimate objective of one of the most challenging research programs undertaken to date by the FAA is to obtain clear cut medical data concerning the environmental stress factors relating to controllers' working conditions. This data would provide a basis for establishing hours of work, shifts and shift rotation, and retirement policies.

Administrator Quesada said that the Agency has long been concerned with the exacting nature of the tasks and responsibilities confronting its air traffic control personnel. Also, it has felt the need for greater attention to working conditions, hours of employment and information relevant to stress and fatigue.

The Bureaus of Aviation Medicine, Air Traffic Management and the Office of Personnel and Training will provide the resources for carrying out the study.

Participants in the pioneering research project will be volunteers, carefully selected from among the ATC specialists, to provide a statistical sample of the ATC population. The study will include personnel in ARTCCs, ATC Towers and FSSs. All medical and other data secured through the study will be used by the Agency only in connection with the research project and will not be incorporated in employee records.

The study will be carried out in a carefully planned series of projects designed to provide information on the mental resilience and physical stamina of the human being in the ATC situation; as well as the lasting psychological and physiological effects on the human organism after prolonged years of exposure to

ATC and communications work. It will also attempt to establish the effective physiological limits of the human organism in the ATC environment.

The projects will include: a study of the side effects of various commonly used drugs such as aspirin, antihistamines and tranquilizers on the mental acuity of the ATC personnel; a study of the effects of diet, stress and fatigue on energy output to provide better understanding of the basic needs of the controllers to pursue their particular tasks; a study to develop more accurate means to evaluate behavior characteristics in successful and unsuccessful on-the-job performance of operating personnel; a study to investigate the effects of hours of work, work-rest ratio and shift rotation on job performance; a study to provide long range evaluation of effects of job induced stress resulting from physical and environmental conditions, aging and administrative policies. This particular project would gather data to evaluate the necessity or desirability of earlier retirement for these personnel. This portion of the overall study is considered to be one of the most challenging medical research programs in the field today.

Another pioneering research project in the series will be a study of the correlation of incidence of stress-related-diseases among ATC Specialists as compared with other persons.

A telemetric system for recording physiological and psychological data during performance will be one of the research methods used. A two-pound wireless device worn on the body will permit testing under normal working conditions. The system for recording and transmitting the data will be similar to that used in space flight to telemeter information back to earth by remote control.

Anchorage Airport Changes Hands

With little fanfare, an \$11,000,000 property changed management April 30, when Virgil Knight, Acting Manager of Anchorage International Airport, and Assistant to the Regional Manager, dropped the airport keys into the hands of Tony Schwamm, Manager for the State of Alaska.

Thus, two months before the end of the one-year contract under which the Federal Government operated the airport for the State of Alaska, the Government removed its hands completely from the property. For the past few months, State officials and workmen have worked side by side with the Federal officials and workmen who have operated the airport since it was completed in 1951. The transition in management will be smooth enough to be unnoticeable by the travelers using the airport.

Even the tenants at the field, concessionaires and air carriers, note the difference only when writing their checks for rent or for the State's percentage of their income, since the State is retaining the same rate of charges established by the FAA as previous managers.

Of the 39 employees of the FAA at the airport, 20 have accepted jobs of similar nature with the State; three have retired; five have resigned; and 11 have transferred to other jobs within the FAA--two in the South 48 and nine in Alaska.

The Administrative Assistant for Accounting and his staff will stay on in the same capacity for the State. Most of the guards and fire-fighters have remained, and most of the janitorial help.

No rent is paid by the Federal Government for air traffic control and weather bureau activities on space in terminal buildings at airports where Federal money has been used in the construction or later improvements. This provision maintains at Anchorage International and also at Fairbanks.

Editor

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The official employee publication of the Federal Aviation Agency. Published monthly by the Policy Development Branch. Send all materials for publication to: Editor, Fly-By, PT-20, Federal Aviation Agency, Washington 25, D. C. Telephone ST-3-2100 Ext. 4987.

Noise Abatement Problem Assigned to P&R

Responsibility for the Agency's Aircraft Noise Abatement Program has been assigned to the Office of Plans and Requirements. The move was designed to provide for centralized planning and action on programs to minimize aircraft noise.

In taking the action, the Administrator noted that many of the Agency's Bureaus and Offices have responsibilities for programs which relate to the noise problem. He pointed out, however, that the establishment of a single focal point within the Agency for planning and coordination will facilitate remedial action and provide for Agency representation on noise abatement programs which exceed the responsibilities of the individual Bureaus and Offices. The action is designed to better serve the needs and interests of the aviation industry and the public.

BGEN Preuss Named Assistant P&R Admin.



Brigadier General Paul T. Preuss, USAF, has been named the Agency's Assistant Administrator for Plans and Requirements. He will be responsible for advising the Administrator on matters of aviation policies and objectives, and long range Agency plans and operational capabilities.

General Preuss comes to the FAA from the Office of the Deputy Chief of Staff of Development, Headquarters, USAF, where he was Deputy Director for Research and Development.

He succeeds Major General Marcus F. Cooper who has been reassigned to a post at Headquarters, Air Research and Development Command, Andrews Air Force Base, Washington, D.C.

Longest Name in FAA?

Abner Kanehalaukaluaahinui DeLima, an electro-mechanical technician for the FAA on the island of Maui in the Hawaiian Islands, was selected to serve as Kamehameha Day celebration chairman for the second time in three years.

The Kamehameha Day celebration, which included parades and exhibits, was held June 11 on Maui.

Mr. DeLima and his wife, the former Caroline Kalama Kauwekane, served as grand marshal and princess-at-large, respectively, for the parade.

Improved Radar Beacon Commissioned at Oakland

Commissioning of the first of 18 improved radar beacons by the FAA to provide positive identification of aircraft in flight was scheduled for the Oakland, Calif., ARTC Center last month.

Operation of the radar beacon originates at the FAA air traffic control radar antenna where the co-located radar beacon antenna sends out a beacon signal synchronized with the radar pulse. The transponder in the aircraft sends back a coded signal which appears on the radar display in coded form.

These beacons will be particularly valuable in handling the latest high-speed jet transports. Rapid identification of these high-speed aircraft is necessary for FAA air traffic controllers.

In addition to Oakland, the other radar beacons will be installed at the following FAA ARTC Centers, some of which will have beacon input from more than one radar site: New Orleans, Detroit, Ft. Worth, Minneapolis, Albuquerque, Raleigh, Cleveland, Phoenix, Seattle, Miami, El Paso, Atlanta, and Los Angeles.

Alaska Pilots Asked To Report on Weather

As an added safety measure, the Federal Aviation Agency has requested every pilot flying in Alaska to report the weather whenever he contacts a flight service station.

The information is then used to brief pilots for flights within 100 miles of the station, with the data kept current on an hourly basis.

The U.S. Weather Bureau officially accepts any pilot licensed by the FAA as an observer, recognizing his knowledge of weather as it affects flying.



The FAA, CAP and Alaska Airmen's Association in Anchorage put up this sign calling new attention to the importance of filing flight plans. Every pilot in town now gets the word.

New Air Traffic Record Set

Aircraft operations at the nation's airports set a new record in 1959 for the sixth successive year.

The nearly 27 million landings and takeoffs handled by FAA airport control towers were greater than 300,000 above the total for 1958 and more than double the 11,926,631 for 1946 when the volume of air traffic started its rapid postwar rise. The tremendous number of aircraft operations at the 222 airports served by FAA traffic control towers, was reflected in the fact that an average of six aircraft either landed or took off every seven seconds, day and night, every day of 1959.

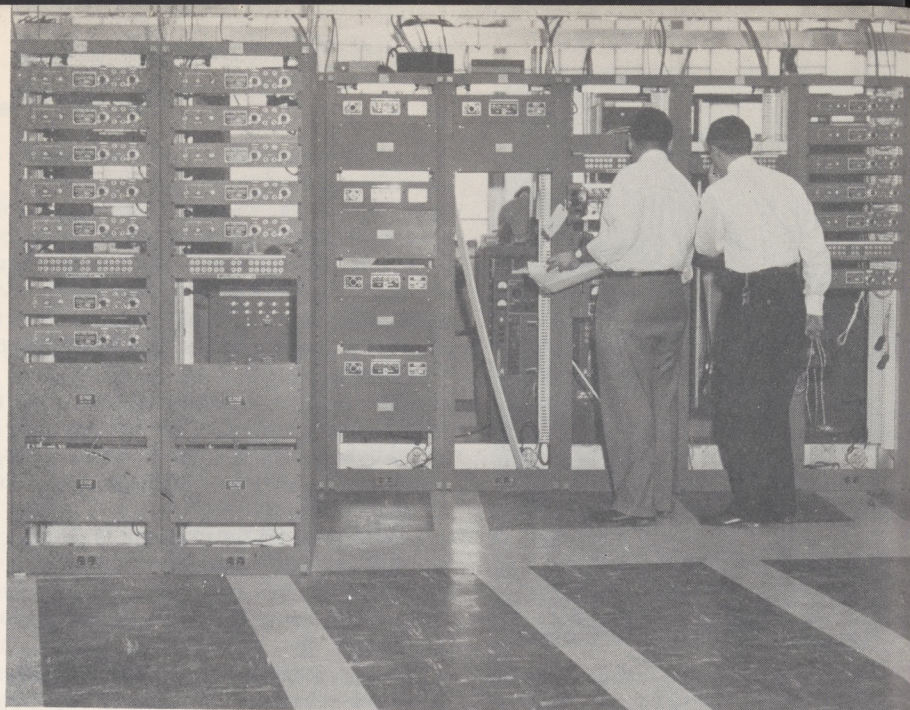
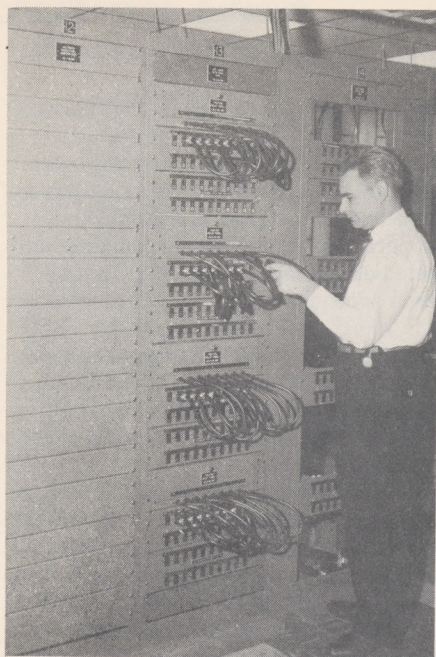
The figures do not take into account the great volume of traffic generated from the almost 6000 airports not provided control service. (The criterion for the establishment of a control tower is 24,000 itinerant operations in one year. The itinerant operations exclude purely local traffic which takes off and lands at the same airport.)

Busiest of all the airports in the U.S. and the world in total traffic was Chicago Midway, which posted 431,600 total operations during the past year. Midway handled 1.6 per cent of the national total. On its busiest day in 1959, the Chicago Midway tower handled a total of 1694, or an average of one operation each 51 seconds for the 24 hour period. Midway lead in two other categories of air traffic: itinerant operations with 406,992 and air carrier operations with 345,170.

After Chicago Midway in the first ten for total operations were: Miami; Phoenix; Los Angeles; Washington, D.C.; Long Beach; Denver; New York (LaGuardia); Albuquerque, and Honolulu.



Ed Kiehn, standing, ATC specialist from Anchorage, Alaska, supervises five of his controllers engaged in analysis of the Anchorage air traffic during a simulated problem at NAFEC. Other Region Five controllers shown are, seated and reading from foreground to rear, Bruno Zamorski, Frank Jackson, Jr., and Joseph Yugovich. Partially hidden are Glenn Fossett and John Costello.



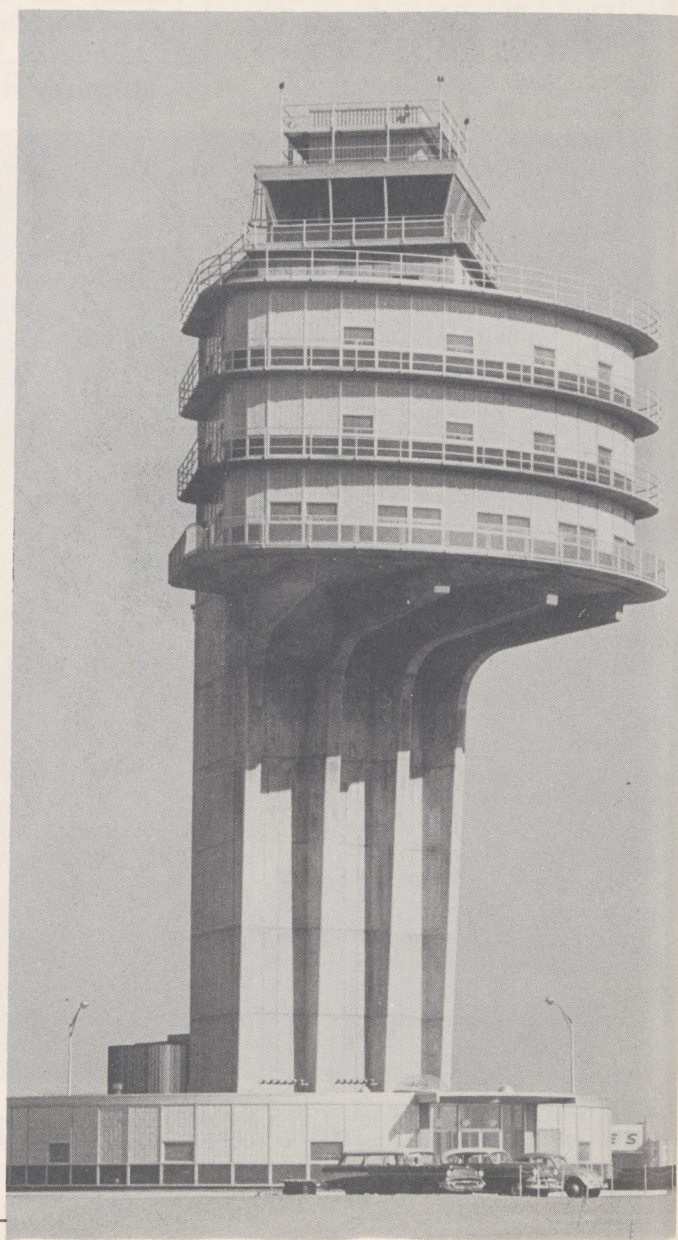
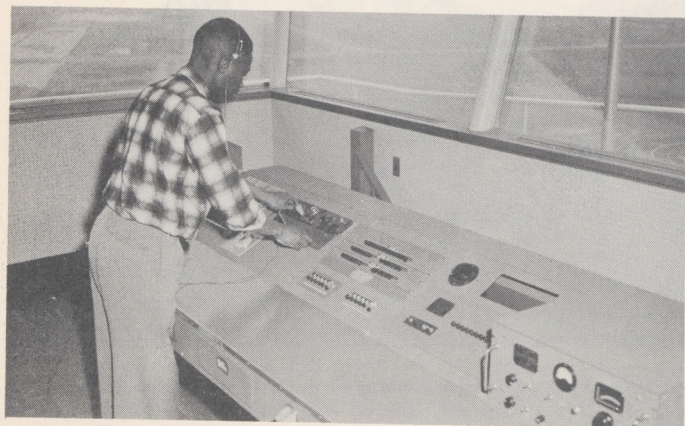
MODERN DESIGN

THE Newark, N.J. Airport Traffic Control Tower was dedicated on January 18, 1960. At ground level the modern structure is circular with a 78-foot diameter at that point. The upper structure is supported by a 117-foot concrete shaft. It is being manned by a staff consisting of 58 air traffic controllers and 16 electronics specialists.

During the dedication ceremonies, Administrator Quesada said that the "vast and complex air traffic control system has but one purpose--to regulate the flow of air traffic in the safest possible manner."

At the time these photos were taken, about a million dollars worth of electronic and other equipment was being installed inside the tower (right). In the top photo, an electronics engineer selects a particular frequency from the resectoring and maintenance test rack for one of the control positions in the tower. At top right, electronics engineers are in the process of installing air-ground communications equipment. The bottom photo shows an electronics technician checking circuits which are installed in the supervisor's control desk.

In a recent 12-month period, New York area airports generated nearly 900,000 aircraft movements. Newark is part of a vast gateway serving the world's heaviest concentration of international and domestic air traffic from Ft. Wayne to Singapore.





Long range radar on mountain top in Wasatch range overlooks Salt Lake City. It's powerful antenna spots aircraft within a radius of 200 miles and up to 60,000 feet.

SAFETY FOR AIR TRAVELERS

Travelers approaching Salt Lake City by air look down upon a glistening dome set high atop a peak southwest of the city. Few recognize it for what it is--a Federal Aviation Agency long-range radar--and complete the flight unaware that for the past 200 miles, the spinning antenna beneath that plastic big-top has held the aircraft in its sights and relayed its position by microwave to the air route traffic control center closer to the airport.

Second only to the dramatic impact of this electronic miracle is the story of how the tower got there--a two year struggle of men against nature--wrought jointly by the FAA and the Utah National Guard.

The site, Francis Peak, elevation 9500 feet, in Utah's rugged Wasatch range, was recommended by the Forest Service. Caterpillar tractors and bulldozers gouged a tortuous path along its sides and around the skyline to reach the crest. Timber was cleared, the road graded, and the mountain's top literally blasted off to make a level spot before construction could be started.

In a region that is snow-bound for months of the year, cinder block cabins with slanting roofs and roof hatches were built along the route as emergency shelters to protect construction workers from blizzards and snow slides. Water had to be found and hauled every inch of the way, part way in a tank truck, the rest of the distance in a tank on runners. In the middle of summer workers plowed through a 60-foot snow drift to reach the men on the other side.

Today the installation on Francis Peak, in addition to the tower and radome, boasts comfortable quarters for the personnel, a black-top road, a three-car garage, an excellent water supply,

storehouses for equipment, plenty of parking space, and a magnificent view of the Great Salt Lake. Everything there, the power lines, the tower, and all the buildings, is firmly lodged in solid rock and can withstand the assaults of the strongest winds.

One of Many

The Tower on Francis Peak is one of 34 long range radars presently operating on the Federal Airways. In the FAA's nomenclature these are referred to as "ARSRs"--air route surveillance radars. Since they are usually located some distance away from the traffic control

centers, the information they pick up is received in the center by means of microwave radio relay links--one of the methods used to get a national television show from one city to the other. The planes, represented by "blips" appear on television-like screens and are kept safely separated by controllers sitting before consoles, in touch with pilots by two-way radio telephone.

The long range radars, capable of detecting aircraft up to 200 miles in range and 60,000 feet in altitude, are first being located near busy terminals and in the extended areas around high density airports. Later they will be placed along the most heavily travelled air routes and eventually will blanket the country. Twenty will be installed during 1960. By 1963, the completion date of the present airways modernization program, the total will reach 100.

Civil-Military Cooperation

In the interest of economy, the FAA is cooperating closely with the military services in the installation of ARSRs, avoiding duplication of effort wherever possible. There is in operation a joint radar program which is saving the Treasury millions of dollars annually. FAA personnel are stationed at 38 Air Defense Command radar sites, controlling high-altitude civil jet traffic, and the FAA is maintaining, primarily for military use, 29 military-owned Radar Approach Control Facilities (RAPCONs) and eight Radar Traffic Control Centers (RATTCs) for the Navy.



During construction on roadway to Francis Peak long-range radar site, workers plow through 60-foot snow drift in the middle of summer to reach men on the other side.

Contract Awarded for Bright Display System

A \$7,695,000 contract for 38 radar bright display systems has been awarded by the FAA to the General Instrument Corporation, Newark, N.J. The new air traffic control equipment will assist controllers in handling the heavy volume of en route air traffic.

Delivery of the first system under the contract is scheduled for April, 1961.

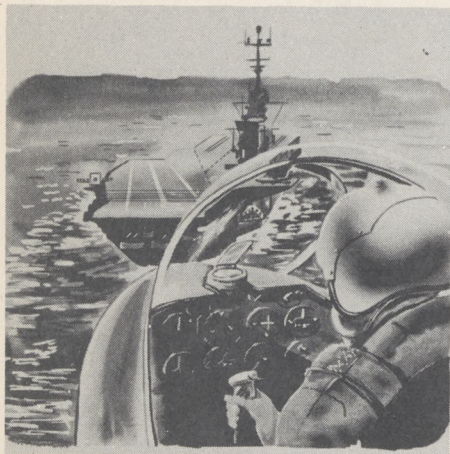
A bright display system converts the "pips" which indicate an aircraft on the standard type of radar display tube into much brighter and longer lasting spots of light. With this system air traffic controllers can work more efficiently in lighted radar control rooms and get far better radar displays of the air traffic picture.

Twenty-one FAA Air Route Traffic Control Centers are scheduled to receive the bright display systems. Some centers will get more than one system. ARTC Centers tentatively selected to be equipped with bright display systems are: Indianapolis (2), Chicago (2), Kansas City (3), Fort Worth (2), Minneapolis, Salt Lake City (4), Albuquerque (2), Los Angeles,

Oakland, Calif. (2), Atlanta, Detroit, Boston, New Orleans, New York (2), Washington, D.C.

Great Falls, Mont., Norfolk, Phoenix, Pittsburgh, Seattle, Memphis (3), and Denver (4).

FAA presently has ten ARTC Centers and four airport control towers equipped with radar bright display equipment. These include the Centers at New York, Indianapolis, Cleveland, Atlanta, Detroit, Oakland, Calif., San Antonio, Washington, Chicago, and Los Angeles, and the Airport Towers at Indianapolis, Chicago (Midway), New York (Idlewild), and Washington National Airport.



Visual Glide Paths Under FAA Evaluation

Five different visual glide path indicator lighting systems, designed to aid pilots approaching an airport landing area at night, are being evaluated by the FAA at NAFEC.

The evaluation tests are being conducted to determine which, if any, of the systems would best serve the nation's airports and their users. All five systems utilize an arrangement of lights to provide a pilot under good visibility conditions with a continuous indication of the glide path down which his aircraft may be flown to a safe landing.

Under evaluation are the U.S. Air Force "Meat Ball" System, Navy Mirror System, Australian Cumming-Lane System, United Kingdom RAD-Calvert System, and the Westinghouse Tri-Color System.

The "Meat Ball," Cumming-Lane, and the Navy Mirror Systems are similar in principle. In the "Meat Ball" System two elevated bars of light separated by a short distance are aligned transversely with respect to the runway, several hundred feet from its threshold. Farther down the runway, at a lower elevation, a small group of lights forming what is called the "meat ball," is placed to line up with the gap between the two light bars. In making a true approach to the runway, a pilot sees the two light bars and the "meat ball" in a straight line. Lack of such alignment warns the pilot that corrective action is necessary.

In the Mirror System an illuminated mirror (or lens) is used instead of the "meat ball" as in the case of the "Meat Ball" system. An optically located light source is directed toward the mirror (or through the lens) so when on the proper glide path the pilot sees all lights in a line. Deviation by the pilot from the

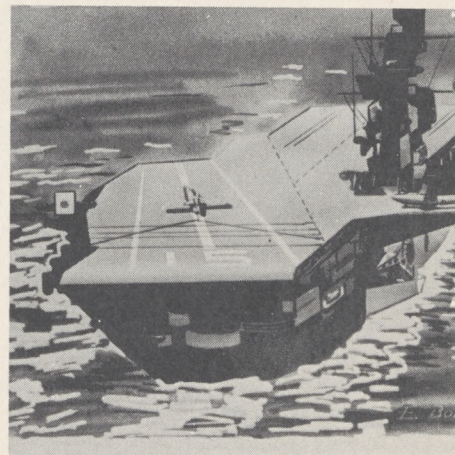
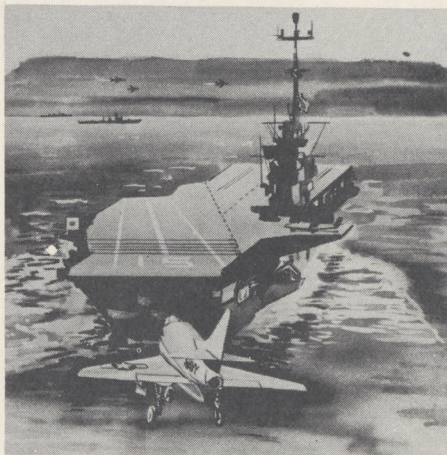
correct path throws the mirror light out of alignment with the bar lights.

The Australian System utilizes bars of amber and white lights, at right angles to the runway. The amber lights are mounted on 25-foot poles on either side of the runway, 400 feet from the threshold. Bars of white lights are placed at ground level 500 feet farther down the runway. These are located closer to the runway than the amber lights. In the center of the runway, between the rows of white lights, is an "aiming light." To a pilot making a proper approach, all lights are in alignment. In addition, a "fly-up" flashing red warning light is installed on either side of the runway to warn the pilot that he is below the glide path.

In the UK System, two transverse bars of light are placed one behind the other 500 feet and 1500 feet beyond the threshold on each side of the runway. Each bar consists of three units and each unit projects a controlled beam of light of which the upper half is white and the lower half is red. In making a proper approach the pilot, in effect, flies down a corridor of light, in which the farther bars of light appear red and the nearer ones appear white. Changes in the colors warn the pilot that he is off the proper glide path.

The Westinghouse Tri-Color System consists of two light units, one placed on each side of the runway at ground level. These units throw out three colored beams of light, yellow at the top, green in the middle and red on the bottom. The green portion shows the proper slope for a landing approach, with appearance of the yellow and red beams warning the pilot he is off the proper angle of descent.

Testing of the visual glide path indicators is part of a coordinated program to develop a standard system of airport lighting, for national and possibly international use.



In this photo sequence Navy pilot, guided by brilliant light reflected in mirror, brings his jet plane towards deck of aircraft carrier. System replaces the old wigwagging method of landing aircraft and saves many lives. (Navy photos of artist's conception.)

VETERAN'S CORNER

Veterans and their families are asking thousands of questions concerning the benefits their Government provides for them through the Veterans Administration. Here are some of the representative questions the VA receives and the answers it supplies. FLY-BY presents them here as being of possible help to FAAers who are veterans.

I am a Korean veteran, with a disability I believe is traceable to my war service. Is there a deadline for making application to the VA for disability compensation?

There is no deadline. You may apply at any time. However, if you apply within one year from your discharge, payments may be backdated to your first day as a civilian. Otherwise, payments become effective on the date you apply.

My permanent GI insurance policy has lapsed because I allowed the grace period to go by without paying the premium. What must I do to reinstate my policy?

GI permanent plan insurance may be reinstated at any time by payment of all back premiums, plus interest. You must also meet VA's health requirements.

A year ago I asked VA to hold my annual GI insurance dividend as a credit, from which to pay my premium in case I should miss a payment. Do I have to renew this arrangement each year?

No. Once the credit arrangement on dividends is authorized by you, it remains in effect until cancelled. It is not necessary to renew your authorization each year.

My husband died of a service-connected condition and I draw death compensation from VA. Does the size of my outside income make any difference in my eligibility to get these payments?

No. Your other income has no effect on your eligibility for death compensation. Income limitations, however, do apply in the case of pension payments based on deaths not connected with military service.

I am 21 years old, eligible for training under the War Orphans Education Act, but I never finished high school. Would that keep me from taking courses under the War Orphans program?

No. Graduation from high school is not a requirement for War Orphans Education Act training. A young man or woman who quits high school may be eligible under the program.

My World War II GI term insurance is getting pretty expensive for me and I'd like to convert to a permanent plan but

do not feel I can afford to convert all at once. Could I convert, say, \$2000-worth now, and the rest later?

Yes. As long as you convert at least \$1000-worth, and your additional amounts are in multiples of \$500, partial conversion of your GI term insurance is all right with VA.

I was in a prison camp during World War II. I have a dental condition traceable to my service, but for which I do not receive compensation from VA. Is there a deadline in my case for applying for VA outpatient treatment?

No. As a former prisoner of war, with a service-connected noncompensable dental condition, you may apply at any time, and receive the needed treatments.

I am now receiving pension from the VA, and have a right to switch to the new system of payments which starts July

Veterans holding GI term life insurance policies should consider converting to permanent plans of insurance, the Veterans Administration has announced.

Premium rates for permanent plans of insurance are higher than those for term policies issued at the same age. But the premium rate on permanent plans remains the same throughout the lifetime of the policy while the rate on term policies increases every five years.

These increases are small at the younger ages, but get progressively higher at the older ages. For example, an annual premium on dividend participating term insurance leaps from \$30.78 per \$1000 insurance age 60, to \$47.00 at age 65, and to \$73.16 at age 70, the VA explained.

Since the average World War I veteran is 25 years older than the WWII veteran, more WW I policyholders are now affected by these increases.

As the average life expectancy increases and the veterans grow older, more and more policyholders will be faced with the rising cost of term insurance if they plan on lifetime protection from their term policies, the VA said.

The decision to convert is for each policyholder to make based on his need for present and future life insurance, his ability to pay premiums and his family status, the VA cautioned. It is also important to consider which permanent plan to choose. A contact representative at any VA office will explain all the alternatives to any GI policyholder.

1. If I decide I want to switch over, do I have to make the change before July 1?

No. You may make the change at any time. However, once you make it, your decision is final. You can't change back. So be sure you're right. See your nearest VA office if you need help.

I understand that there have been some changes in the income limitations for veterans eligible for pension. Will you explain the changes to me, please?

Under the present law a veteran who has more than \$1400 annual income and no dependents cannot qualify for pension. If he is married or has a minor child, his income cannot be more than \$2700. The new pension law, effective July 1, increases the amount of income a veteran can have, and still collect pension. A veteran with no dependents is allowed up to \$1800 income, and up to \$3000 if he has dependents.

I know there's a deadline coming up pretty soon for us World War Two veterans on GI home loans. What is the date exactly, and what does it mean?

Under present law, July 25, 1960, is the cut-off date for World War Two veterans to apply for a GI loan. You will be allowed an additional year to have the loan processed and actually closed.

I am the beneficiary of my veteran-husband's GI insurance policy. He owed a few bills to private individuals at his death, which I intend to pay. Meanwhile, do these creditors have any right to seize the GI insurance policy to get their money right away?

No. The proceeds of your husband's GI insurance are exempted by law from any claims of private creditors. The insurance money may not be seized or attached to pay his debts.

The daughter of a neighbor of ours is a war orphan, with a physical handicap. Must she wait until her eighteenth birthday before she can begin training, under the War Orphans Education Act?

No. A law passed recently gave boys and girls with handicaps, who previously would have had to wait until their eighteenth birthday, the right to begin special types of War Orphans training when they reach age 14.

My husband, a World War II veteran, passed away recently. Since he had no service-connected disability, I was ineligible for VA death pension as his widow. I understand that under a new pension law I may now be eligible. Is this correct?

Yes. Widows of World War II and Korean veterans may be eligible for pensions even if their husbands had no service-connected disabilities at the time of their death. This new pension program, however, isn't effective until July 1.

BIG SLAM/PUERTO PINE Finds San Juan ARTCC On the Ball

One of the largest military airlift exercises ever held in peacetime descended on San Juan Control Center between March 14th and 28th.

Utilizing 2563 flights, approximately 20,000 Army troops and 21,000,000 pounds of their equipment, including guns, tanks and supplies, were moved by MATS aircraft. The operation, labeled "BIG SLAM/PUERTO PINE" nearly tripled traffic on routes between Puerto Rico and the United States.

In order to absorb this tremendous increase in traffic, San Juan Center Chief Clarence T. Tolpo expanded facilities as much as space and personnel would allow.

Discreet frequencies were installed for the two military bases at Puerto Rico--Ramey Air Force Base and Roosevelt Roads Naval Air Station. Control boards from the San Juan Center's training room were used to add control positions.

Special arrival and departure procedures were formulated. Roosevelt Roads became a radar approach facility overnight with the addition of a GCA Radar Unit and four FAA tower men, headed by Blake Norris of Miami.

MATS leased lines in the new underwater telephone cable between Miami and San Juan for the two-week period to augment communications with Miami Center.

The mammoth exercise, under the direction of MATS Commander, LTGEN William H. Tunner, was staged to test MATS ability to take care of wartime requirements. The capability of FAA facilities and personnel to assimilate emergency traffic loads was emphatically tested.

Taking care of an extra workload isn't new to those attached to the ARTCC Center at San Juan. Going back to sometime around the middle of April 1958, the Center was in on a very important project being conducted in that area--the Polaris Missile development program.

During an 18-month period, the Applied Physics Laboratory of the Johns Hopkins University conducted numerous tests in and through the San Juan Control Area, utilizing U.S. Navy aircraft.

Since the destinations were classified, it was necessary to arrange for special clearances at unpredictable times, in forms which would not indicate the various aircraft locations by radio transmissions.

Mr. R. E. Gibson, Director of the Johns Hopkins University Applied Physics

Laboratory, said in a letter to the Administrator:

"In accomplishing these arrangements, Mr. C. T. Tolpo, Chief of the Air Route Traffic Control Center, and the watch supervisors were extremely helpful and cooperative particularly in planning and executing the many clearance procedures required for the test operations.

"In addition to the clearance procedures, Mr. Tolpo was concerned about the safety of civilian aircraft flying through the Atlantic Missile Range which covers a large portion of the San Juan Control Area. Procedures for the protection of such civilian aircraft were established by Mr. Tolpo, in collaboration with representatives of the Applied Physics Laboratory and representatives of Airborne Early Warning Squadron Four.

"These procedures consisted, basically, of transmitting all pertinent civilian aircraft flight plans to Naval Radar Aircraft operating under the supervision of the Applied Physics Laboratory in a danger area. These Naval aircraft were thus enabled to keep radar surveillance over any aircraft entering the danger area. Recommendations and information on such aircraft were transmitted back to the watch supervisor at the San Juan Air Traffic Control Center."

Adding his appreciation for the support rendered by the FAA was the U.S. Naval Inspector of Ordnance.

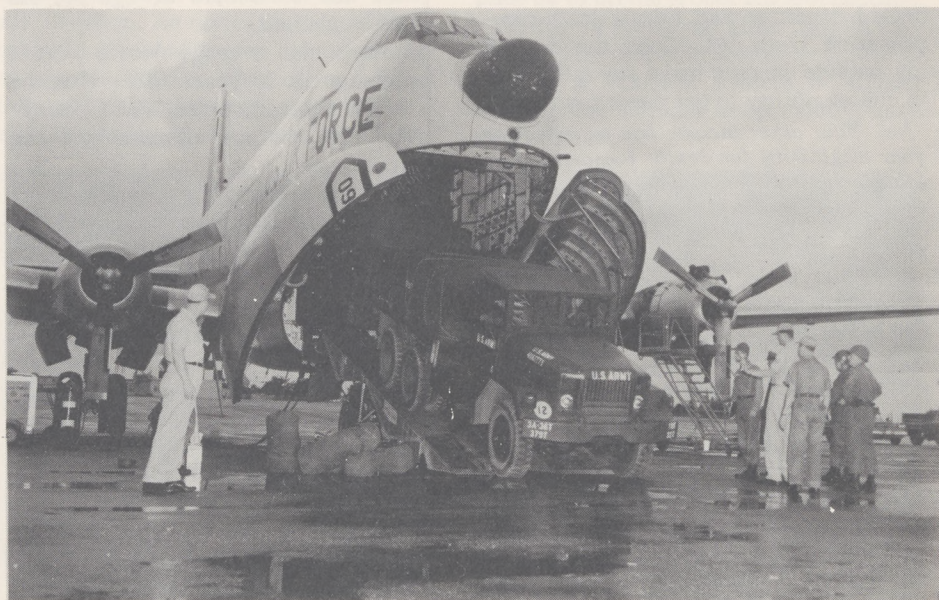
Radar Traffic Simulators To Cut Training Time

The training time for FAA Air Traffic Controllers is expected to be drastically reduced with the introduction of a new type radar traffic simulator. The simulators are to be installed in each ARTC Center. Delivery of the first of 27 is expected this month.

The simulators will not only materially keep controllers abreast of new techniques and developments but will also provide realistic training by use of simulated targets. This allows the trainee to become familiar with radar procedures, radio communications, phraseology and the operation of radar equipment.

Two consoles about the size of office desks make up the training device. An instructor sitting at the control console can insert up to six targets on the student's indicator. On each of these targets, he is able to control speed, turn-rate and heading. He is also able to determine the point on the indicator where the target will first appear within a 200-mile radius of the simulator location of the radar.

Two modes of operation are available for instruction purposes. The device may use simulated targets and also normal information from an existing radar system. Target simulation is not the only radar information capability of the simulator. Certain types of radar interference signals can be generated at the discretion of the operator to add further realism to the radar target display on the trainee's console.



A 2½-ton Army truck with trailer comes down ramp of USAF Military Air Transport Service "Globemaster" at Ramey, Puerto Rico. (U. S. Air Force Photo)