REGION VI NEWS

A MONTHLY NEWSLETTER OF SIGNIFICANT REGIONAL AND WASHINGTON ACTIVITIES

CIVIL AERONAUTICS ADMINISTRATION, LOS ANGELES, CALIFORNIA

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ABOUT HELICOPTERS

by

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Aeronautical Design Evaluation Engineer

Much has been said about helicopters in recent years. The popular press has extolled the virtues of these rotary-wing aircraft, pointing to the nebulous "tomorrow" when everyone will have a helicopter perched on his roof ready to fly, without the problems of ground traffic, traffic lights and other inconveniences. The housewife could do her shopping by landing her helicopter on the roof of a store; the hunter and fisherman could get to their destinations quickly by vaulting over nature's barriers of forest and mountain. In all these articles, the helicopter is spoken of as the "new mode" of transportation. Very few people realize that, next to the ornithopter which immitates bird wings as a means of flight, the helicopter is the oldest mechanical means of aerial navigation to occupy the efforts of the designers. Leonardo da Vinci had several designs for helicopters which he developed approximately 500 years ago. These might have flown with some degree of success had adequate powerplants been available to him. The ancient Chinese had a toy helicopter driven by a bow with coaxial rotors made of large bird feathers.

Considerable serious work has been done on helicopters during the past 100 years in practically every civilized country in the world. Attempts have been made to power these by manpower, by electricity, by steam, and by gasoline engines. Some of the small models, such as a steampowered version designed by Forlanini in 1879, looked very promising; but the full scale machines were another matter. However, in the early 1900's, some measure of success was achieved by such people as Berliner, Cornu, Pescara and others. The helicopter as a military machine was recognized by many authorities and, in 1922, at McCook Field, which is now Wright Field, George DeBothezat demonstrated his helicopter by flying it approximately twenty feet off the ground.

The greatest obstacle to the completion of a successful helicopter was a lack of understanding of the aerodynamic and the mechanical dynamic forces involved. Some of the designs would successfully get off the ground in a vertical direction, but would immediately become unstable upon an attempt at forward flight.
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The greatest step forward in the development of the helicopter came when Juan de la Cierva, in designing the autogiro, solved some of the mechanical dynamic problems by using blades which were attached to the hub by means of hinges, both vertically and horizontally. He flew his first successful autogiro in Spain in 1923. In 1925, Cierva established a company in England which designed and built a number of successful autogiros. Shortly after that, Pitcairn and Kellett built several autogiros in this country. The autogiro was hailed as the great advance in aviation. But the public soon found that it had been oversold on the capabilities of this rotary wing aircraft. The rotor of an autogiro is not driven by the aircraft powerplant, but by the aerodynamic forces acting upon it in flight, as the craft is propelled forward by a conventional airplane engine and propeller arrangement. Thus, it is incapable of a vertical ascent, but must depend on a short takeoff runn similar to that of an airplane. The autogiro's greatest virtue was its ability to land autogiros to deliver mail directly to post office roofs, avoiding the delays incident to ground traffic. The writer was present when the first mail delivery was made onto the roof of the Philadelphia post office, in 1935. The autogiro industry soon faded into insignificance because of the many shortcomings of the machine. However, the lessons learned from its design and flight characteristics were very valuable in connection with the development of the helicopter.

The Hiller "Commuter", one of the first successful co-axial rotor helicopters. (Photo courtesy Hiller Helicopters, Inc.)

One of the first successful helicopters to be completed in recent times was the Focke-Wulf which was flown successfully in Germany early in 1937. Further news of this development was stifled by the outbreak of World War II. Apparently very few of these machines were built. Meanwhile, in this country, Igor Sikorsky was completing his lifelong dream of a rotary wing aircraft. Early in 1940, he demonstrated his successful version of the helicopter. With the backing of the Armed Forces, many improvements have been made, so that today, it can truthfully be stated that the helicopter is here to stay.

The present-day helicopter obtains its lift and propulsive forces from one or more rotors on vertical drive shafts. These rotors are continuously power-driven during flight. With application of sufficient power to the rotors, enough lift can be generated to cause the machine to rise vertically into the air. Thus, the lift obtained by the helicopter rotor is similar to the force produced by a conventional propeller of an airplane. However, in forward flight the helicopter rotor moves through the air in a direction approximately 90° to its direction of thrust, creating additional complications. As the helicopter moves forward, the blade advancing in the direction of flight will have a higher relative airspeed than the blade moving in the opposite direction. This creates unbalanced forces which would cause the machine to capsize if not accounted for. By allowing the blades to hinge up and down, these unbalanced forces can be relieved. In technical terminology, this is called "flapping". Flapping of the blades in turn causes forces which tend to oscillate the blade in its plane of rotation. This would create severe shaking of the machine. In order to relieve this, another hinge pin placed vertically is provided to allow blade motion in this direction.
(Continued on page 4)

Regional Administrator's Column

The recent series of accidents on the East Coast has focused public attention on the operation of aircraft in metropolitan areas from airports which have densely populated areas in close proximity to such airports. The general public has suddenly become conscious of the increased aviation activity in these metropolitan areas, and being unaware of all the safeguards applied to such operations, is concerned over the protection of life and property on the ground and noise annoyance factor. Governmental bodies and industry groups have initiated action to cope with the reported criticism on the part of the public by modifying operating procedures where possible, disseminating information to correct misunderstandings on the part of the public, and investigating all other possible courses of remedial action.

The President appointed a Commission under the chairmanship of James Doolittle to study the problems incident to airports located in metropolitan areas. A Committee of the House of Representatives conducted an investigation of the Newark-Elizabeth situation. An industry group, headed by Eddie Rickenbacher, President of Eastern Air Lines, is also investigating the New York area air traffic problem, and our Administrator established a national committee of high level industry and aviation organization representatives to work on aviation noise reduction. Final recommendations of these various bodies have not been completed and, therefore, are not available as a basis upon which to initiate action. However, there are a number of things which those of us who are directly connected with aviation can give greater emphasis to pending receipt of instructions or recommendations from higher authority.

All of us in CAA should do our part. We can encourage airport managers to safeguard operations from their airports by requiring strict compliance with traffic patterns, and revise these patterns to avoid congested area wherever possible. We should emphasize to all pilots the importance of adhering to minimum altitudes, especially over populated areas, and report every instance of a violation of minimum altitudes which comes to our attention in order that disciplinary action can be taken. We can stress to operators and pilots the desirability of observing operational practices which will avoid noise nuisance. We can work with local communities through official bodies, civic organizations and service clubs on aviation education programs to accomplish the objective of a better informed public and a greater appreciation of the economic value of civil aviation. We can accentuate our private pilot conference program to make aviation salesmen of these people. We can continue and give greater emphasis to the aviation education program in schools and universities. We can encourage manufacturers to give more consideration to the noise factor as it pertains to their aircraft. We can publicize and encourage greater use of our navigation facilities to increase the safety of operation of aircraft. We can conduct our traffic control functions with a concious effort to avoid routing aircraft over congested areas and at lower altitudes than absolutely essential to the operation.

All of these things we can do now. I suggest that all of us in the Sixth Region join wholeheartedly in the program outlined above so that we will fulfill our responsibilities to encourage the healthy development of civil aviation.

The Hiller "Hornet", a two-place ram-jet powered helicopter. (Photo courtesy Hiller Helicopters, Inc.)

ABOUT HELICOPTERS..(Continued from page 2)

Some of the articles written for popular consumption have predicated helicopters having tremendous speeds, comparing them with conventional aircraft, and pointing out that by merely raising the low end of the speed range, high speeds could be raised to 300 or 400 miles per hour. This may be possible in the future. However, present day helicopters are severely handicapped in regard to the maximum speed they can obtain. This is a result of the following condition: the tip speed of a rotor blade must be quite high in order to obtain a usable efficiency. When the forward speed of the helicopter is added to the rotational tip speed, the relative airspeed over the outer portion of the blade becomes very high, approaching that of the speed of sound. When airspeeds rise beyond approximately 75% of the speed of sound, airfoil efficiencies drop tremendously. On the retreating blade, the relative velocity of the air has been reduced; in fact, it is reversed over a considerable portion of the blade, thus requiring the angle of attack of the remainder of the blade to be increased to the point where it may stall in the same manner that an airplane wing will stall if the speed is reduced to below its minimum flying speed. It has been found that if the reverse flow occurs over more than 30% of the blade, severe vibration problems and a serious loss of efficiency occur. Thus, between the two limitations, the present day helicopter is limited to a theoretical maximum of approximately 135 miles per hour.

All helicopters powered by conventional engines must have two rotors. When the engine pushes on the rotor, the structure supporting the engine is being pushed in the opposite direction, which is similar to the effect one finds when attempting to push an automobile on an icy street. In order to overcome this tendency for the fuselage to rotate, an additional rotor is added. This may take the form of a tail rotor which merely pulls the back end of the fuselage around to its proper position, or an additional lift rotor may be added in order that the rotors being pushed in opposite directions cancel out the unbalanced forces on the fuselage.

Twin rotor helicopters have been built in many styles. Some have their rotors mounted on outriggers spaced equally on each side of the fuselage; others have the two rotors side by side quite close together and tilted so that the blades may intermesh and pass over the hub of the other rotor. Rotorcraft have been built in which the rotors are placed in a tandem fashion at each end of the helicopter. In another version, the rotors have been placed one over the other on the same axis of rotation but, of course, rotating in opposite directions. (See picture on page 2) Each of these configurations have their advantages and disadvantages. The tail rotor type has the advantage of simplicity of design

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of the power transmission and control systems, but has the disadvantage of the loss of power through the tail rotor. The side-by-side configuration has the advantage of increased efficiency, but is very sensitive to the center of gravity position. This latter deficiency is overcome by the tandem arrangement. But the tandem arrangement creates increased problems in control system design. The coaxial rotor type of helicopter has the advantage of reduced size, but has the disadvantages of complicated control systems, and less stable flight characteristics. The conventional helicopter has three control systems. One controls the amount of life produced by the rotor. This is done by varying the pitch of all the blades simultaneously or collectively. This has become known as the "collective pitch control". Another control causes the pitch of each blade to vary cyclically from maximum to minimum, in order to change the direction of the lift of the entire rotor. This is called "cyclic pitch control" and is used to change the direction of flight of the helicopter. This control is connected in such a manner that movement of the control stick forward causes the helicopter to move forward; a movement to the side causes flight towards that side. Another control usually actuated by the pilot's feet changes the heading of the helicopter and acts as a rudder control. Since the normal pilot has only two hands and two feet, the throttle is usually connected to the collective pitch control in order that these two may be worked simultaneously.

Of considerable interest in the flight safety of a helicopter, are its flight characteristics in the event of an engine failure. When an engine fails on a helicopter the rotors continue to turn, being driven by the air forces in a similar manner to those of the autogiro. The rate of descent in a vertical direction of the average helicopter is well over 2,000 feet a minute at zero forward speed. At approximately 40-50 miles per hour, this rate of descent will be reduced to less than 1,000 feet a minute. In either case, a safe landing can be made by using the energy that is stored in the rapidly rotating rotors. By increasing the pitch of the blades, sufficient additional lift is created to slow the descent to zero before touching the ground. This requires considerable skill on the part of the pilot to judge the exact moment for applying the collective pitch. By landing with forward speed, the vertical descent is less and the control of the helicopter is better, making the job of landing relatively easier.

The latest development in helicopters is the jet-powered helicopter. This has been developed in many sizes and types, from the little one-place pulse-jet, and ram-jet powered machines, to the huge turbine-powered jet helicopters. The jet helicopter has several advantages, one of which is the simplification of the rotor, since its powerplant does not depend on the fuselage for support, thus no counteracting of torque is necessary. Since the power is applied directly to the blade tip, no reduction gearing, clutches and other paraphernalia are necessary. The biggest drawback of the jet helicopter is its high fuel consumption. The simplest type of jet engine is the ram-jet, which is essentially a piece of pipe in which a flame is maintained in order to heat the air coming in at the front and to expel it at a great velocity at the back end. However, its fuel consumption is approximately 20 times that of the conventional reciprocating engine; thus, it is limited to very short ranges because of the weight of the fuel involved. A more efficient type of jet-powered helicopter uses a conventional turbo-jet engine from which the excess air is bled off at the compressor and fed through jet nozzles at the rotor blade tips. Here, obviously, simplicity is sacrificed for fuel economy.

Another very ambitious design that is being considered will mount a turbo-jet engine at each blade tip. When one considers that the centrifugal force developed at a blade tip may be nearly a thousand times the weight of an object, the problem of attaching such an engine will be quite tremendous. (Continued on next page)

The designers and builders of helicopters are very optomistic about the future of rotary wing aircraft. Many new designs are being developed, some of which combine the advantages of both the helicopter and the airplane by using the helicopter rotor for lift purposes in order to be able to rise out of, and land in, small areas, but with the advantage of being able to obtain high speeds by using conventional propellers and wings, thus relieving the rotor of its load and its resultant disadvantages for high speed flight. Some designs will carry the rotor windmilling at blade angles which produce very low drag; another design goes as far as folding the rotor in flight and retracting it into a space in the fuselage, the object being to use the rotor only for takeoff and landing purposes.

At present, all the results of helicopter development and production are going to the Armed Forces, where the helicopter is performing minor miracles of transportation into and out of otherwise inaccessible areas. Accounts of the exploits of helicopters can be seen in practically every newspaper today. Perhaps, when the present emergency is over and helicopters again become available for use in civilian endeavor, we may yet see a helicopter on nearly every rooftop. Think of the traffic problems that would create!!!

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INCIDENT REPORT

At 1527M, the pilot of an Ercoupe radiotelephoned Gila Bend stating that he was enroute from Tucson, Arizona to Blythe, California and was uncertain of his position. He stated that he was just west of a large, open pit mine and flying in the "N" quadrant of the Gila Bend low frequency range. He solicited aid from the specialist in determining his known position due to his not being familiar with the territory. The specialist advised the pilot that he had apparently just passed over the town of Ajo, Arizona and inquired if the pilot could see a large letter "A" on the east side of a mountain just west of the town. The pilot responded that he had passed over the mountain and would return and see if he could sight the "A". Snortly he made it known that he was to the east of the mountain and could see the letter "A". He was then advised that he should fly northward on the south leg of the Gila Bend range to return to his intended course. It was further suggested that he remain well to the east of the highway and railroad connecting Gila Bend and Ajo to avoid the active danger area. He was requested to report when over a triangular field north of Ajo. At 1532M, the pilot reported his position over the field following the highway to Gila Bend. At 1556M, the aircraft landed at Hunts Airport in Gila Bend, Arizona.

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C. M. SMITH RECEIVES LETTER OF APPRECIATION

Claude M. Smith, formerly Chief of the Communications Operations Branch, retired because of disability, effective January 1, 1952. Immediately following his retirement, he received a special letter of appreciation from the Honorable Charles Sawyer, Secretary of Commerce, for his outstanding contributions to the Department during twenty-eight years of loyal service.

Mr. Smith has notified us that his temporary address will be 109 S. Western Avenue, Boomington, Illinois.

FACILITY CHIEFS MEET

On October 1, 1951, the Airways Operations Division completed its reorganization. Of the resulting changes, the most significant is the fact that instead of having two Branches, Air Traffic Control and Communications, all operating facilities are integrated into a single operating Branch. Instead of the customary two separate yearly conferences, the Chiefs of all stations, towers, centers and combined towers and stations met this month in the first joint conference in the Sixth Region. Headquarters were established in the Aviation Room of the Hollywood-Roosevelt Hotel for the five days from March 10 to 14. Guests from the Third, Fifth and Seventh Regions and the Washington Office were present. Eighty to ninety persons attended the daily sessions.

Names of the people appearing in the above picture may be found on page 8.

Facilities Chiefs' Conference (Continued from Page 7)

Front row seated left to right:
De Andrea, Regional Office; Andrews, Paso Robles; Leavy, Santa Barbara; Deziel, Salinas; Boughton, Bakersfield; Elwell, Ontario; Daniels, Fresno; Solomon, Phoenix; Kelley, Winslow; Renfroe, Ukiah; Whitney, Regional Office; Vroman, Gila Bend.

Second row (standing):
Foreman, Los Angeles; Christiansen, Battle Mountain; Cannon, Sacramento; Sindlinger, Phoenix; Reid, Santa Monica; Crowley, Santa Barbara; Jones, Ogden; Willhoite, Bakersfield; Walters, Cedar City; Carlock, Tonopah; Ward, Delta; Weidner, Yuma; Marks, Oakland; Jensen, El Centro.

Third Row:
Smith, Regional Office; Sullivan, San Francisco; Sullivan, Sacramento; Lemmer, Los Angeles; Miller, Regional Office; Talbot, Tucson; Kulisek, Stockton; Timmons, Needles; Ashley, Burbank.

Fourth Row:
Martin, Salt Lake City; Metcalf, Douglas; Potter, Prescott; Gibson, Winnemucca; Bate, Palmdale; LaDue, Tucson; Schmidt, Las Vegas; Byars, Hanksville; Fagan, Reno; Wiley, San Diego; Parker, Long Beach; Tripp, Salt Lake City.

Fifth Row:
Nollenberger, Regional Office; Boughn, Arcata; Brian, Fresno; Cartwright, St. George; Mathews, Burbank; Ware, Palmdale; Housman, Oakland; Tucker, Fallon; Prater, Lovelock; Butler, San Francisco; Howard, Salt Lake City; Elam, Wendover; Kelso, Thermal; Trahan, Bryce Canyon; Burns, Elko; Waldbieser, Williams; Tate, Red Bluff; Fulton, Los Angeles; Hummer, San Diego; Spiegelberg, Oakland; Stepp, Blythe.

Last row:
Stephens, Regional Office; Kennedy, Van Nuys; Hill, Montague; Atkins, Daggett; Harkema, Crescent City; Johnson, Regional Office; Garrison, Regional Office; De-Arce, Regional Office; Hall, Regional Office; Pratt, Long Beach; Fielder, Regional Office

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"LAA TO GET SIKORSKY S-55 THIS WEEK

"Los Angeles Airways is scheduled to take delivery of its Sikorsky S-55 helicopter on Wednesday and start flying it to the coast. Fred Milam, operations manager of the helicopter mail carrier, will pilot the craft accompanied by Paul Thornbury, CAA 6th Region flight inspector who is also qualified to fly the helicopter. Clarence Belinn, Los Angeles Airways president, estimated five days for the cross-country flight, but admitted en route publicity attention might conceivably cause more delay than weather and extend the elapsed time considerably. Plans are in the works for a New York send-off."

American Aviation Daily
Monday, March 24, 1952

SUGGESTION AWARDS

Minnie Fremgen, Classification Analyst, and Ken Hornor, Chief, Property Management Branch, recently received awards from the Regional Administrator. Minnie suggested that individuals riding in "car pools" embark and disembark at the front entrance to the Regional Headquarters to eliminate traffic congestion.

Ken suggested an informal method of communication for intra-region use, using the patented "Confirmemo" form.

STATUS OF THE SUGGESTION PROGRAM

Suggestions received this fiscal year through March 21, 1952	118
Suggestions on hand from last fiscal year	52
Total	170

Total suggestions considered this fiscal year through March 21, 1952:

Suggestions adopted	22*
Suggestions forwarded to Washington	45
Suggestions rejected	78
	145*

*Two suggestions adopted were also forwarded to Washington

Balance on hand	25

PERSONALITY OF THE MONTH

George Hammond

We're nominating one of CAA's ole timers as Personality of the Month - George Hammond - the Region's Budget Officer. Genial George was one of the first ten employees appointed after the enactment of the Air Commerce Act in 1926, and counts his friends not only among those of the Sixth Region, but hundreds of others now employed in the Washington Office and in the other Regions of the CAA.

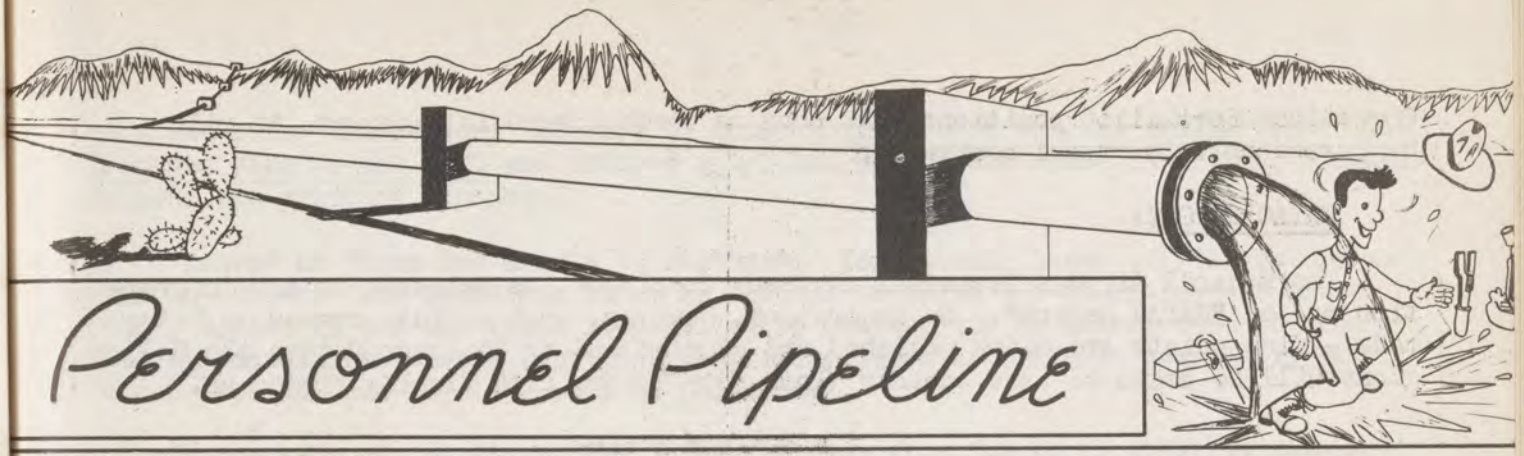
George was first employed in the Washington Office, then moved to the old Fifth Air Navigation District Office at Salt Lake City. Later his wanderlust took him down deep in the heart of Texas (Ft. Worth) for a sojourn of six years, when he decided to cast his lot with the Forest Service. He soon decided to return to the CAA when he landed a promotion in the Atlanta, Georgia office. In 1937, he transferred from Atlanta to Washington. When the Sixth Region of the CAA was established in 1938, George came out to Sunny California to assume duties as the Chief Clerk and was later named as Administrative Officer. We believe George has set some sort of a record for employment at different locations - two hitches in Washington, as well as the Regional Headquarters at Salt Lake City, Ft. Worth, Atlanta and Los Angeles.

George's birthplace was Dothan, Alabama and he has lived in Georgia, Florida and Texas. In spite of being away from that area for a number of years, he still speaks in the delightful brogue so characteristic of the deep south.

George's wife is the former Edwina Bosley from Ft. Worth, Texas. They have three sons, George, Jr., 21, now in the Navy; Kelly, 14 and "Spike", 9. George, Jr. is married and George, Sr. is looking forward in anticipation of the time when he can be called "Grandpa".

Hobbies? George's is fishing and he can really tell some interesting tall stories about the big ones that got away. Future? George is still hoping to "strike it rich" and any time he hears that any one is traveling Las Vegas way, he hunts them up and sends money to invest in the "One Arm Bandit" or its equivalent. Should he ever get back so much as the dollar he invested, it would be a Red Letter Day and call for a celebration.

George talks about the day when he can retire from the Government but, after spending twenty-five years with the CAA, we expect to find him still juggling positions and money for the next twenty-five.



Personnel Pipeline

PERFORMANCE RATINGS:

Once again, Performance Rating time is here. Although the review of our work occurs throughout the year, this time of the year has been set aside for the recording of these observances. Recently, Administrative Order No. 128 on Performance Ratings was rewritten based on changes received from Washington. The changes to the Administrative Order are primarily procedural in nature. Some of these changes are as follows:

1. Action to be taken by the Performance Rating Committee is more clearly defined.

2. In certain instances, the regular March 31 rating may be delayed.

3. Rating officials are required to discuss ratings with their employees except in unusual cases.

4. On "Satisfactory" ratings, the reviewing official sends one copy directly to the employee and furnishes the Personnel Branch with the original.

5. Employees are permitted to review ratings of other employees in their own office or station.

A significant change in the Administrative Order is the procedure outlined for reporting the performance of employees serving a trial or probationary period. This change is required by new regulations of the Civil Service Commission. Supervisors of trial or probationary employees are required to submit a written appraisal on all such employees prior to the end of their tenth month of service. The supervisor certifies that the employee's conduct, general character traits, or capacity are either satisfactory or unsatisfactory.

WHITTEN AMENDMENT:

Most recent word received from Washington indicates that representatives from Federal Airways and the Personnel Office have worked up a proposal which probably will have been submitted to the Civil Service Commission for review by the time this appears in print.

We have not received details of the plan, but know that they propose to submit to the Commission training agreements and normal line of promotions for Airways

(Continued on next page)

Operations Specialist positions. As soon as further word is received, it will be passed on to everyone concerned.

FATAC REPORT:

The Federal Airways Technical Advisory Committee has released no new information on the "FATAC Report". We understand, however, that a final review is being made - fine points are being polished and studied and in the near future the Regions will be asked to take another "look see" before it's finally firmed up.

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AVIATION WEEK EDITORIAL OF MARCH 17

The following letter from Mr. Horne, Administrator of Civil Aeronautics, is quoted for the information of all Region Six personnel:

"As a matter of probable interest to you and many members of your staff, I am transmitting the text of a telegram I have sent to the Editor of Aviation Week Magazine:

'I HAVE HAD A THOROUGH INVESTIGATION MADE BY A COMMITTEE HEADED BY MY DEPUTY ADMINISTRATOR OF THE CHARGES OF SMUGGLING BY CAA AGENTS AND OTHER CHARGES MADE IN THE NEW YORK JOURNAL AMERICAN AND REPEATED IN YOUR MAGAZINE. EVIDENCE ON HAND PROVES THESE CHARGES ARE ERRONEOUS. CAA ALWAYS HAS CONDUCTED A CLEAN OPERATION, AND I INTEND TO KEEP IT THAT WAY. ANY CAA AGENT WHO ENGAGES IN IMPROPER ACTIVITIES WILL BE DISCHARGED BUT I WILL STAND BEHIND ANY OF OUR PEOPLE WHO ARE FALSELY ACCUSED. I REGRET THAT YOU DID NOT SEE FIT TO SEEK THE FACTS IN THIS MATTER FROM THE CAA. WE ARE ALWAYS READY TO COOPERATE IN PROVIDING INFORMATION."

"Inasmuch as the Editor of this publication has not responded to our previous attempts to communicate with him about his recent editorials, I am taking this means of making sure that at least our own people are aware of the CAA action in the matter. Other appropriate steps have been, and will be, taken to counteract the effects of these one-sided editorials."

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CAPITAL GLEANINGS

Congress - Economy-minded: The economy drive is on again -- except that this drive is full grown and more determined than those of recent years. For example, the House has voted a murderous personnel reduction for many of the so-called Independent Agencies - up to 40 per cent. Cuts of more than $10,000,000 in the budget request of the National Advisory Committee for Aeronautics for fiscal year 1953 was made by the House Appropriations subcommittee. The subcommittee, headed by Rep. Albert Thomas (D, Texas) also refused every request for funds to hire more workers, directed

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BE SURE AND READ "SUPERVISORS' NOTEBOOK" ATTACHED TO THIS ISSUE OF REGION SIX NEWS.

NACA and other independent agencies to stop carrying over workers annual leave time from one year to the next and ordered a 1/3 cut across the board in travel, communications and printing expenses.

"Leave" or "From One Crisis to Another": Your annual leave privileges are again in danger. The House has taken up the old repealed use-it-or-lose-it leave rider, dusted it off and voted it back. This measure may be interpreted to mean that all accumulated leave (not just that accumulated in calendar year 1951) which is not used by June 30, 1952 will be forfeited!

The sponsor of the Rider, Rep. Albert Thomas (D., Texas) is slightly dismayed by the interpretation being applied insisting that he did not intend to touch upon leave accumulated by employees during the war years. Nevertheless, the House revived the measure and if the Senate votes with the House the issue will go to the Comptroller General for decision whether (1) the new legislation means you would forfeit ALL accumulated leave as of next June 30, or, (2) you will have to forfeit only calendar year 1951 leave unused as of next June 30.

A committee from the Post Office and Civil Service Commission is girding for a bitter last ditch struggle against adoption of such a measure.

Retirement: The scrap on liberalization of the Civil Service Retirement System goes on. An important new compromise is brewing. Under it, annuity increases would be temporary -- for one year only -- while Congress studies the possibility of a permanent increase. The annuity hikes would go only to those already retired. Average hike would be about $250.

A new rule permits agencies to set up petty cash funds and to use it to make purchases of less than $50.00 ....Defense Mobilizer Wilson is setting up a machine tool commission to tackle the problem of machine tool shortages and conflicting demands for the limited supply.

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DIVISION ACTIVITY REPORTS

Airports:

Representatives of the Airports Division attended the Fifth Annual Conference of the Airport Operators Council at the Hollywood Roosevelt Hotel on March 20-22, inclusive. A number of interesting papers were presented dealing with matters such as airport design as affected by the future of jet transport, relation between airports and landing aids and other electronic facilities, noise and zoning problems, military utilization of civil airports and other matters of current interest to the industry. Copies of many of the papers and conclusions reached by the AOC will be published at a later date.

Mr. Frank J. Rhody, Jr., Deputy Chief, Airport Engineering Division, Washington Office of Airports, visited this Region during the period of February 28 through March 5 for the purpose of discussing procedures to be followed by the Airports Division in securing critical materials for civil airport construction. The Chief, Airport Engineering Branch, accompanied Mr. Rhody to San Francisco and Salt Lake City. While at Salt Lake City, Mr. Rhody substituted for Mr. Phillips Moore, Director of the Washington Office of Airports in delivering a paper, "Taxi-way Configuration to Expedite Aircraft Movement" at the 13th Annual Highway Engineering Conference as sponsored by the University of Utah. (Continued on next page)

On March 7, the District Airport Engineer, SOCAL gave a talk before the City and County Engineers Association in Los Angeles entitled "The Federal Airport Program and its Effect on the Community." This talk covered briefly the importance of the airport in the aviation picture, the need for proper airport planning and coordination thereof, the development of the National Airport Plan and Federal Aid Airport Program, and related subjects.

Final inspections of the administration buildings constructed at Lindbergh Field and Paso Robles were conducted during the month. The work was found to be satisfactorily. completed and the buildings are now being occupied.

Early this year, the United States Geological Survey started a unique and extensive mapping program in Southeastern Utah. This survey is being conducted by helicopters transporting survey parties to locations that are practically inaccessible to any other means of transportation. Three helicopters are presently being used, and their bases of operations are moved from time to time. Several airports in the area have been utilized in connection with the operation. The survey party's base of operation is equipped with mobile housing and radio equipment for communicating with helicopters and other ground stations. Weather forecasts required for this work are being provided by the Salt Lake forecasting center and relayed through CAA's Hanksville communication station.

Business Administration Division:

Approval was requested from Washington to transfer an excess building and equipment to the Weather Bureau at Salt Lake City, Utah.

The second section of the EANF inventory, covering power transformers, was forwarded to the Facilities Division. The first section, covering cable, was forwarded on January 31, 1952.

Aviation Safety:

Mr. Fabio Bedoya of Colombia is making an observational study of air cargo operations at the headquarters offices of Slick Airways and The Flying Tiger Line, Burbank. Other training assignments with scheduled air carriers are to be arranged in the field of air line ground operations and related matters for the months of April and May.

A special ten-day inspection of Pacific Southwest Airlines, a Part 45 operator, has been completed. Recommendations made by the inspecting team are being implemented.

A recapitulation of VOR en route instrument altitudes recommended to date for Region Six Victor Airway Program has been forwarded to Washington.

Agent Virgil W. Holden participated in a discussion of Lindbergh Field, San Diego, traffic patterns in company with members of the Airways Operations Division and the Planning and Evaluation Division. The Navy and San Diego city authorities also participated.

United Airlines has equipped all its DC-6 aircraft with one omni receiver and fifteen aircraft have dual installations. Nine DC-3's and one C-54 have dual omni equipment installed. All of United's Collins Model 51R-1 receivers are being traded to the factory for 51R-3 models. (Continued on next page)

An investigation into the interference to the ILS reception on Channel Z (110.3 mc) from FM Station KFOX (102.3 mc) at Long Beach, California, revealed the discrepancy to be caused by an open antenna coil connection. The repairing of this connection necessitated the realignment of the antenna, mixer and final harmonic generator coils, which eliminated the interference.

Southwest Airways has remoted the air source to the nacelles and installed filters on the air supply to the gyro instruments on its Douglas DC-3 aircraft. This has proven successful, particularly in eliminating tobacco tar in the instruments.

Personnel of the Airframe Engineering Section visited Seattle, primarily for the purpose of participating in the renegotiations of the Boeing 377 structural overhaul time limitations program. While in Region Seven, Engineer Lippis assisted that Region in the evaluation of wing cracks appearing on the Boeing 377. In addition, he visited Longview, Washington, in connection with the certification of the Aerocar, the "flying automobile"; the International District Office in San Francisco to assist them with Boeing 377 problems; and the Oakland District Office to assist them with a Lockheed 18-07 conversion.

Accelerated service tests on the No. 1 production airplane of the Convair Model 340 started on March 12. Division personnel participated to observe the functioning of the various components and systems. Any unsatisfactory items which developed during these tests are being corrected prior to type certification. Practically all the technical data and tests have been completed and a tentative aircraft specification has been written. The final Type Certification Board meeting was held at San Diego on March 24 and 25, with Messrs. Vollmecke and Borges from Washington, Agent Stophlet from Denver, Agent Ward from San Francisco and other Region Six personnel participating. It is expected that a recommendation for issuance of Type Certificate No. 6A6 will be made at this meeting.

There is a move by various airlines operating Douglas DC-6 aircraft to standardize on alternate CB-16/6895A engine-propeller combination. A number of Manual revisions have already been approved incorporating this alternate engine-propeller combination.

Representatives of the Powerplant Engineering Section participated in the investigation and evaluation of the various propeller reversal systems, both mechanical and electrical at the offices of the aircraft manufacturers in this Region. Messrs. Posner, Fagan and Miller of CAA, Washington, Mr. Dobi, representing CAB, Washington, representatives of Hamilton Standard, Curtiss-Wright, Airline Pilots' Association and the Air Transport Association participated in these investigations.

Our General Operations Section reports that during the week of March 10, every District Office within the Sixth Region made a spot check for Airman Medical Certificates and Airman Identification Cards in the personal possession of all airmen now exercising the privileges of their certificates for the purpose of determining compliance with Civil Air Regulations. All figures are not available at this time, but a preliminary check indicates that 2% of those checked were in violation, principally because of failure to obtain or have in their possession identification cards. We believe this figure is lower than expected, probably due to the fact that all District Offices in the Sixth Region had given wide publicity to the project at the various airports visited prior to the recent drive to check for compliance. (Continued on next page)

Airways Operations Division:

The Paso Robles Airway Communications Station was relocated from Sherwood Field to Paso Robles-San Luis Obispo County Airport on March 20, 1952.

The Facility Chiefs' conference was held at the Hollywood Roosevelt Hotel the week beginning March 10. (See pages 7 and 8 of this issue)

Arrangements have been made for inauguration of approach control service at Tucson, Arizona, effective May 1, 1952.

Facilities Division:

VHF Ranges: -

Blythe, California VOR Improvement - Installation is underway and should be completed before the end of the month.

Camarillo (Pt. Mugu), California - Grading completed of new test site; new tests to be completed by April 1st.

Ft. Jones, California - Completion of this facility is still being delayed because of weather conditions.

Gila Bend, Arizona VOR Improvement - Work has been completed at this site; however, results from flight check have been unsatisfactory and it has been impossible to recommission the facility. Additional work will be required to obtain a satisfactory range. Site seems to be the cause of the difficulty. Survey of proposed grading underway.

Los Angeles, California relocation/conversion has been delayed pending City action on other property which may give a better site.

Needles, California - Power and control lines have been completed and it is anticipated that this facility will be flight checked and commissioned by the end of the month. This will complete VOR coverage on Green 4.

Palmdale, California - Start of the construction contract has been set for April following receipt of reply from Air Force concurring in site.

Phoenix, Arizona - Tests of alternate site at Phoenix showed it to be unsatisfactory. Further negotiations are under way with owner of original location.

Pt. Reyes, California - Construction is still under Stop Order due to impassable road resulting from weather conditions.

Prescott, Arizona VOR Improvement - Installation crew will start work before the end of the month.

Salinas, California conversion is being delayed until approval is received from Washington Subcommittee, which has deferred the case.

Yuma, Arizona VOR Improvement - Installation work at this facility has been delayed until final commissioning of Gila Bend to avoid shutdown of an adjacent facility.

Ukiah, California VHF Remote Receiver and Transmitter - Construction contract is still under Stop Order due to unfavorable weather conditions.

Instrument Landing Systems:

Burbank, California - Temporary building has been set up to make test of TUS glide path when equipment arrives.

Oakland, California - Modernization of the localizer will be completed before the end of the month. Glide Path equipment has not been received and will require return of the installation crew at a later date.

Ontario, California - TUS Glide Path was commissioned March 13th, thus completing all units of the facility.

San Francisco, California - It is anticipated that modernization of the localizer will be started before the end of the month. Glide path equipment has not been delivered.

Radar:

Burbank, California - Construction work on tower and buildings for this facility is expected to be completed by the end of the month.

General:

Los Angeles, California Tower - Installation of departure radar channel is in progress although we still lack some of the equipment.

Los Angeles, California Center - VHF/Air Ground TUQ is being installed at Saddle Peak. Implementation of 132.3 Mc is in progress.

Paso Robles, California INSAC - Relocation will be completed before the end of the month.

Burbank, California Central Power Plant - Installation is expected to be completed March 28.

Long Beach, California Central Power Plant - Work is in progress and it is expected that it will be completed about April 15.

Los Angeles, California Central Power Plant - Installation of 37.5 KVA power plant is expected to be completed March 28.

Salt Lake City, Utah Power Plant and Remote Transmitter Installation - Contract is under Stop Order due to unfavorable weather conditions. It is expected that this work will be resumed early in April.

Murrietta, California "H" and Fan Marker still being delayed pending delivery of equipment by the Military. The time for acceptance of contract has expired and the contractor has requested his release.

Completed plans for INSAC relocation to Marysville which should be started May 15 to June 15.

Issued Invitation for Bids for new wells at Hanksville and Bryce Canyon and for extension and improvement of Bryce Canyon water system.

Completed negotiations with Humboldt County and Power Company to combine our power service at Arcata Airport and work started on rewiring to accomplish changeover.

Maintenance Reports:

Vaughn M. Clayton was selected to fill the vacancy of Chief, Facilities Maintenance Branch and assumed his duties on March 3d.

During the past month, the majority of Maintenance activities has been repairing damage caused by the extreme winter conditions in Northern California, Nevada and Utah.

Concurrently with these activities, a conference of all Airways Maintenance District Supervisors and all Electronics Maintenance District Supervisors was held in the Regional Office. Several very interesting discussions with the group were conducted by Messrs. Marriott, Read, Plotkin, Orville, Grosh and Horning. The meeting was extremely beneficial to all concerned and was the first in a series of such meetings which will be held with the Maintenance Branch Supervisors.

QUESTION BOX ?

Q. May provision be made by regulation to pro-rate accrual of leave for a period of less than two weeks?

A. Leave shall not be earned for periods of less than a full biweekly pay period. Employees entering or leaving the Federal Service during a biweekly pay period will receive no leave for the time worked during such incomplete biweekly pay period.

Q. If I have worked for the Federal Government for ten years, am married with two minor children and have a five year average salary of $4200, what benefits under the Retirement Act accrue to my wife and children in the event of my death? (Not in the line of duty.)

A. A widow of an employee of the Federal Government with more than five years of civilian service is entitled at the time of his death to one-half of the husband's annuity; each child is entitled (a) to one-fourth of the father's annuity, (b) $900 is divided by the number of surviving children, or (c) $360, whichever is the lesser.

In the above example, the employee's annuity would be $670 per annum. The widow would receive $\frac{1}{2}$ of this amount, or $335. Each child would receive $\frac{1}{4}$ of this amount, or $167.50.

Q. A transmitter and receiver are on hand awaiting installation in connection with the military UHF program. Should the chests containing spare parts be forwarded to the warehouse immediately or retained until the installation has been made?

A. The chests should be retained until the equipment has been placed into operation. All of the chests should then be shipped to the warehouse.

Q. If an employee is reduced in grade, due to abolishment of a position, why should he or she not automatically be entitled to restoration to the former grade in the first available vacancy in the grade from which demoted provided he or she is qualified for the position?

A. A person who accepts reassignment or change to lower grade as a result of abolishment of a position has no prior right to his former position. Also, even though he held the position at one time he may not be the best qualified individual for the position. For this reason, the CAA has established the policy of having employees compete for promotion. Normally, the Division Chief making the selection gives "preferential" treatment to those individuals who were involuntarily demoted, however, this is discretionary.

RENO, NEVADA:

ASDO: The most severe winter experienced by Western Nevada and Northeastern California in the past sixty years has effectively curtailed normal flying operations in the Reno district for the past several months. Many of the outlying airports in this area have been closed due to heavy snow since the first of December. In mid January, during the height of the heaviest snowfall received in the area, some of the airports were buried under snow ranging from four to ten feet in depth. Mid March finds some of the fields still closed and the hopes of resuming normal operations manifested by the operators in the past two weeks buried under additional feet of fresh snow.

Limited operations have been conducted in some of the affected area with ski equipped aircraft. These conditions, adverse to what we are prone to consider normal operations for the type of aircraft normally utilized by the small operator and private pilot, have provided the opportunity for again demonstrating the humanitarian and utility values not normally associated with the average airplane.

With major highways over the mountains blocked for four weeks straight, and many of the secondary highways blocked for a longer period of time, operators in the immediate vicinity of Reno, in cooperation with the Sheriff's Aero Squadron and the Civil Air Patrol, flew many hours on emergency missions. Regular patrols were flown by these pilots over the snow covered areas, looking for signs of people and livestock in distress. Deputy Sheriff Lee Hepfler was directly responsible for the saving of the lives of several persons ill and without food or medicine on an isolated ranch some thirty miles North of Reno. Signals used by people in the isolated areas, not familiar with the distress signals established by the CAA, consist simply of a white flag if all is well and a red flag if help is needed. In the case of the people assisted by Mr. Hepfler; upon noting the red flag and determining the name of the rancher, Mr. Hepfler contacted the Medical Association for the name of the possible doctor who had been treating the family. From him, he ascertained the probable nature of the ailments and delivered by air medicine prescribed by the physician, based upon his past experience with the family. Some days later, when snow weasels were able to penetrate to the ranch, it was found that the supplies delivered by Mr. Hepfler had no doubt saved the lives of some of the family. In addition to medical supplies, it was estimated that some five tons of food was delivered to ranchers in isolated areas. In addition to patrol and rescue work, all suitable aircraft were pressed into service hauling feed for various types of livestock. One operator alone flew over sixty hours in this "food lift". (Continued on next page)

The unusually heavy snowfall paved the way for an agricultural operation normally not conducted in this area. In 1951, several thousand acres of grass land Northeast of Reno were burned. It was decided by officials having charge of this range area to experiment with a type of grass not usually planted in such areas in the state. It was further felt that for the seeding to be effective, it should be done while the area was under an adequate cover of snow. One of the local operators equipped his Piper seeder with skis and was successful in sowing some 4,000 acres before the snow in this area melted to the point where it was felt that seeding operations should cease.

Characteristics of the average commercial operation in this district are at present undergoing a change. This trend started several months ago and it appears will continue during the next year. With the practical cessation of the G. I. flight training program, the operators in the district are devoting more thought and effort towards the development of the agricultural and industrial potential of their equipment. During the past years, the average operation in the district was devoted primarily to student instruction and a small amount of charter work, with the operator depending on Government contracts for the major portion of his income. At the present time, some student instruction is still being done; however, this phase of the activity is becoming less important to the operator and occupies a relatively minor position in his planning and effort expended in building up his general operation. This transition period will be difficult for operators in this district; however, we believe when industrial potentials of the aircraft are further developed in this area the operator will be on a firmer financial foundation than he has been in the past.

SEMT: January proved to be the worst for travel across Donner Pass in the past forty years. All facilities at Donner Summit were placed on the Reno sector just prior to the beginning of severe weather. This necessitated placing one Technician in residence at the Summit since the highway was closed and travel to and from the station was impossible. This man is still resident there.

To further complicate maintenance matters at Reno, the road to the new VOR site atop the 59 hundred feet ridge east of Sparks was covered with eight foot drifts for six weeks, making it necessary to climb the last fifteen hundred feet on foot. The terrain is such that snow shoes could not be used, making climbing very difficult and hazardous.

Our biggest worry now is the definite flood possibilities, should there be a wet spring. All possible planning has been made by all concerned to prevent loss of equipment in flood conditions.

OGDEN, UTAH:

SEMT: Flash! Watch this space! For the latest in design and smartness, see our INSAC in a tower structure. The wheels are beginning to turn and the mill is starting to grind. What will be the result? Our report will appear in an early edition. Up to the present time, it has been conferences, planning, checking and rechecking, suggestions and counter-suggestions. We think it will work (we know it will, it's up to us to make it work) and we're looking forward to something to be proud of. (Continued on next page)

Still flying to Promontory (weather permitting). Last couple of months, the field was only available once so we've had to go by train, but spring will arrive. The equipment is in pretty good shape and getting better all the time.

Looking forward to a new CMDS and hoping he will be as nice to work for as the last one. Missing the AMTS whose face got to be so familiar. Our best wishes to both Thornburg and Kurth on their new assignments.

SAN DIEGO, CALIFORNIA:

SEMT : The Omni-Directional Range building has been modernized in that the old tower was removed, counterpoise is now used as the roof and the plastic antenna shelter installed, as well as the DME pedestal. The Air Terminal building at San Diego has been rennovated, and modernized to such an extent that the old building would not be recognized. The INSAC and Maintenance quarters have been enlarged to the extent where there is now ample space for equipment and future expansion. The console has been installed, as well as the UHF Military equipment in the tower. Several contacts have been made with aircraft over Pomona with excellent readability both ways.

With the decommissioning of Oceanside, Sector One has the maintenance of the Oceanside Fan Marker and Homing facility, as well as Julian HW. Julian is located on top of Vulcan Mountain which is over six thousand feet high and this winter, Southern California has had more than normal rainfall; this rain, in turn, all turning to snow and ice above the three thousand foot level. The Julian Facility has really caught it as far as the antenna and power lines are concerned; emergency trips have been made when a caterpillar was the only machine that could negotiate the mountain through three to four feet of snow, visibility zero and winds up to eighty miles per hour.

INSAC: Coincident with the completion of the installation of the console control equipment and the completion of the remodeling of the Airline Terminal building at Lindbergh Field, San Diego INSAC could also celebrate the completion of twenty-one years of operation.

San Diego as SQ started operation as a teletype station February 1, 1931. Through the years we have witnessed and have been a part of the advancement of aviation. We have seen our own station grow and our own organization develop from the beginning to the great organization it is at the present time. We have also seen the airlines grow from small beginnings to the international airlines they are today. The Ford tri-motor ships were marvels when we first saw them.

We have witnessed the establishment and construction of the Consolidated, Ryan and Solor aircraft factories around Lindbergh Field. The first B-24 was built here and we saw its maiden flight. The XC-199 was built and made its first flight from Lindbergh Field.

Incidentally, WOXOF, Inc., has sold good ol' Cessna 271 and are now the proud owners of a Luscombe Sedan (LSCB 74B). (Continued on next page)

PALMDALE, CALIFORNIA:

TOWER: The commissioning of the Palmdale Tower, with the entire personnel of the now extinct Ogden Tower, brought smiles and comments relative to the move to Sunny Southern California. However, the snow at Palmdale is just as cold and wet as it was in Utah, but we are looking forward to many beautiful days of desert sunshine. Lockheed has completed the installation of the equipment and turned the maintenance over to the MTIC. The equipment works satisfactorily. However, the tower layout and equipment is different and not exactly a CAA standard layout.

We have found it quite gratifying in that the greater part of our traffic consists of "powered planes" instead of a "powered glider" every other day. We have been controlling planes in categories that we only had occasion to read about in the past.

Another startling revelation that we encountered here was the fact that, although Palmdale is only about one-twentieth the size of our former habitat, all the natives are well aware of the location of the airport, and the identity of the CAA. The airport is not identified as the place where the Sheriff's Posse drills its horses nor the wide open space to the west of the railroad tracks. There being no railroad tracks or horses on our former airport, it was of no interest to the natives.

Palmdale Tower is the proud possessor of a new type of wind sock, which we believe to be the first of its kind in the Region. This does not mean to say that we ever have any wind, but the "sock" consists of an eight foot length of "logging chain" attached to the tower, for the guidance of itinerant pilots. When the chain assumes a horizontal position, the inference is that the "breeze" is a little bit too strong for the flight of light planes.

SEMT: The biggest thing to happen on this sector in the past year was the move from the old "Airway Keeper" watchhouse to the new quarters in the Administration Building. Installation Supervisor Paul Allee and crew did a very commendable job, both in preparation and in making the actual changeover with the least possible disruption of services. After the crowded working conditions of past years, it was indeed a pleasure to have plenty of elbow room to work on equipment, not to mention having a separate office in which to take care of the administrative duties. All in all, we are quite proud of our present quarters. Oh, yes, we can see where improvements could have been made, but we don't expect Utopia this side of Heaven.

The biggest question in the minds of Palmdale CAA personnel right now is "What effect will acquisition of the Los Angeles County Palmdale Airport by the Air Force have on the CAA facilities at Palmdale"? We have hopes of staying where we are for a good long while, but one never knows. The contract for the Palmdale VOR construction was let, and construction would undoubtedly be in progress now, except for the uncertainty caused by the Air Force move. Nothing for us to do but sit back and see what happens. (Continued on next page)

Mt. Liebre VOR, which has been operating on a test basis for three years, was finally shut down in October, and officially written off as a noble experiment a couple of months later. Our GS-7 EMT, Bob Sorenson, who was scheduled to be transferred to Fresno, hated to leave Palmdale so badly that he managed to get himself on the Lockheed payroll right here on the airport. We hated to lose him. When it was decided to commission the Tower at Palmdale, the sector complement was expanded again and Stan Styles transferred down from OFACS.

INSAC: Pilot ratings held by station personnel are on the increase, with the following ratings being held at this writing:

D. C. Benson - Commercial Instructor
J. H. Cossey - Commercial
A. I. Carmona-Private
R. B. Hollingsworth - private

Benson is working on an instrument rating, Cossey is working on Flight Instructor and Carmona and Hollingsworth are nearing Commercial. C. I. Cornelius was a First Pilot with the Air Force and presently Captain in the Air Force Reserves.

The Communications Station is easy to locate now that we have all of our new signs up. However, they were almost too good a few days ago when a C-124 with one engine out was trying to land at PMD. During his descent, radiation fog formed on the field and the aircraft had to make a pull-up at the last minute and his approach being a little off, he crossed the INSAC with a very few feet to spare. The Tower personnel saw him coming towards the Tower and thought of bailing out but there wasn't time, so they told the aircraft to veer off (hoping the pilot would hear) and thereby averted a possible accident. The pilot was handicapped with an ice-covered windshield which greatly restricted his visibility.

The Air Force has purchased the Palmdale Airport for a jet production and test center. However, they have agreed to allow civilian aircraft to use the field until May, 1953, and possibly longer. It will be appreciated if this information is passed along to airport operators as the word seems to have gotten out that the field is closed to all but military aircraft. This is an important airport as an alternate during bad weather and most pilots will be glad to know they can still land here anytime they desire.

The Volitan Aero Service has recently obtained a contract to overhaul a sizeable number of T-6's for the Union of South Africa. Volitan employees number about seventy people working two shifts.

Gilfillan has an experimental GCA unit located on the airport and is conducting daily tests with Air Force aircraft concerning new radar developments.