FAA HORIZONS

DECEMBER 1964

OFFICIAL EMPLOYEE PUBLICATION OF THE FEDERAL AVIATION AGENCY

EDITORIAL:

The H-U-M-A-N Factor

W. Lloyd Lane
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There's a complexity in today's business, both Government agency and private industry, that did not exist a few short years ago. This complexity is not necessarily bigness for the sake of bigness; it's simply the case of a great many parts making up the whole.

Moreover, we are overwhelmed by such terms as "systems management," "cost/benefit," and acronyms such as "PERT" (program evaluation review technique). Surveys of operating procedures have become an integral part of the game. These systems, as applied, have much merit and are necessary in this computer world.

The Federal Aviation Agency has had to take this pathway to more efficiency. In most cases, it has trod this pathway sensibly. Sometimes this movement toward ultra-effectiveness tends to overlook the most important element in the proliferation of acronyms and alphabetic catchwords. That element is a five-letter word spelled "h-u-m-a-n." This is the word that is the biggest value in today's world of business.

A recent magazine article tells of a widely known industrial study in maximum output versus maximum satisfaction. An eastern industry conducted an experiment in output, worker harmony, fatigue factors and environment. Six employees were chosen by this firm to assemble an electronics unit consisting of more than 40 minute parts. It involved a typical repetitive machine-age operation. An observer was in the room as counselor and friend of the workers. Working conditions at the beginning of the study were as near ideal as they could be made. The employees were all briefed thoroughly on the purpose of this study.

The results of this experiment were not as the experts had predicted. True enough, benefits given the workers did cause an upward trend in output, but when the benefits were removed the production stayed relatively high. When all benefits and rest periods were removed and working conditions made difficult, the production actually jumped to a new high. This certainly didn't follow the line of predictability.

Why? What was the X factor that kept production up in this particular instance?

Analysis indicated it was that human element. It was an attitude—the way the employees felt about their work and group. By asking their help and cooperation, by making the employee understand a company problem, the employees had gained a sense of importance. They had changed from separate cogs in a machine to that of a congenial group trying to help the company solve a problem. They had found a place where they belonged and they, most of all, could see the purpose and end result.

The point I want to make is this. Whether it's the Federal Aviation Agency, of which we are integral parts, or private business, the objective is two-fold. There is the economic objective of service and production and there is the human objective of satisfaction and pride within the ranks of the employees. If the latter is out of phase, all the management systems and efficiency experts in the world can't make the business operate as a single unit.

The goal of this Agency is "one FAA." All of us desire to belong, to be a part of the family and to have a function we can consider important. Understanding Agency needs, its purpose and objectives is vital. A maximum effort toward prime communication between policy makers, management, and line and staff employees will go far toward assuring that we function as a solid unit—as one FAA. Knowledge confined to a narrow segment doesn't accomplish this.

In this day of computers and semantics we must not forget the word "h-u-m-a-n."

W Lloyd Lane

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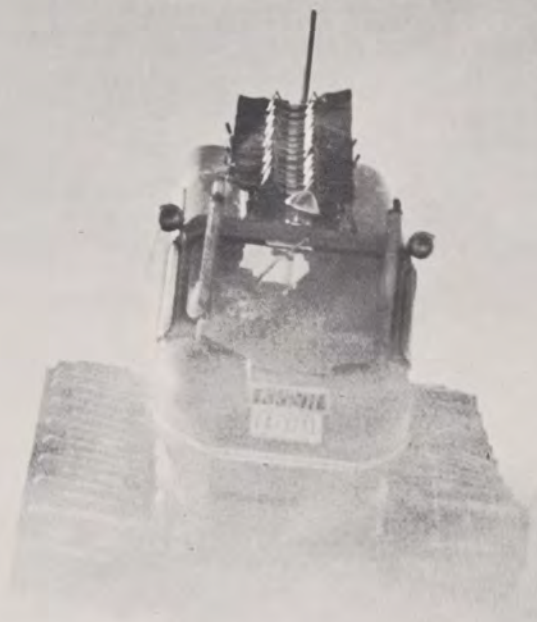
COVER:
Old man winter arrived early at Salem, Ore., this year. Arising from the snow-crowned woods, Laurel Mountain's radar site stands ready to help guide Saint Nicholas across the nation's airways Christmas Eve. *(Photo courtesy Oregon Statesman)*



The picture tells the story. Maintenance technicians get through in Sno-cat and the facilities stay on the air.

Technicians Take On Old Man Winter

Winter blizzards have replaced fall hurricanes as the nemesis of technicians in the field. While the South can breathe a sigh of relief for the passing of a season that brought four tropical storms, many areas now are knee-deep in other weather conditions typical of these frigid incidents which took place during the Winter of '64.

During one of the season's worst blizzards, a lone traveler might have been seen—if any other living creature were abroad in such weather—fighting his way toward the RCAG near the California town of Julian. Freezing snow stung his face, clung to his clothing, piled up on his snowshoes, further impeding progress that was at best slow and painful.

The RCAG—Site Two to the man struggling to reach it—was dead, and it was up to him to get it back on the air. The lone traveler's name was Horst A. Stollberg, 25, electronic technician attached to the Systems Maintenance Sector at Oceanside, Calif. The storm had downed the wires and cut off the electric current that connected this remote-controlled air/ground communications facility with the Los Angeles Center. To make things worse, the standby generators which automatically switch on in such circumstances had also failed. Deprived of cool air after ice clogged the ventilators, they overheated and gave up.

Once Stollberg reached Site Two it was only a matter of minutes to free the intakes, switch on the power and put the facility back in service. Now he could rest. He had shelter, plenty of rations, and when the storm wore itself out he could head back down the mountain.

Then the phone rang. "Site One's out," the supervisor at the Los Angeles Center told Stollberg.

On went the snowshoes and out into the approaching darkness went Stollberg. Site One was only a mile away, but in that rough going it seemed more like a thousand. Once he fell and had a hard time getting up again, but within the hour he was clearing another ventilator. Soon, another RCAG was speeding messages between pilots aloft and controllers on the ground. But by now it was pitch dark and though the food was stored at the other site, the return trip was too risky to attempt. So Stollberg sweated it out, cold and hungry, until the following day.

This is not an unusual incident in the Systems Maintenance Service. Such things happen almost every winter wherever the climate is severe. Last January, to give another example, the big daddy of all the blizzards churned across the Rockies and hit the ARSR on Battle Mountain, just outside the Shoshone Reservation in northern Nevada, with winds of

Snow-covered RCAG building on 6,700' Big Mountain near Whitefish, Mont.

In the high country in winter the only way to travel is by Sno-cat, and even with good visibility it's rugged going over mountain roads.

over 100 miles an hour. Part of the roof was torn away, the microwave antenna was damaged and the radar knocked out, but a crew of technicians worked right through the worst of it and restored the radar to the system.

And not long afterwards another crew of technicians spent seven days at the Boise ARSR atop an 8,300-foot mountain. Snow slides wiped out power lines and winds pounded the site unceasingly, but they kept that radar functioning without interruption.

Many of the communications equipment sites are located in rugged and wild country. To get to them technicians travel by car, boat, airplane, helicopter, jeep, power wagon, Sno-cat and on foot over roads that other people avoid even in good weather. The Western Region alone uses a fleet of 55 tractor-type snow vehicles to get its employees up snow-bound mountain roads to high altitude sites. When the tractors can go no further, the men take to skis and snowshoes with all the skill of a sourdough on an Alaskan trapline.

Traveling the Sno-cat route is anything but pleasant when the driver can hardly see where he's going, according to those in the know. One such vehicle feeling its way along a dimly defined road in a spell of unspeakable weather, plunged into a dry creek bed. The technicians were pretty well shaken but no one was hurt.

Once, at Francis Peak, the radar site near Salt Lake City, everything but the radome was buried under 15 feet of snow and the only way to get inside the building was through the roof, which the technicians proceeded to do. And another time, still in the Western Region, a helicopter was dispatched to Thermopolis, Wyo., to pluck a storm-stranded technician off a mountain top.

Bad weather being the technician's natural enemy, he learns to defeat it. Stories of quiet heroism and unselfish devotion to duty in the wake of hurricanes, typhoons, tidal waves, floods, blizzards and earthquakes are legion in the Systems Maintenance Service.

Now that winter's here again, other yarns will be added to those already spun and though the facts and circumstances may differ, each will have essentially the identical theme: dedicated FAA employees keeping vital facilities functioning in the face of the worst than can happen. ■

Only ventilators reveal location of Mullan Pass, Idaho, VORTAC building. Below: RCAG towers covered with snow and ice compound difficulties for maintenance technicians in below zero weather.

East Side, West Side, All Around the World...

NAFEC IS AN AVIATION CROSSROAD

The Agency's National Aviation Facilities Experimental Center, just outside of Atlantic City, N. J., is listed in no tourist guide book but this omission doesn't matter a bit. Thousands of domestic and foreign visitors home in on this vast installation every year to see and touch the latest developments in our National Aviation System.

They come from every state in the union and from almost every country in the world, many attired in their colorful native garb. Ten-gallon hats tower among proper British bowlers and scuffed cowboy boots toe the mark with highly polished shoes of a more conventional nature. The sight of Africans in their colorful robes conversing with men attired in conservative three-button natural shoulder suits draws scarcely a second glance.

NAFEC is truly an international crossroad of aviation research and development. Operated by Systems Research and Development Service, the installation is the site for far-reaching experiments leading to the development of devices and techniques to make flying safer, less costly and more efficient.

Many of the visitors to NAFEC are members of the Agency's Civil Aviation Assistance Groups who visit the Center on home leave to sample the R&D pipeline to see what is coming out that will better serve the systems of the countries they are assisting. Others are military visitors who are primarily interested in "common system" concepts and equipment and joint-effort projects. Visitors from industry want information on equipment similar to what their firms make; representatives of the press, radio and television come by for feature material and photos.

Professional pilots want the word on systems they may be expected to use in the next year or so; airport managers are interested in everything from new taxiway lights to the latest fire-fighting techniques; members of aerospace education workshops gather information to help them promote aviation careers among their students; technical school classes, especially those in electronics, want to observe a day in the life of an aviation research and development engineer or technician.

On any given day the skies can open up to disgorge a contingent from the Flying Farmers, Flying Physicians, Flying Parsons, Flying Funeral Directors and Aero Clubs, all in for a briefing and tour.

Projects conducted at the Center for or involving the United Kingdom, France, Belgium, the Netherlands, West Germany, Luxembourg, Italy and Greece also produce their steady share of visitors.

The procession is endless and varied: graduates of courses at the FAA Academy; technicians from foreign countries visiting on the recommendation of CAAG personnel; local groups of civic and service organizations; Parent-Teacher Associations; teachers and their classes—grades one through 12—who simply want to keep abreast of what's going on at NAFEC. ■

NAFEC Manager William F. Harrison with visitors. Top, I. O. Dafe, Nigerian Airways. Bottom, Harrison chats with Werner Kreipe, West German Director of Civil Aviation. Gustav Glunz (left) is Director of Air Navigation and Air Traffic, West Germany. Far right is Hans Giesecke, Chief, Experimentation Division.

Simulated nuclear bomb explosion at Zahn's Airport, Amityville, N. Y., adds realism. Others were "exploded" at Port Columbus, Ohio and Miami, Fla.

Simulated Nuclear Attack Launches

SURVIVAL EAST AND SOUTH - 1964

What civil aviation might do for the nation in the event of a nuclear war was graphically demonstrated by 1,500 pilots flying general aviation aircraft in a 22-state area comprising two FAA regions.

Designated "Survival East and South—1964," the exercise was the initial test of procedures described in FAA's new booklet, *State and Regional Defense Airlift Planning* (SARDA). SARDA, in turn, is part of a comprehensive national program developed by the White House Office of Emergency Planning (OEP) to husband the nation's resources and preserve civil government in the face of national disaster.

The 85,000 general aviation aircraft are recognized as a reserve potential in any emergency requiring the rapid and timely movement of personnel and supplies. Relief and rescue missions could be flown into isolated areas and the disruption of our governmental, industrial and economic systems lessened by use of general aviation aircraft.

This first practical work-out in the survival operations conducted by the Eastern and Southern Regions was given an unexpected touch of realism when hurricane Hilda made an unprogrammed appearance in the middle of SO's area.

The Oct. 3-4 dry run was sponsored by the FAA working with State Aviation Directors. It included units of the Office of Civil Defense, Civil Air Patrol, Air Force Reserve, Weather Bureau, state and civil defense organizations as well as many general aviation groups.

Simulated disaster areas and associated receiving bases were designated in each state with provisions for interstate and interregional missions.

In the Eastern Region, comprising 15 northeast states, at least 6,000 persons took part in the exercise. More than 1,000 aircraft flew 1,400 missions, and some 400 teletype messages from Control Group Headquarters at Kennedy International Airport to the field activities kept everyone involved abreast of developments.

Highlighting the two-day airlift, simulated atomic bombs were detonated at Amityville, L.I., Port Columbus, Ohio, and Miami, Fla. At the CAP's Long Island headquarters, where a 20-bed field hospital from Muir Army Air Field (Pa.) was set up, "casualties" were treated by the Nassau and Suffolk County Civil Defense and Emergency Rescue Units.

In the Southern Region, exercise personnel grew apprehensive as the zero hour approached and hurricane Hilda, packing winds of 150 miles per hour, began churning toward the Gulf Coast. As it turned out, however, test conditions couldn't have been more effectively planned to approximate the "real thing."

Southern Region's Deputy Director, Paul Boatman, was unanimously appointed operational chairman of the multi-agency exercise. Under his direction communications were tested, missions assigned and flight operations monitored, with all concerned closely watching the hurricane's progress. In Mississippi and Alabama where Hilda hit hardest, some exercise missions had to be scrubbed, but they were replaced by actual missions which showed general aviation's ability to handle the real thing. Recovery from this, the fourth hurricane to hit the South in a matter of weeks, was aided to a great degree by general aviation fliers.

Throughout the Southern Region, which includes Puerto Rico, more than 300 aircraft and several thousand individuals participated in the exercise. Approximately 1,000 missions were flown to lift 600 doctors, nurses, medical technicians, casualties, evacuees and specialists. In addition 25,000 pounds of supplies were carried. Included were whole blood, plasma, medical supplies, serum, batteries, food and general cargo.

Value of the exercise will become more evident after critiques and studies thoroughly evaluate its operational accomplishments.

FAA has characterized the thousands of general aviation aircraft as one of the country's major economic resources. In terms of combined airlift capability, these 85,000 aircraft can haul 240,000 passengers or 44 million pounds of cargo on a oneway flight, according to the operations plan for Survival East and South—1964. The extent to which they can be organized to do this will be determined by the emphasis placed on detailed planning.

The importance of general aviation's role in the over-all picture and the need for future exercises is made clear in the following excerpt from the foreword of the SARDA booklet:

"In the event of nuclear war, with the isolation of areas and the disruption of our national governmental, industrial and economic system a clear likelihood, we could not hope to succeed nationally if we did not succeed locally. Communities need advance guidance and the benefit of the mature judgment of thousands of local leaders who have, *pre-attack*, soberly studied the problems of managing resources. If they are not so prepared, the sum of local injuries to our recovery potential could be fatal to any real recovery of our national strength. Too long this gap in our national emergency planning has been allowed to exist." ■

Clockwise, from upper left, Civil Defense and Suffolk County rescue equipment waits for "disaster" victims to be brought in to Civil Air Patrol Long Island Group headquarters. • Briefing at FAA's Eastern Region headquarters by Chris Walk, Task Force Number II chairman. • Paul H. Boatman, Southern Region's Deputy Director discusses various phases of the exercise with units participating throughout the Southern Region. • Col. Ed. Lyons, CAP Northeast Region commander keeps abreast of situation by using walkie-talkie to inform, from left, Suffolk County (N.Y.) Civil Defense Director Ed Smith, FAA's EA Director Oscar Bakke and Nassau County CD Director General Joseph A. Bulger. • Temporary control tower at Jackson, Tenn. • Air Force C-97's back up general aviation aircraft whose crews await mission assignments. • CAP medical group of the Andrews Composite Squadron, National Capitol Wing in Washington, D.C., takes care of a "casualty."

INNOVATION AT HONOLULU

Something new has been added at Honolulu International Airport. It's not the grass skirts and leis which make the arrival at Honolulu pleasant for the airline passengers. These have been in use for years. What is new is the fact that the VFR pilot gets—if he wants it—VFR radar terminal service.

Approaches to Honolulu have never been simple in either IFR or VFR weather. In fact, IFR approaches have offered some advantages over VFR because radar vectors made overwater navigation much simpler. Moreover, it gave a pilot that comfortable feeling of "belonging" in the maze of traffic which constantly surrounds Honolulu International. Now, thanks to four new 16-inch radar scopes, this same service is available during VFR conditions.

Included in the Honolulu air traffic complex is Hickam Air Force Base, Barbers Point Naval Air Station, and the Navy's Ford Island auxiliary landing strip. All this makes the Honolulu Tower the tenth busiest in the nation, with 400,000 operations in 1963.

No special airborne equipment is required for the VFR operation other than two-way radio. Participation is strictly voluntary. Pilots report their positions to Honolulu approach control over specified frequencies before entering the terminal area, making the initial contact when they are about 30 miles out. Once radar contact is established, they are vectored through the area or directed to fly headings or routes that will bring them into proper sequence for landing.

Placement of men and equipment helps facilitate the traffic flow at the Honolulu Airport. In the IFR room, flight data positions are located at either end of the console arrangement. Departure and arrival controllers sit opposite one another at two radar positions and a sequence controller and the crew chief at a third. The fourth console is used with a TV camera to provide closed-circuit television between the radar room and the tower cab. (Photo shows new configuration. From left front, clockwise: Robert McCutchen, Roger Frost, Grant Carver, Richard Price, William Weeks, Stuart McClelland and Donald Cohen.)

Terminal radar service results from a recommendation of the Project Beacon report on air traffic control. ■

Controller of the Year, Richard W. Young (center) is congratulated by Arthur Godfrey and Administrator Halaby. Right: Flight Service Specialist of the Year, Ralph L. Reeves, whose three "saves" within 49 minutes won NAATS' annual award.

BRINGING THEM DOWN ALIVE

Movies are made of the stuff that won two Southwest Region employees top honors within their own professions. Both Richard W. Young, ATCA's Controller of the Year, and Ralph L. Reeves, NAATS' Specialist of the Year, were involved in real "cliff hangers."

The Air Traffic Control Association (ATCA) and the National Association of Air Traffic Specialists (NAATS) are, respectively, professional organizations of air traffic controllers and flight service specialists.

Young's case had the better casting. The incident cited in his award involved a cowboy-private pilot, his wife, their young daughter and even their dog. Tension was higher in Reeve's case. Working the inflight airport advisory service position, he was guiding lost aircraft without benefit of radar. His ears served the purpose instead. Texas weather was the villain in both cases.

Young, on duty in the Austin, Tex., RAPCON/Tower, heard a chilling message on the night of Feb. 14, while in contact with the San Antonio ARTCC: "VFR pilot on top of overcast, low on fuel."

The pilot advised that he was flying on top at 8,000, had less than 30 minutes' fuel, was not instrument rated—and was lost. A radar approach through the clouds to Austin Municipal Airport was the only chance because the lost plane didn't have enough gasoline to reach an airport reporting clear weather.

Starting his almost impossible task, Young advised the pilot that he was under radar surveillance and gave him a heading that would bring the plane in line with the ILS final approach course. Several times the movement of the radar target indicated that the plane was in a steep spiral. Young, a World War II pilot instructor, advised the pilot to reduce throttle and fly "hands off" to establish a straight and constant descent. At 1,300 feet, the pilot failed to acknowledge instructions, but Young continued to advise. Finally, after many unnerving minutes, the pilot located the runways and landed with just enough fuel left to taxi to a parking place.

Pilot, wife, daughter and dog were then able to relax, but not Young. Two hours later, he brought down another pilot. In this case the pilot had lost sight of the airport and Young had lost radar and radio contact with the pilot. All traffic in the area had to be vectored away from the airport until the plane was located, radar-vectored to the airport, and talked to a safe landing in the drizzle and fog.

Ralph L. Reeves, FSS specialist at Mineral Wells, Tex., was alert for trouble in the rapidly deteriorating northwest Texas weather. The date was March 10, 1964, the ceiling had dropped to an indefinite 100 feet and visibility was obscured to one-quarter mile with intermittent snow, snow pellets and fog. At 9:54 A.M. the pilot of a Cessna *182* lost in the overcast, opened the episode which resulted in Reeves' winning the NAATS' award and AOPA's "Meritorious Award for Outstanding Service to General Aviation."

At 10:05, Reeves stretched the microphone extension cord through the station door and took a position outside the building to listen and watch for the plane's approach. From the sound of the engine, Reeves directed the plane to the vicinity of the runway, where visual contact was made for the landing at 10:10.

Midway through the first assist, Reeves received a call from the pilot of a Piper *Cherokee*, who needed similar assistance. This one was instructed to hold, using the familiar highway bridge south of the city as a visual reference until the first plane had landed. While he was working the second plane with the same "sight-and-sound" technique, he heard a third call for help—this time from a *Bonanza* with a rough engine. Although Reeves advised the pilot to hold until the *Cherokee* was out of the landing zone, he attempted to climb. Reeves obtained a report on tops from the Ft. Worth Center and advised the *Bonanza* that "it is solid to 13,000 with severe icing from 4,500 upward." The pilot decided to descend.

For a few tense moments, both pilots were groping through the fog and snow before Reeves could get the *Cherokee* onto the airport. Then, turning to the *Bonanza*, he gave the pilot a bearing, but the pilot could not locate either VOR or airport. While instructing him to make another attempt, Reeves heard the faint sound of an engine and taking a bearing on it, guided the pilot to a proper heading and a successful landing at 10:43.

In recognizing Reeves' gruelling 49 minutes of work, neither AOPA nor NAATS had knowledge of the other's award.

Both Young and Reeves had previously been cited with Special Act Awards by SW's Air Traffic Division. ■

Below: Inside the main visual unit the television camera surveys model approach and runway system. Right: The same model system as below but as seen on the flight simulator's screen.

FOR REAL...YET NOT FOR REAL

The tires screech and from somewhere over the pilot's left shoulder someone says, "Good landing!"

There's nothing unusual about a good landing except when the odds are stacked against it. And in this case they were. The weather was inclement, with clouds down to 50 feet of the runway, a crosswind, ice on the wings, and the forward visibility only 600 feet.

Landing under these conditions is frowned upon except in emergencies. But even if the pilot were legal, in these circumstances the chances of making a safe landing, let alone a good one, would be just about nil.

In this particular case, however, legality and safety were not at stake. The approach and landing were made in a flight simulator system at the scientific complex that is NAFEC—the FAA's National Aviation Facilities Experimental Center in Atlantic City, N. J.

Flight simulator systems have come a long way from what many remember as the bellows-puffing models of the early 1940's. Today they perfectly duplicate the performance characteristics of the most modern aircraft. They incorporate visual systems which permit "contact" flying as well as instrument flight. They are used extensively in both civil and military operations to check out pilots in new equipment and keep them proficient in standard and emergency procedures. They provide an extremely practicable method of studying advancing aviation requirements under controlled laboratory conditions.

Weather conditions producing low ceilings and restricted visibility have always hindered flight operations, especially on final approach and landing. Reduced to its simplest terms, the problem is this: If the pilot can't see the ground, he can't land.

As aviation has progressed technologically, the approach and landing situation has improved. Today, safe operating minimums are lower than ever before as new electronic and visual landings aids have been developed, proved and installed. NAFEC is down to the last 100 feet in this battle with the elements. But until an operational all-weather landing system is achieved, efficiency can be improved only by lowering the pilot's decision height. This is the point above the runway at which the pilot must, if he does not see enough of the ground for a safe landing, discontinue his descent and execute missed approach procedures.

NAFEC is conducting extensive research in this area in connection with the P-3/Dalto System.

The primary objective in this type of simulation is to give pilots a realistic look at such approach lighting, runway lighting or runway marking systems as may be proposed to improve visual reference under the ceiling and visibility conditions being studied. The P-3/Dalto does this in a unique and interesting manner.

First, the visual aid systems to be evaluated are installed in scale on model runway belts. Lights, with the exception of the "flashers" used in approach light systems, are small, fluorescent-painted rubber discs. There is no limit to the number of experimental models that can be created and they can be interchanged in the simulator system in a matter of minutes.

The models are inserted one at a time into a visual unit, lighted by ultraviolet lamps and televised by a closed circuit television camera. Both camera and model runway belt are synchronized with the flight simulator through a computer. As the pilot makes his approach, signals from the simulator control the speed at which the model runway moves toward the television camera, as well as the motion and position of the camera itself. If the pilot speeds up, the runway belt speeds up.

If he deviates from the flight path created by the Instrument Landing System (ILS) and corrects after establishing visual contact, the camera moves accordingly—up and down, right or left—always maintaining the position of the airplane relative to the runway.

When the pilot reaches the pre-set decision height—ceilings from 400 feet down to zero and a forward visibility from a half mile to 200 feet can be pre-set with the turn of a knob—the model moves toward the camera at a relative speed with the camera maintaining the position of the flight simulator relative to the runway.

From what he sees before him on the screen he makes his decision—to visually continue his approach or to apply power and execute a missed approach.

When the "aircraft" lands on this projected runway, even the screech of the tires is realistically simulated. Some may think this is carrying things just a little too far, but the "screech" serves a worthwhile purpose. Hearing it on a position recording device helps those conducting the project to determine just where the landing was made on the runway and subsequently to measure pilot performance on each of the systems evaluated.

In this environment, a great variety of visual landing aids under an even greater variety of ceiling and visibility combinations can be given thorough preliminary evaluations, safely and inexpensively.

It's for real, yet not for real, but as long as pilots must have visual reference to the ground to make safe landings, the P-3/Dalto at NAFEC will keep on searching for ways to help them. ■

Above: This is how it looks to the pilot just a few moments before touchdown. In this environment a variety of landing aids under different ceiling and visibility combinations can be safely evaluated.

Above: A wider view of the P-3 flight simulator shows the projection screen in background. Below: Electronics technician Harry M. Halvorsen sets different flight conditions for the flight simulator pilot.

Atlanta's modern terminal is one of the South's many new aerial gateways.

Passengers at Jackson, Miss., Airport reached 212,208 in first year.

OPEN DOOR TO PROGRESS

Key Southern cities have built numerous new, efficient and handsome air terminals in the past few years, not only to accommodate today's passengers but also with an eye toward tomorrow's. The South's new aerial gateways were sparked by the rapid growth of air transportation throughout the Southern Region.

Amid the traditional "Old South" architecture, with its graceful columns and magnolia setting, air terminals of tasteful contemporary design provide a modern contrast.

Progressive city governments throughout the Southern Region realize that civil aviation is tied inseparably to the social, cultural, and economic future of their communities. Their civic leaders are building modern airports to assure continued prosperity in their communities.

Displayed on these pages are a few examples of the many new terminal buildings that have been built in the Southern Region in the past few years.

Every year, through these "front doors" to cities, hundreds of thousands of passengers arrive and depart on business and pleasure. ■

Four-year-old airport at Hickory, N. C.

Gulfport, Miss., terminal in its first year.

Opened in '61, Asheville, N. C., Airport served 119,006 in '64.

In its first year, Memphis Metropolitan Airport served more than a million passengers.

PIONEER SPIRIT CONTINUES TO THRIVE IN SITKA

When Sitka, Alaska, was the fur capital of the world in the early 19th century, it was known as the "Paris of the Pacific." It was also the capital when Alaska was ruled by Imperial Russia.

Located in southeastern Alaska on Baranof Island, one of Sitka's present-day distinction is that it is the site of a flight service station which serves only seaplane operations.

The fact that it can be reached only by boat or airplane hasn't restricted Sitka's growth and development. To the basic industries established in the early 19th century have been added commercial fishing and a wood pulp processing mill for making newsprint. And its remoteness hasn't detracted from its charm as one of the more colorful assignments in FAA's worldwide net.

John R. Andrews is the Area Manager who is responsible for the FSS and the operation of navaids and approach facilities at Biorka Island which serve Sitka. The Petersburg radio which is remoted to Sitka is also supervised by Andrews. The FSS is located on top of a large steel hangar in what used to be a U. S. Navy control tower.

Carl L. Shute, the facility chief, and four air traffic control specialists handle the pilot briefings and flight plans which are usually filed by telephone. They also furnish terminal weather information for aircraft operating at Sitka. Principal user of the Sitka seadrome is Alaska Coastal Ellis Airlines which flies *Grumman Goose* aircraft and passenger-converted PBY *Catalinas* of World War II vintage.

Another link to the outside world is The *Fedair I*, an ocean-going tug. It is assigned to Sitka to provide logistic support to technicians on Biorka Island 14 miles away. These technicians maintain the navigational aids serving Sitka and Amber One, the main airway for aircraft flying north and south.

Life for the nine FAAers and their families assigned to Sitka has its unique side too. They live on Japonski Island in Sitka harbor and must travel by ferry boat any time they want to go to town. It's only a stone's throw and the ferry runs every ten minutes. But it makes it rough for wives when they forget something on their shopping lists and have to go back to town.

Sitka is rapidly becoming a thriving industrial city. Even in its early days, products from its iron and brass foundry, its flour and lumber mills, and its tanneries were traded as far away as Spanish California and the Hawaiian Islands. Sitka remained the capital of Russian America until Alaska was purchased by the United States in 1867. It was the capital of the new American territory until the administration was moved to Juneau in 1906.

Beautiful scenery and historic treasures make living in Sitka a rich experience for FAA families. In the heart of town is St. Michael's Cathedral built by the Russians in 1799. In it are ikons and other religious treasures brought across the Siberian wilderness to the New World. Old Russian houses, graveyards and fortifications are interspersed with the modern homes and buildings which are springing up in this historic city. And, commemorating the bravery and culture of Alaska's Indians, the National Park Service has established a national park in a forested area of 54 acres where stand many of the great totem poles—some towering to 50 feet—carved by the Tlingit Indians.

Sitka will become less remote and more accessible by air if a paved runway is constructed on Japonski Island. FAA and the State of Alaska are presently discussing the possibility of building a 4,000-foot hard surfaced strip under the Federal-aid Airports Program (FAAP). This would permit more types of aircraft to land at Sitka.

While the FSS might lose its unique status if the airstrip materializes, the increased number of flight operations would make it a more important facility than it ever was before.

More visitors would come to Sitka-by-the-Sea to inspect its treasures and relive its historic past. ■

Fedair I (left), an oceangoing tug assigned to Sitka, provides logistic support to EMT's at Biorka Island, 14 miles south of Sitka. Edward W. Littlefield (above), one of the few tug pilots in the Agency, is Fedair I's pilot. John R. Andrews (below left), area manager at Sitka, discusses totem poles with Alverado N. Decker, a guide with the National Park Service. Carl L. Shute (below), facility chief, works the mike to give weather information to pilot making an approach to the Sitka seadrome.

The flight service station at Sitka is located on Japonski Island (below) in the center of the photo. Mt. Edgecumbe looms majestically in the background.

MOUNTAIN MENACE TAMED BY REPORTING SERVICE

"Denver Radio, this is Cessna *234* Bravo over Corona Pass at 12,500 feet in moderate turbulence en route to Grand Junction."

This routine check-in transmission from a private plane high over the Rocky Mountains could save lives.

It is typical of the calls being received by FSS stations in the high mountain areas of Colorado under a program designed to make such flying safer.

The program, known as the Mountain Reporting Service, was devised because of the special hazards presented by Colorado's skyscraping peaks. The region from Denver to Grand Junction, Colo., has most of the state's 54 peaks higher than 14,000 feet. Air turbulence in the area can be violent, especially for single-engine planes without much reserve power. Flat terrain large enough for emergency landing is virtually nonexistent. As a result, the central Colorado mountains have become known as a "graveyard" for planes.

Under the Mountain Reporting Service, a private pilot flying on either of two prescribed routes between Denver and Grand Junction must report to an FAA radio facility every ten minutes. If he is overdue on a report by 15 minutes, the FAA presumes he is in distress and search and rescue facilities are alerted immediately.

The service is voluntary and pilots do not have to be on a regular flight plan to take advantage of it. They can get on the reporting list before leaving the airport or after they are in the air, and can cancel the service at any time by notifying the nearest FAA radio facility.

If his radio goes out, the pilot must land at the nearest airport and telephone one of FAA's facilities.

Robert M. Hacker, chief of the flight service station at Stapleton Field, Denver, reports that the new service is of tremendous assistance to pilots. Since pilots radio their position each ten minutes, the search area is narrowed should they get into trouble.

If a plane flying 120 miles an hour gets into trouble only ten minutes after the pilot talks to an FAA station, searchers will know that the plane will be within a 20-mile radius of the last report.

"Also," Hacker went on, "by means of those ten-minute contacts, our trained personnel can pass along up-to-the-minute weather reports, warn a pilot if we believe he is flying too low for safety, or pass along turbulence reports received by radio from other pilots."

Among the FAA FSS chiefs coordinating the program besides Hacker are Hubert A. Amman, Pueblo; Grant H. Brallier, Eagle; and James F. Campbell, Grand Junction.

Smoke-Eater's Headquarters

This is the Forest Service's new Air Center at Redmons, Ore. It is the aerial nerve center for combating forest fires in the Northwest. Representing the FAA during the dedication ceremonies was Frank A. Allen, chief of the General Aviation Branch, Flight Standards Division.

Inside Job

During a recent simulated nuclear attack at Meadows Field, Bakersfield, Calif., Harold D. Bowers, left, and Henry S. Guichard operated this radiation monitor in their assigned post in an improvised fallout shelter in a utility tunnel of the field's heating and refrigeration plant.

Kansas City Radar Makes First Save Five Hours After It Opens

The radar at Garden City, serving the Kansas City Center, recently got its baptism quickly when the pilot of a single-engine Mooney became lost on top of the overcast.

The radar had been commissioned only five hours when the pilot called Garden City Flight Service Station and asked for help. Garden City contacted the center and radar controller John R. Schrick asked for a cross-check on two VOR's to find out roughly where the plane was. The pilot checked the Garden City and Liberal, Kan., VOR's and Schrick determined that the aircraft was about 20 miles northeast of the FSS. Then Schrick contacted the pilot on his own radio and positively identified the aircraft on radar by asking the pilot to make turns.

Schrick vectored the plane right over Garden City VOR where the clouds were broken and the pilot said he could maintain VFR.

N. D. "PENNY-A-POUND" LIFT

Ninety-five thousand pounds of natives of Bismarck, N. D., with a yen for flying turned out in droves recently for a "Penny-A-Pound" airlift at the Bismarck Municipal Airport. Nearly 20 airplanes took part in the event sponsored by the Bismarck-Mandan Civil Air Patrol and the area Ninety-Nines.

The program set a record for daily operations at the field. There were 1,032 take-offs and landings, 900 of them between 10:00 A.M. and 6:00 P.M.

The operation was all the more unusual because three runways were closed due to construction. Because of the lack of taxiways, airplanes had to taxi down the active runway into take-off position.

Albert M. Bell, chief of the Bismarck CS/T, said cooperation between pilots and controllers contributed to the success of the operation, which was conducted without an incident.

JOLIET FSS HAS PEAK MONTH

Last August was a busy month at the Joliet, Ill., Flight Service Station, near Chicago. Specialists assigned there handled 23,093 "assists"—flight plans, radio contacts, etc.—during the 31 days, an 18 per cent increase over August 1963, when the total reached 19,490.

Station personnel are understandably proud of this record productivity, accomplished with no increase in complement and with half the overtime chalked up the previous year.

SOUTHWEST STARTS NEW INFORMATION PROGRAM

An overwhelmingly popular information program has been developed in the Southwest Region to acquaint both employees and dependents with their Civil Service rights and benefits.

Establishment of the information program grew out of an area coordinator meeting at College Station, Tex., when the local chiefs could not determine survivor and other benefits after questions arose on the subjects. They then asked Melvin N. Asher, personnel management specialist at San Antonio, to visit College Station to explain these benefits.

Asher agreed to meet not only with the employees but also with their wives. He planned a discussion of all employee benefits and grouped his material under four main topics: retirement, life insurance, health benefits and injury compensation. Film transparencies were made for overhead projection.

To round out his program, he prepared an employee benefits estimate—an audience participation "do-it-yourself" handout. With this aid each participant was able to compute his retired pay, life insurance and other benefits.

At the end, the 20 employees and their wives commented that the information was something which had been needed for a long time. Noting the presentation's popularity, Personnel and Training Division prepared similar kits for the personnel management specialists in Albuquerque and New Orleans.

Representatives attending the recent Employee Relations Officer Conference in Washington put their stamp of approval on the presentation.

First Foreigner Presented Agency's Highest Award

An official of Israel's Department of Civil Aviation became the first foreigner to win FAA's Decoration for Exceptional Service—the Agency's highest award. Bar-Atid (Bill) Arad received the gold medal from Deputy Administrator Lieut. Gen. Harold W. Grant, USAF, upon completion of a 20-month tour with Systems Research and Development Service.

Arad, a pilot and noted mathematician, was assigned to the System Design Team where his original work led to basic advances in air traffic control. One of his outstanding accomplishments was development of a new theory of control load and sector design for air route traffic control centers which has been adopted for evaluation.

The citation accompanying the decoration describes Arad's service to the U. S. Government, given without compensation, and praises his resourcefulness, professional skill and initiative.

"The results of his work," the citation states, "define a path for the certain improvement in the safe and efficient flow of air traffic, both nationally and internationally."

Treasury Department Award Goes to Eastern Region

"The wholehearted participation by FAA employees in the U. S. Savings Bond program is an example of the patriotic service individual Americans can render to help keep America secure and free."

This praise came from Arthur Miller, Region Administrator of the General Services Administration and New York State Coordinator of the Interdepartmental Savings Bond Committee. Miller presented a special citation to the Eastern Region for increasing employee enrollment in the payroll savings plan for the regular purchase of Series "E" bonds.

A total of 4,480 EA employees are now buying bonds regularly as a result of the Agency's recent successful campaign to increase participation in the payroll savings plan.

The citation, signed by Secretary of the Treasury, Douglas Dillon, was presented to EA Director Oscar Bakke by Miller.

EA's Executive Officer Irving Mark and Accounting Division Chief Lester Lord received the Treasury Department's Silver Medallion award for outstanding voluntary service in connection with the Agency's 1964 Savings Bond drive.

Dr. Clayton B. Ethridge Resigns; Headed Medical Advisory Panel

Administrator Halaby bids farewell to Dr. Ethridge.

Clayton B. Ethridge, M.D., Chairman of FAA's Medical Advisory Panel since its creation in 1961, has resigned because of the press of professional duties. The Administrator accepted the resignation with regret and at the Panel's last meeting presented Dr. Ethridge, one of the country's foremost cardiologists, with the FAA Meritorious Service Award.

The citation accompanying the silver medal paid tribute to Dr. Ethridge's many contributions to the Agency and said in part:

"The accomplishments of the Panel under your leadership are lasting tributes to your dedication and the personal sacrifices you have made."

FAA's Medical Advisory Panel was formed in January 1961, to serve as a court of appeal for airmen who were denied medical certificates. It is comprised of 11 independent medical specialists who advise the Administrator whether an exemption can be granted without endangering the public safety.

Since its creation nearly four years ago the panel has handled 731 applications for exemption; 207 were approved, 474 denied, and the remainder deferred.

ANNIVERSARY AT STAPLETON

The FAA played an active part in the recent 35th anniversary celebration of Stapleton International Airport, Denver, Colo.

Gerald C. Pettibone, Area Coordinator, represented the region at a banquet sponsored by the Aero Club of Denver.

The films, *A Traveler Meets Air Traffic Control* and *Flight* were shown at the airport theater and tours were conducted through the flight service station and tower.

YOU TOO CAN BE AN AIR TRAFFIC CONTROLLER

One of the grandfathers of all the training courses offered by the Air Traffic Training Division at the FAA Academy is the "Short Course", a course designed to provide extensive indoctrination in the air traffic control system, both present and future.

It is given to FAA employees and others who require a general understanding of the air traffic system. Duration is two weeks, but the course material spans the era from the Wright brothers to the National Aviation System anticipated in the early 1970's. The short course is divided into two categories: Lectures with solicited discussion; laboratory demonstration and participation.

A student is greeted Monday morning by two instructors representing both the terminal and the en route functions of traffic control. You take your place around a large horseshoe-shaped conference table; but before you are really comfortable in your chair, you are asked to tell the class your name and describe your job.

For the first time, you realize that you are not the only one in the room who knows almost nothing about air traffic control. Sitting next to you is a man from the General Counsel's office. Next to him is an auditor. Each man is an expert in his field, but with enough foresight to want to know more about other parts of the aviation picture.

The course begins with an hour long comprehensive introduction to the overall air traffic mission. This lecture sets the stage for a special film starring the cutest little blonde—age seven—you have ever seen to tell the same story, but this time in color, motion and sound. The week moves on, and you are introduced to the nation's airspace, the limiting areas, airports, centers, towers, IFR, VFR, on and on. Actually there is no beginning or end to the story; it constantly changes.

Finally, Monday of the second week arrives and radar lab starts. All morning the instructors are explaining, diagraming and demonstrating about the lab. But until you actually sit down in the controller's chair, grab the mike in your now just slightly moist hand and say—"This is Oklahoma City Approach Control, Radar Contact", do you realize what the picture is all about. Now, you are the controller; you tell the pilot what to do; you are responsible for the safe conduct of the blip of light on your radar scope. In short, you are running the entire air traffic show.

The first hour of radar lab is confusing but as the picture begins to unfold, the aircraft move and you control.

The traffic picture is presented "as is"—all deficiencies admitted, all attributes without fanfare. Finally the day of graduation arrives and you are asked once again to stand but this time to evaluate the course and instructors. Your comments and criticisms are noted and you receive a Certificate of Graduation and a handshake, and go back to your world with new-found knowledge that makes you a better member of the FAA team.

Amateur Radio Operator Gives Hurricane Assist

Earl Harrison of Central Region's Radar/Link Section, proved the effectiveness of the nation's amateur (ham) radio network recently when he made a call to hurricane-stricken Louisiana to check on the relative of a worried co-worker.

Mrs. Margaret Sparks, CE-26, had heard of the damage caused in Kenner, La., by hurricane Hilda and especially by a tornado spawned by the violent storm. Mrs. Sparks was concerned for the safety of her sister, Mrs. E. H. Perdue of Kenner.

Harrison went to his car on the Central Region's office parking lot and tried to contact other ham operators in the New Orleans area on his mobile radio unit. Finally, he contacted a woman operator in Florida who said there were some operators on the air in New Orleans as part of the hurricane network. Harrison could not contact New Orleans but while he was trying, an operator in Pennsylvania broke in and said he was hearing both Harrison and New Orleans. He relayed the message and determined that the Perdue family had ridden out the hurricane and tornado with no mishaps.

Sikorsky's S-61 L/N Helicopter Approved for Instrument Flight

From left, EA Director Oscar Bakke; Sikorsky's Lee Johnson with Fred Milam of L. A. Airways.

After an extensive period of flight testing, Eastern Region approved the Sikorsky S-61L/N helicopter for instrument operations. This is the first transport helicopter certificated by FAA for this purpose.

The letter of approval was presented to Lee Johnson, president of Sikorsky Aircraft Division, United Aircraft Corporation, by Region Director Oscar Bakke.

The certification allows the S-61's to fly under instrument flight rules and will permit substantial improvement to the schedules of domestic helicopter airlines flying the S-61's.

Los Angeles Airways is the first scheduled helicopter air carrier to conduct flights under instrument conditions.

FLOERCHINGER FAST ON D/F

The pilot's MAYDAY call sounded sharp and clear at Western Region's Prescott, Ariz., FSS.

"I'm going down with a broken prop and a dead engine!" the pilot said.

Eugene C. Floerchinger, specialist at the inflight position, immediately engaged the station's direction finder D/F which locked on the aircraft and provided exact bearing.

Floerchinger directed a state highway patrol squad car to the area and station chief William P. McCart took off in a search aircraft using outbound D/F steers provided by the Prescott facility. McCart located the aircraft on the ground and the state highway patrol arrived a few minutes later to give the pilot a lift.

Upon returning to the station, the pilot indicated that because of the vibration it was necessary to mush the aircraft to the ground in a near-stalled attitude and that the engine was hanging on the aircraft by only one bolt after landing.

"RESPECTFUL CHILD" ENJOYS STAY WITH DEANES

Frank S. Deane, budget analyst in the Western Region, and his wife are helping build international good will.

They are one of 14 United States families who played host to 14 Japanese college students during their recent visit to this country.

The Deans' guest was Kyoko Kanazawa, 18-year-old daughter of a surgeon in the seacoast city of Kobe.

Kyoko (which means "respectful child"), was able to give her hosts many fascinating details of life in Japan, Deane reports. The Japanese girl found living standards much higher in America and was amazed at the independence and dating customs of American teenagers.

Deane was included in the program through his Lions Club membership which sponsors visits to 122 different countries and territories outside the Iron Curtain by children of the Lions. Kyoko's father belongs to the Kobe Lions Club.

Fourteen California youngsters visited Japan as part of the program, and one of them stayed with Kyoko's family.

Kyoko's overall reaction to her Los Angeles visit?

"She told us she would like to stay here," Deane said.

Old Time Aircraft Give Ottumwa FSS Big Workout

Operators of the Ottumwa, Iowa, flight service station had a workout recently when the Antique Airplane Association held its 11th annual fly-in at the Ottumwa airport. The station men were kept busy with a flood of radio contacts, extra briefings and message handling.

Acting Station Chief Roger J. Dessert reported 1,100 pilot briefings and 1,400 radio contacts during the weekend affair. A flagman who handled traffic at the airport intersection reported 3,400 take-offs and landings in daylight hours from the time the planes started arriving until they left. Officials estimated there were more than 1,000 planes on the tiny field, including a Ford Tri-Motor and two helicopters. More than 200 airplanes took off in a 30-minute period one afternoon.

Dessert had every available man on the job over the weekend with at least three men on duty between 8:00 A.M. and 6:00 P.M. The station workload was almost twice that of last year's antique fly-in, but the FSS personnel handled it well. Many pilots stopped in to praise the operators for their efficiency.

A special service provided was an auxiliary briefing station, apart from the regular station and adjacent to both the ramp and the antique association headquarters. Dessert set up a special one-man weather facility complete with weather maps and a weather teletype.

In all, over 1,000 members of the 2,700 member organization were on hand. They came in 185 antique airplanes (built before 1935), 25 home-built craft and an estimated 800 assorted modern aircraft.

A busy time was had by all flight service specialists at the Ottumwa, Iowa, station, when 1,000 antique aircraft staged a fly-in at the local airport. Biggest attractions were the 185 oldtimers built before 1935.

First STARLIFTER Now on Duty With Air Force; Many to Follow

Figure by tail section gives some idea of the immense size of the StarLifter. The sleek jet is 45 feet high and has a wing span of over 160 feet.

The first Georgia-built *StarLifter*, Lockheed's giant fan-jet cargo carrier (C-141A), has been turned over to the U. S. Air Force. The occasion was marked by ceremonies at Tinker Air Force Base, Okla.

Delivery of this first of an armada of the giant carriers heralds a new era of American defense. Decribed as the world's fastest airplane with cargo/airdrop, paratroop delivery and field-to-field capabilities, the aircraft is capable of providing immediate response with troops and equipment for the military anywhere.

The *StarLifter* made its first flight on Dec. 17, 1963, at the Marietta, Ga., plant of the Lockheed company.

Four Pratt & Whitney TF-33-P-7 engines, rated at 25,000 pounds thrust each, power the big aircraft, which can fly at 550 miles per hour at an altitude of 40,000 feet, and span the continent in a matter of hours.

The FAA participated in the development of the aircraft since the designing stage. It is the only aircraft ever developed to meet both military specifications and FAA type certification requirements simultaneously.

This particular *StarLifter* is the first of 10 already manufactured out of a total of 132 scheduled for the Military Air Transport Service fleet.

Under-secretary of the Air Force Brockway McMillan accepted this first C-141A from Maj. Gen. C. H. Terhune Jr., Commander of the Aero Systems Division. Secretary McMillan then turned over the aircraft to General Howell Estes, Commander of MATS. Sharing in the ceremonies from the Southern Region were Deputy Director Paul H. Boatman, and Robert C. McKissick and J. B. McLaughlin, supervisors of EMDO-44 and EMDO-41, respectively.

SEVIGNY DESIGNS SYSTEMS MAINTENANCE PLAQUE

Eastern Region has a new incentive awards program for SMD personnel. Named the "Systems Maintenance Award of the Year," it goes to the area office and to the large and small sector offices demonstrating the highest quality of facility maintenance. Major factors rated in determining candidates are: efficient manpower utilization; facility availability and reliability; managerial ingenuity; and administrative effectiveness.

This means of rewarding dedication to service was first brought to the attention of SMD by J. W. Moynihan, district supervisor, Glen Falls, N. Y., at a district supervisor's conference.

With the idea planted, the manner in which the division award would be displayed was the next problem. Rather than select a plaque at random a contest was held to select the one most suitable. As an incentive, headquarters personnel sponsoring the contest "chipped in" their quarters and dollars and bought a $50 savings bond. The person designing the best plaque would receive the bond. Over 50 entries were received from the field with N. J. Sevigny, SMS-107, the winner.

FY 1964 was the first year EA made the awards. The Cleveland area, which has maintenance responsibility for Ohio, Kentucky, West Virginia and portions of New York and Pennsylvania, received the award as the outstanding area. The Washington, D. C., sector, SMS-377, which has maintenance responsibility for the Washington National Airport, received it for being the outstanding large sector. Last but not least, the award for the outstanding small sector was given to Williamsport, Pa., sector, SMS-182. The plaques were presented at the 1964 Cleveland Area Supervisors Conference.

Mr. "Million" Lands in the Spotlight at Fullerton

When John S. Woody, a Buena Park, Calif., student pilot, landed a two-place Cessna at Fullerton Municipal Airport recently, he was surprised to find himself surrounded by newspaper photographers, officials of the airport and FAA tower personnel.

"What's all this?" he asked.

"All this," he learned, was a ceremony marking the 1,000,000th controlled operation conducted by Fullerton Tower since it was commissioned June 1, 1959.

A suitably engraved plaque was presented Woody by Henry L. Layton, the only member present of the original crew that commissioned the tower in 1959. (Layton, incidentally, celebrated 30 years of Government service on Nov. 14, 1964.)

Fullerton currently ranks 21st in the nation in terms of the number of FAA controlled flight operations.

John N. Denend, Fullerton Tower chief, arranged the ceremony.

FAA AT THE FAIR

The huge display pictured occupied a prominent spot in the Science Building at the Maui (Hawaii) County Fair. Animated, with a continuous-run motion picture screen and tape recordings, the display was viewed by some 50,000.

Packaged Control Tower Designed For NAFEC by Eastern's SMS-105

Ex-Navy communication trailer, restored by EA's SMS-105, has two receivers and one transceiver.

Although Atlantic City Airport is equipped with a control tower, Eastern Region's SMS-105 was recently requested by NAFEC to establish a temporary one atop a hotel roof in Atlantic City, N. J., to provide finish line instructions to pilots of the popular "Powder Puff" Derby, as well as to accommodate the official timers of the race.

Recognizing a continuing requirement for such a temporary tower, SMS-105 personnel obtained surplus equipment from NAFEC and the New York Systems Maintenance Area Office. On their own initiative they constructed a temporary mobile air traffic control tower trailer to house the equipment.

The trailer itself was once a Navy communication unit with the original transceiver equipment removed. Two surplus receivers and one transceiver were installed. Also included were a removable antenna, a good supply of crystals, microphones and speakers.

The trailer is hauled by a truck equipped with an engine generator to provide the necessary power for the operation of the unit.

The equipment is shock-mounted to permit complete mobility of the delicate equipment. The men of the sector have plans to improve the unit by installing interior lighting, an amber obstruction light flasher, another transmitter and an ultra-high frequency transceiver as these items become available from surplus.

Since the temporary mobile air traffic control tower has been completed, it has been used to support arrival and departure of the Presidential party on three occasions.

WAKE ISLAND IS HEADING IN A NEW DIRECTION

Pilots approaching Wake Island won't find it quite the same as they used to. No longer will they be able to set up familiar traffic patterns, or even land in the same old direction.

The old approach and landing on Runway Nine is no more. What used to be Runway Nine is now Runway Ten, although the strip has not moved.

If this sounds mysterious, it really isn't. It's not that the Island is spinning around. It's only that the rate of the changing magnetic variation, at present some six-and-one-half degrees east, has caused the runway heading to change from 094 degrees to 095 degrees.

Runways are numbered according to their magnetic heading; hence, a runway with a heading of from 085 to 094 degrees is designated Runway Nine. However, in the case of Wake Island, the change in magnetic variation has caused the runway to head 095 degrees, which now makes the strip Runway Ten.

The rate of magnetic change at Wake is 45 seconds a year. At this pace, chart makers, tower controllers, and pilots will have another problem to face in the future for, unless someone does something about the rate, Runway Ten will have to be changed to Runway Eleven soon—say, in approximately 800 years.

Pilot's eye view of landing approach to Wake Island on what used to be Runway Nine.

"Old Country Way" Adds Variety to Bob Chan's Work

Air traffic control specialist Robert J. Chan, coordinator at the New Orleans ARTCC, is regarded as a triple threat man—he can calculate time information relating to aircraft movement by three methods.

In addition to using a standard airspeed computer and operating the IBM computer, Chan is expert in calculating with an abacus. The latter method, however, is never applied in processing active flight plans, but is used occasionally when creating a "control problem" for training purposes.

Chan is proud of his heritage. His Chinese father operates a successful restaurant in New Orleans and, incidentally, calculates his business profits with the abacus. His Prussian mother is directly related to the Hohenzollern family.

After a varied career, ranging from serving as a seaman in the merchant marine to teaching in a dancing school, Chan joined the FAA in 1956 after a four-year tour in the Air Force as a control tower operator.

Model Community Relations Program is Big in N. M.

Electronic maintenance technicians of SMS-106, Tucumcari, N. M., are out to sell the FAA to the community.

EMT Duane W. Bradley used his garage as a workshop to construct models of the Agency's facilities and installations in the area. A number of his co-workers assisted him with his project.

After first displaying the models at the Tucumcari Fair, they moved them to the New Mexico State Fair in Albuquerque. The public expressed keen interest in the models and the maintenance of airways, according to SMS Chief Charles M. Kelley.

Included in the display are models of an air route surveillance radar site, its living quarters and garage, a flight service station, a remote center air-ground, and a VORTAC.

All the Tucumcari technicians are Airways Engineering Society members.

Southern Region's FIDO Pilots Honored at Special Ceremony

Southern Region employees Frank Tennyson (left) and Jack Mitchell (center) receive awards from Charles C. Rone, chief of flight inspection branch.

Southern Region's flight inspection pilot Frank Tennyson and supervising flight inspector Jack Mitchell recently flew an unusual mission—a trip to Cuba to return the body of a Cuban helicopter pilot and a young Cuban mechanic who did not wish to remain in this country.

For successfully carrying out this mission under very trying circumstances in a tense international climate, Tennyson and Mitchell were saluted by the FAA for their "courage, professional skill, and diplomacy," and were presented plaques by Southern Region's Charles C. Rone, chief, flight inspections branch, at ceremonies honoring them at the Orlando, Fla., flight inspection district office.

A Guy With the Right Idea

About shoes, this guy is confused. But he knows how to start off right with the missus and the kids—he never makes a mistake when it comes to bringing home his (you have one, too) own personal copy of FAA HORIZONS. Why not do it today?

Visiting Engineer Takes Airport Know-How Back to the Philippines

Explaining some U. S. airport procedures to Ramon Ramirez Mabanag (center) are William McGill (left) and James Woedekin, both of FAA's Central Region.

Ramon Ramirez Mabanag, supervising civil engineer of the Philippine CAA, spent six weeks in the Central Region training with the Airports Division.

A graduate of De LaSalle College in Manila, Mabanag visited airport district offices in Lincoln, Neb., Chicago, and Lansing, Mich., before reporting to the Regional Office. He is studying United States airport testing procedures for soil and pavement materials, construction procedures, design practices and criteria and their application to Philippine airports.

Winners of FAA's Second Annual Mechanic Safety Awards Named

An unwanted radio signal and a hidden fuel leak were targets for two aviation mechanics who were named winners in FAA's second annual Aviation Mechanic Safety Awards program.

J. R. (Bob) Schneider of Tulsa, an aviation instrument mechanic for American Airlines, was named winner in the air carrier category, and Harry A. Palmer of Midland, Tex., a shop foreman for Champs Aviation, took the general aviation award.

Schneider won for his work in locating an unwanted radio signal that could affect the safe operation of autopilots on Boeing 707's and Lockheed *Electras* during automatic landing approaches. Despite being handicapped by a 1949 attack of polio, Schneider has won 12 American Airlines suggestion awards.

Palmer's selection for the general aviation award was in recognition of his painstaking work in locating the cause of an intermittent fuel leak on certain Cessna 210 models. His findings resulted in Cessna's making changes in production models of the aircraft.

SEAT BELTS CAN MEAN LIFE OR DEATH IN CRISIS

"I was driving a Volkswagen and wearing dealer-installed seat belts when I was involved in a head-on collision. The steering column hit me in the chest. My car was demolished; even the seat in which I was sitting was torn loose from the floor. My injuries? Two broken ribs and multiple facial cuts."

This is the first-person story of Allen T. Hartliep, a controller at Davis-Monthan RAPCON, near Tucson, Ariz. It is Hartliep's opinion, and that of his doctor too, that Hartliep's seat belt, properly positioned across the thighs and tightly fastened, saved his life.

"The force against my seat belt was so great that I was bruised six inches in all directions from point of contact and the skin was broken even through woolen trousers," Hartliep added. "Even an inch of slack in the seat belt would have allowed the steering post to penetrate my chest."

Another down-to-earth endorsement of seat belts came recently from WE's flight inspection pilot, Edwin D. Sherburn.

Sherburn's personal automobile was struck from the rear while he and his wife were driving from Los Angeles to the Aeronautical Center. Although the combined damage to both vehicles was estimated at $5,000, injuries in the Sherburn vehicle were relatively minor. Sherburn stated that the belts not only minimized injury, but held him in a position to control the car after the initial collision.

The latter point, often overlooked, is one of the primary benefits of seat belts. Its significance can be seen in Ed's explanation of the second phase of the collision: "We found ourselves lying flat after the other car hit us from the rear. The seat backs had broken on impact. The throttle had stuck and the car was moving at high speed without guidance from me. I was able to turn off the ignition switch because my seat belt had kept me in the driver's seat."

Sherburn says he has used seat belts in his cars for many years, although this is the first time they have paid off.

Frantic Pilot Uses Shotgun to Bag Own Airplane

Tower personnel at Ventura County Airport, Oxnard, Calif., had front row seats at one of the most unusual and exciting scenes ever to be enacted at an airport—a pilot shooting his airplane.

Melvin C. Couch, tower chief, reported that the fantastic incident followed the landing of a crop-dusting plane at the field. The plane's brakes locked, it ground-looped, and the engine died.

The pilot pushed the aircraft off the runway, set the brakes and restarted the engine, manually turning the propeller.

But only one of the two wheel brakes held. Before the pilot could climb back into the cockpit, the plane whooshed off in a series of uncontrolled turns, between runway and taxiway.

The pilot took after it on foot, fearing that if the single brake gave out, the plane would become airborne. At this point the manager of the firm dashed from his office with two shotguns. He tossed one to the pilot and they blasted away at the airplane for ten minutes before a tube leading from an upper wing tank was hit and the engine stopped.

During the shooting the tower kept the field cleared. One plane, ready to touch down, had to go round and round, but the pilot had a "skyside" seat for a highly unusual drama.

FSS Has Problems Pegged

Flight Standards Service's FS-530 developed a work-saving device called an aircraft program discrepancy control board. Working the board above are John P. Morris (left) and Robert D. Gibson who say that, "It's the greatest thing since the invention of the wheel." Basically, 3 by 5 inch cards are used to record each discrepancy in the operation and maintenance of aircraft throughout the Agency. Original idea is credited to Gordon M. Bain, SS-1, for use in the SST program.

AERONAUTICAL CENTER MANAGER SIGNS WORK PACT

Aeronautical Center Manager W. Lloyd Lane (seated), signed a work agreement with the International Association of Machinists last September on behalf of the Agency and local employees of the Aircraft Services Base and associated aircraft trades. Others are, from left: Robert L. Sicard, Chief, Aircraft Services Base; C. V. Leonard, Business Representative, IAM; Kent W. Fendler, Chief, Personnel and Training Division; Robert J. Bracken, Special representative, IAM. Although the IAM had first received exclusive recognition in September 1963, it was not until a year later that the agreement was made.

Joe Yesinski Is a Man In Motion . . . All the Time

Joseph A. Yesinski of the Alaskan Region is a man who takes his civic responsibilities seriously. During duty hours he is chief of the electronics laboratory in the Region's headquarters. In the evenings or on weekends, he is councilman for the City of Anchorage.

Anchorage voters think so much of Yesinski that they reelected him for a third consecutive two-year term in city elections last October. Joe is an electronics engineer who loves Alaska. Since arriving in Anchorage in 1945 with his wife, Jane, he has watched and helped the city grow from a small port city of 4,000 population to where it is now pushing 100,000.

Yesinski really became interested in city government when he bought a home in 1952, having decided to remain in Alaska. Joe and Jane have no children, but they are raising nine dogs which they consider "family."

From the first he attended city council meetings as often as possible. His interest in civic affairs was rewarded with appointments to the Parking Commission and the Charter Commission of the City of Anchorage.

Few councilmen in any American city have had problems thrust upon them of the magnitude that Joe and his brother councilmen have learned to take in stride. Anchorage's population has almost doubled in size every five years since 1945. Keeping abreast of the changing needs of Anchorage, planning and replanning to provide services for an even larger metropolis in the near future is exacting and challenging work. His efforts on behalf of Anchorage and the Agency during the post earthquake period revealed Joe Yesinski to be an outstanding servant in the best traditions of the Civil Service.

Joe Yesinski, (left), chats with engineer trainee James N. Owens, troubleshooting electronic gear.

FAA Academy Instructors Cross U. S. to Conduct NAFEC Classes

In this era of mobility it is only natural for someone to come up with a pair of itinerant schoolteachers. A request to train 20 engineers and technicians in transistors at NAFEC was answered when the FAA Academy sent Dicky D. Davis and Melvin E. Scholine, both of the ILS/VOR Branch, to conduct an eight-week program there.

Many problems had to be overcome in sharing NAFEC's laboratory equipment with the resident transistor course personnel. Nevertheless, modern air freight coupled with staff ingenuity helped solve these problems and made it possible for the NAFEC students to study solid state devices in the same manner as those at Oklahoma City.

FAA Personnel in Omaha Saluted By Commander of XVI U. S. Army

Friendly service to Army aviators won a pat on the back for Omaha FAA personnel from Maj. Gen. K. L. Davis, Commander of the XVI U. S. Army Corps.

General Davis cited personnel of the Omaha FSS and tower for voluntarily conducting a refresher class in Federal Air Regulations and Traffic Procedures for 40 Army aviators of the XVIth.

He said, in part, "It would be difficult to find a more cooperative group or one more interested and capable in offering assistance to aviators. . . ."

In his reply to General Davis, Administrator Halaby pointed out that courtesy and service of this type was FAA policy, and that Omaha personnel had carried out this policy in an exemplary manner.

DRISCOLL FEATURED SPEAKER

Edward J. Driscoll, Executive Director of the Civil Aeronautics Board, addressed graduates of the fifth class held at the National Aircraft Accident Investigation School, Aeronautical Center. This was the first class to include students from outside the U.S.; one from Canada and one from Australia.

In charging the men with the responsibility for the future of accident investigation, he explained the relationship of the CAB and FAA in the function of the school. He added: "We know you will put this knowledge into good and effective use and thus achieve more effective leadership in the roles you must play in accident investigation work."

ON THE SCOPE

RETIREMENTS

• *John F. (Johnny) Warlick,* technical assistant to the Chief, Engineering Manufacturing Division, FS, Washington headquarters, after 35 years combined Federal and military service, on Aug. 9. • *Garred F. Young,* regional paving engineer in EA's Airports Division, after 31 years of Federal service. • *J. Brinton Young,* chief architect at NAFEC, and ex-WW-1 pilot, whose date was Oct. 30, after serving at NAFEC since 1958. Previously he was with the Navy Department. *Alaskan Retirements include:* • *Clifton L. Caudill,* electronics maintenance technician, SM, Sept. 15, after 22 years of Federal service. • *Andrew D. Earles,* construction engineer, I&M Division, Oct. 16, after 21 years Federal service. • *Herbert V. Enberg,* construction superintendent, I&M Division, Oct. 16, after 24 years Federal service. • *Arley R. Evans,* supervisory air traffic control specialist AT Division, Oct. 10, after 30 years Federal service. • *Corwin L. Hatch,* construction superintendent, I&M Division, Sept. 25, after 14 years Federal service. • *James L. Hurst,* aviation operations specialist, FS Division, Oct. 5 after 24 years Federal service. • *Jonathan C. Lawton,* station manager at Kenai, Oct. 17, after 27 years Federal service. • *Grant A. McMurray,* supervisory air traffic control specialist, AT Division, Sept. 12, after 24 years Federal service. • *Alden L. Richardson,* construction lead foreman, I&M Division, Alaskan headquarters Sept. 15 after eight years Federal service.

"PROJECT UPDATE" NETS AWARD

Instructor Paul Goforth of the communications equipment school, Air Navigation Training Division, FAA Academy, was singled out by the Airways Engineering Society to receive the Joseph B. Harris Memorial Award. Goforth received the award for his efforts in setting

up "Project Update," a self-improvement program designed to keep working specialists, engineers and technicians up-to-date with the latest developments in technology.

William Archer, technical assistant, staff member and president of the AES made the presentation.

MATH ADDS UP TO SPECIAL AWARD

NAFEC controller James E. Grambart, air traffic advisor to the Human Factors Branch of the Research Division, is congratulated by Dr. A. N. Benson, Division chief, on receiving the Agency's Special Act Award. Grambart was cited for devising a practical method of applying a mathematical study to show a relationship between air traffic activity and the burden of work on en route controllers.

A controller at LaGuardia for ten

years before coming to Atlantic City in 1960, Grambart's newest hobby is cycling. This past summer, he cycled 500 miles through New England.

ROLLING STONE GATHERS 40 YEARS

Forty years with the same agency may seem like a long time to a great many people; to Mary E. Walsh, of the Pacific Region's San Francisco International Field Office, it's only a beginning.

In June of this year, Mary completed her 40th year of Federal service. In commemoration, she was presented a service pin by PC Director Robert I. Gale, at headquarters in Honolulu.

Miss Walsh began her career in 1924 as a clerk-typist with the War Department Adjutant General's Office in Washington, D.C. She worked for the Bureau of Air Commerce for eight years and for the CAA. During World War II she

Pacific Region Director Robert I. Gale (left) holds 40-year service pin before giving it to Mary E. Walsh, San Francisco International Field Office. William E. Cunningham, chief advisor, looks on.

was for a time assigned to Major Wm. C. Capp, Air Transport Command, at San Francisco Airport. Mary moved to Honolulu in 1946 and spent five years at Honolulu Airport. She spent four years in London (1956-1960) in the International Field Office, transferring from there to San Francisco as secretary to William E. Cunningham, Chief Advisor.

FAA COMMENDS USAF AT BANQUET

Fred M. Marks, chief of the Oakland ARTCC, commended the USAF 924th Refueling Squadron for its work in cooperation with the FAA.

Marks presented squadron commander Lieut. Col. Edward B. Fitch with a plaque bearing the FAA insignia ". . . to tighten the bonds of friendship between the Air Force and the FAA."

The presentation was held at Castle Air Force Base where the squadron has started its tactical mission.

NEW PREXY AT OKLAHOMA CITY

Assistant Manager of the Aeronautical Center, William M. Jackson, recently was elected president of the newly formed Oklahoma City chapter of the American Society for Public Administration. Don Bowen, Executive Director of the National Society, presented the chapter with its official charter.

AFTER HOURS

FAAer OFF THE JOB

In his spare time Clifford Shannon is an enthusiastic varmint hunter. On a night hunt in October, using the cry of a wounded rabbit, he enticed this 30-pound male bobcat to within 20 yards of his position before gunning it with a 30-30 Winchester.

A drafting supervisor in the Aeronautical Center Engineering Branch, Shannon has hunted predators for years with handloaded ammunition, a spotlight and a lot of patience. Sometimes it takes as much as four and five hours "calling" before a bobcat, or perhaps a coyote, steals into range of his rifle. Perseverance pays off, however, and the cat pictured will decorate his den as soon as the taxidermist completes the job.

GUAM HAS A FRIENDLY ATMOSPHERE

FAA personnel on Guam can look forward to a year of special activity, according to the newly-elected members of the FAA Guam Community Association.

A playground has already been completed for the smaller children, and a ball diamond is in the offing for young adults. Social events are planned to acquaint all members of families in the community with one another. A greeting committee helps all newcomers get settled. A service station provides a convenient means of taking care of the family car, and is a source of revenue for the association.

Newly elected officers are, standing, from left: Mrs. Marion Warner, the historian; Paul Wollard, trustee, H. Randall Bailey, trustee, Clyde Reighard, trustee and Frederick J. Aeillo, vice president. Those seated are: Mrs. Jean Price, the secretary; John Bonfissuto, president, and Mrs. Ruth Leighton who has been designated Mother of the Year.

SHIPS THAT PASS IN THE NIGHT

The long arm of coincidence reached into Hanksville, Utah, and reunited flight service specialist Mario L. Bisio with flight service specialist Thomas F. Janick, whom he had not seen since 1941, and James L. Slye, a systems maintenance technician he had not seen since 1952. All are Navy veterans.

Swapping yarns one day, Janick and Bisio discovered they were in boot training together at the San Diego Naval Training Station and Janick produced an old picture of the company that showed them together. Slye also thought there was something familiar about Bisio and sure enough they had served together on a destroyer, the USS *J. C. Butler.*

"The odds against a double-header like this are probably high," said Leo E. Peirce, chief of the FSS, "but it happened here in Hanksville, population 150: FAA total complement: eight."

THE PROOF IS IN THE PRIZE

The three years of work Evert W. Young, controller at the Denver ARTCC, spent putting a "do-it-yourself" airplane together is paying off. Almost every time he enters it in a competition it brings home a trophy.

In just a few months his plane won two prizes for the most original design; one for the best all-around-home built, and at Rockford, Ill., he took the AC Spark Plug Trophy, plus $100 in cash.

ART EASY WITH ABC

One of the Federal Aviation Club's more popular after-hours diversions is provided by Abner B. Cohen, of the Office of Information Services in Washington, D. C.

Ab conducts two well-attended art

Abner Cohen, IS-20, with FA Club art students.

courses on Thursday evenings. Art I is for beginners; Art II is for more advanced students. Both are comprehensive and go into the subject from basic composition to the finished product.

A graduate of the Pratt Institute of Art, Brooklyn, N.Y., Ab also attended the Corcoran School in Washington, D.C. He works on *FAA Horizons* and also *Aviation News* which is sold through the G.P.O.

FAAers GOOD SCOUTS

Air traffic controller Welton R. Hill of the New Orleans ARTCC, and Evelyn M. Pence, teletypist in the flight service station, are helping many youngsters to build better lives through their work in the Scouts. In a single year Cubmaster Hill has established a reputation among his pack of 42 as an expert outdoorsman. Mrs. Pence, with 17 years of Girl Scout activity to her credit, has been a Leader since 1953 and is a member of the State Council on Scouting.

PERSONNEL PIPELINE

MEASURING OUR WORTH

An employee's value to the FAA must, by law and by Agency policy, be examined and evaluated periodically to:

- Assign him a performance rating.
- Determine if he should receive a within-grade pay increase.
- Determine if he should be considered for promotion.
- Determine if he should otherwise be rewarded or recognized.

This article deals primarily with appraisals required by law for *performance ratings* and the certification of *acceptable level of competence* for within-grade pay increases. It is intended to help clarify the relationship between these two appraisals and inform employees how current efforts to streamline and improve appraisals will affect them.

First there is the annual appraisal in which every employee's performance is reviewed in order to determine his rating —satisfactory, unsatisfactory, or outstanding—categories that were established by Congress in 1950.

The second appraisal is conducted when an employee becomes eligible for a within-grade pay increase. In 1962, under the Federal Salary Reform Act, automatic within-grade pay raises for employees after a certain number of months in a job was changed. As a result, before a periodic within-grade raise can be approved, supervisors must certify that the employee is performing at an acceptable level of competence. If supervisor declines, increase is denied.

The two appraisals are not related, a fact that is generally misunderstood, particularly by the employee whose supervisor rates him satisfactory and yet does not certify that he has performed at an acceptable level of competency—which denies him a within-grade increase.

How is this possible? How could an employee be performing below an acceptable level of competence and still be rated satisfactory?

Under the Performance Rating Program established in 1950, a supervisor is limited to three types of ratings:

- *Unsatisfactory*—for the employee whose performance is so inadequate that there must be significant improvement or removal from the job is indicated.
- *Outstanding*—for the few whose performance not only exceeds requirements but is outstanding in *every* area.
- *Satisfactory*—to cover the remaining employees whose performance covers a wide range, from those who are barely satisfactory to those approaching the outstanding level.

Now, under the Federal Salary Reform Act of 1962, the supervisor must certify, or deny, that the employee's performance is at an acceptable level to justify a pay increase. The supervisor may decide that the employee's performance, while not poor enough to warrant removal, is so marginal and demonstrates so little personal growth that he does not warrant a pay raise.

Consider the situation of the supervisor at this point. If the employee is not unsatisfactory (and certainly he is not outstanding) under the law there is no alternative to the satisfactory rating.

Thus the requirements of two separate laws result in an apparent contradiction —a satisfactory employee who is not performing at an acceptable level.

Even so, these two methods of appraising employees enable supervisors to be more precise than was possible before enactment of the Act. At that time the *barely satisfactory* employee was lumped together with the *almost outstanding* employee, with no adequate way to formally recognize the difference.

The periodic within-grade salary increase provides the supervisor with this needed gauge. He may use it to recommend raises for employees who, in addition to being competent, have shown continued growth in their jobs and willingness to accept a fair share of the organization's work. For those who have not demonstrated these qualities the law makes clear the supervisor's responsibility to deny the salary increase.

At the present time the Office of Personnel and Training has four actions underway to streamline and improve the whole appraisal process:

- Establishment of performance standards under the Personnel Improvement Program in terms of results achieved.
- Consolidation of the times for appraisals.
- Individualizing appraisals by staggering rating dates.
- Providing one form instead of several to record appraisal results.

Most important of these is establishment of performance improvement standards. Without them the supervisor has no way of knowing precisely what to expect from each job under his supervision. However, once optimum performance has been determined he has a yardstick against which to measure employee performance.

The effective supervisor will also use the standards to assign a fair rating and to determine if he can certify an acceptable level of competence.

Another way of improving the appraisal process is through consolidation. Presently employees are evaluated for performance ratings at the beginning of each year, whenever they are eligible for a within-grade increase, and whenever they are being considered for another job under the Merit Promotion Program. Beginning Feb. 1, 1965, one evaluation will be made to serve all three purposes.

Tied in with consolidation is the third means for improving appraisals—individualizing them by staggering dates throughout the year. Under current FAA policy employee performance ratings are conducted in the 60 days following Jan. 31. This is hard on supervisors directing large numbers of workers.

To help the Agency move quickly ahead with its consolidated and staggered appraisal system, the Civil Service Commission has waived this requirement for 1965.

The fourth improvement will combine all pertinent appraisal information on a single form, an action that will reduce paperwork and simplify the appraisal procedure.

Getting The Job Done

Aeronautical Center Accounting Division personnel filled the halls in October when good management and efficient workers saved $4,500 in overtime costs when the accounting function was changed to a computer operation. They fell to and did the whole job in one working day for about $2,000, despite crowded conditions.

TECH TALK

INSTANT ILS

"Canned" Instrument Landing Systems are on the way, thanks to a new approach to the shelter and siting problem now being taken by the Agency in the Eastern Region.

Mobility is the key word. Under the new concept ILS components are installed in standard, off-the-shelf commercial trailers modified to FAA specifications. Initial indications are that savings of about 25 per cent in construction costs are being realized over type "S" building costs. In addition, the time from project assignment to commissioning has been reduced considerably.

The pioneer work is being done at Eastern Region headquarters where a number of trailers are in various stages of completion. The first one, displayed at the recent National Aviation System Symposium in Washington, will soon be in service at Charlottesville, Va. Another trailer-housed ILS is in operation at Cleveland, one is on temporary duty at LaGuardia Airport, N. Y., and a DME unit is at Kennedy International Airport.

A complete, four-piece trailer-borne ILS is now being assembled for use at Cincinnati Municipal Lunken airport.

Eastern Region has on order several trailers in the following sizes: 10' X 30' for the localizer; 8' X 16' for the glide slope and markers; and 10' X 16' for the DME.

The trailers have changed the normal pattern of construction and installation. They are delivered from the manufacturer to regional offices where FAA technicians install the electronic equipment.

A trailer hauler then tows the unit to the site where it is placed on concrete block supports and securely locked to the footings with turnbuckles. A standard Government bill of lading takes care of the moving.

Besides the ease of handling and installation the trailers give the region greater day-to-day operational flexibility. For example, Eastern Region found it necessary to set up several temporary facilities on short notice. Using the trailers, the job was done quickly and economically. When the need for the temporary ILS is past it can be relocated to a permanent site.

Trailers also reduce costs and speed up relocations due to runway extensions. In other instances the trailers have been used in lieu of a test van to site test a location and then were installed as a permanent facility.

The aviation community can expect to see a lot more "instant" ILS's—the FAA plans to put in about 18 more of them at airports around the country in the near future with more to come.

THEY WATCH TV ON THE JOB

Watching television on the job might sound like one fringe benefit too many, but air traffic controllers at Municipal Airport #1 in Salt Lake City are doing just that.

However, it's all part of the job and a very serious one.

The TV cameras and receivers are used for "blind-spot" surveillance and controllers report that this second set of eyes makes their jobs a lot easier.

Remote TV figured in recently concluded experiments carried out at the Salt Lake Airport and at Lambert Field, St. Louis, by Systems Research and Development Service. The results are promising.

At the Salt Lake City Airport, remote-control TV cameras are located at heights of 45 and 65 feet to scan areas of restricted visibility from the control tower. Regular controller personnel operate the cameras from a video monitor and switching panel installed in the tower console.

The evaluation program called for use of the cameras in a variety of modes and weather conditions. The test included the use of airborne and taxiing aircraft and a panel truck. Cameras were equipped with variable position controls, using pan and tilt, and one was provided with a zoom lens. Dimensions of the field of view on the video monitor were directly proportional to the distance between the camera and the vehicle under observation.

In the experiment at Lambert Field, closed-circuit TV provided audio-visual pilot preflight weather briefing. The system was remoted from the flight service station to four pilot lounges; three by coaxial cable and the other by microwave link.

Charts marked off in state boundaries and with station identification were developed by FSS personnel and manufactured of translucent material at NAFEC. Weather information was drawn on the charts as received from Weather Bureau facsimile charts.

Translucence permitted backlighting and eliminated glare. Facsimile charts were supplemented with radar charts and information via phone.

Weather information displayed included fronts and pressure areas, cloud coverage and height, storm areas over the entire country, plus local radar information, winds aloft and local pilot reports.

Pilot reaction was extremely favorable according to comments solicited through a questionnaire. Ninety-eight per cent of the replies indicated satisfaction and preference of the visual presentation over the conventional "telephone only" method. Briefing personnel also were enthusiastic since the audio-visual method made the weather situation easier to understand, even though the average briefing was more time-consuming.

TV brings areas of restricted visibility into Salt Lake City control tower.

YOUR HEALTH

High on the list of questions consumers ask the Food and Drug Administration are those concerning meat tenderizers, artificial sweeteners, and monosodium glutamate.

People want to know what "meat tenderizers" are made of. And, they ask, if they "tenderize" meat, won't they harm the stomach?

The answer to this is that the "tenderizer" is a natural plant enzyme called papain obtained from the papaya fruit. It is generally recognized as safe for use on foods which are subsequently cooked.

Papain is readily destroyed by the heat required to cook meat. In the unlikely event all of it was not completely destroyed by heat, what remained would be destroyed by our own gastric juices.

People ask, are artificial sweeteners safe for use by "normal" persons? And, if so, why do the labels state that they should be used only by persons who must restrict their intake of ordinary sweets?

FDA replies that the normal, daily, moderate use of artificial sweeteners or artifically-sweetened foods is regarded as safe. The following nonnutritive sweeteners appear on lists published under the Food Additives Amendment to the Federal Food, Drug, and Cosmetic Act:

• saccharin, ammonium saccharin, calcium saccharin, sodium saccharin.

• calcium cyclamate, magnesium cyclamate, potassium cyclamate, sodium cyclamate.

Sugar is an important part of the normal diet and substitution of an artificial sweetener for sugar in foods for general use would constitute adulteration under the food and drug law. When regulations for foods for special dietary use were issued in 1941, labeling was devised for artificially-sweetened products so that these articles, primarily for the benefit of diabetics, could be legally marketed. Specifically, such special dietary foods must be labeled as follows: Contains ..... saccharin (or saccharin salt, as the case may be), a nonnutritive, artificial sweetener which should be used only by persons who must restrict their intake of ordinary sweets. The blank must be filled in with the per cent by weight of saccharin (or saccharin in combination) in the food.

So far as monosodium glutamate and its purpose in food is concerned, FDA says that MSG, as it is commonly known, is a substance made from various vegetable protein sources, such as soybeans, wheat, corn, etc. It is not a preservative or a tenderizer. It is used simply to enhance natural food flavors. It is generally recognized as safe and its optional use (with label declaration) is authorized in standards for canned vegetables and canned tuna. However, it may be used in mayonnaise, french dressing, and salad dressing without label declaration.

...AND SAFETY

One of the most comforting sayings we have is a simple one: "Safe at home." It probably goes back to cave man days. And there were plenty of ways to get hurt in those caves. But compared to the dangers that now exist, caves were pretty safe places.

Nearly twice as many Americans are killed in their homes each year as are killed on their jobs. Disabling injuries run in about the same proportion.

Of course, one can't make too close a comparison. The very old and the very young don't have jobs.

While most of the housewives have plenty of homework, for some reason it doesn't count as a job—in the accident records, at least. And, of course, those who have jobs spend more time at home than they do on the job.

The reason, of course, for the high preponderance of home accidents is carelessness. The plain fact is that not enough people are safety conscious. Many women seem to lack it. Children can't be expected to come by it naturally but their fathers and mothers could set them a good example. Those who work outside the home are fairly well indoctrinated in safety practices by their employers, but not all share this awareness with their families.

Some schools are trying to include safety in their curricula, but are not always able to because they have so many other things to teach.

Home accidents result almost always because common, everyday hazards—things that are easily seen—and easily fixed, are ignored. Why? The answer seems to be that too few people take the trouble to be careful. If a neighbor falls down stairs or his child breaks an arm in the back yard, few take it as a warning to themselves.

Reports of home accidents almost always point to the same cause—failure on the part of someone to use his (or her) head. The average man who goes home and "relaxes in safety" might find, if he gave it some thought, that his house was a trap that could seriously injure his wife, his children or himself.

What should he do? He should apply safety know-how to his home. He should inspect it from attic to basement, inside and out—everything, and everywhere.

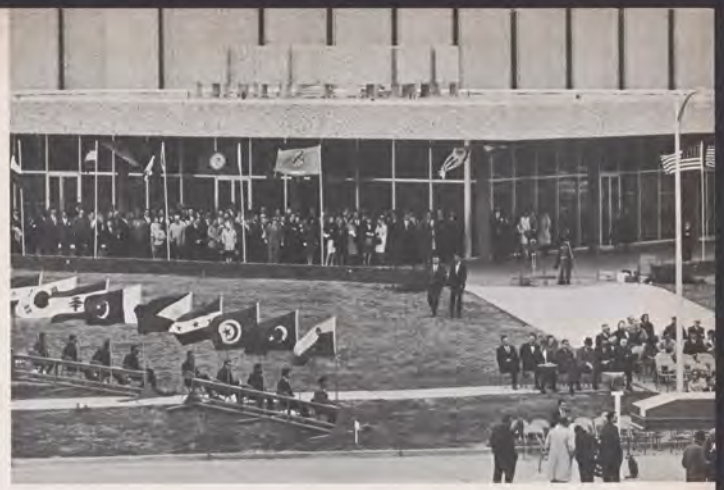
He should ask himself what accident possibilities are here? Who could get hurt, and how? What can be done about correcting a potentially dangerous situation? What safety instruction can be given each member of the family?

Anyone who asks these questions can work out the answers. The problem is to make the start.

Why not make a thorough inspection of your home this month? It's an interesting undertaking and you might be appalled at what you find.

Falls lead the list of home accidents. They happen on stairs, slippery floors, loose tiles, loose rugs and doorstops and from tripping over objects not in their proper places. Tumbles occur from stools and other things that women stand on to hang curtains or clean high shelves.

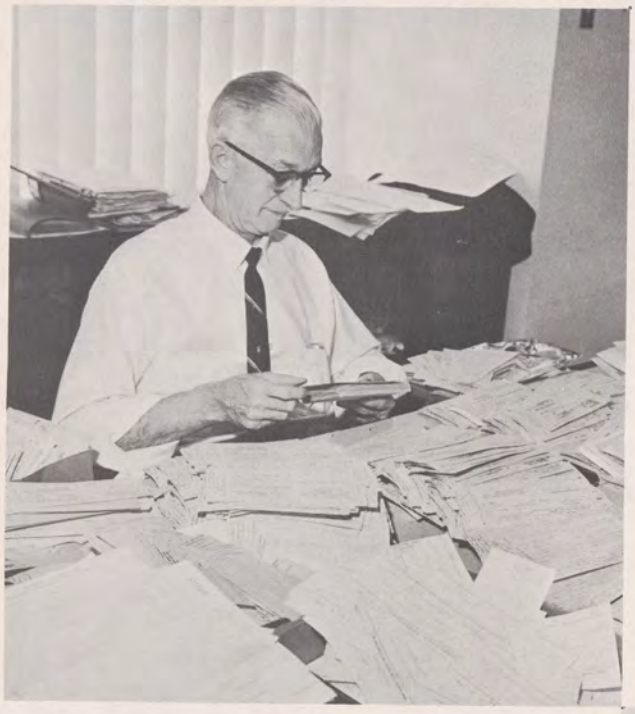
The prevention of home accidents is achieved by the cultivation of good safety habits. Make it an everyday thing. Be especially careful of fire hazards during the coming holiday season.



ONE FOR THE RECORDS

Administrator Halaby was the featured speaker at the dedication of FAA's new $3,500,000 Aviation Records Building at the Aeronautical Center, Oklahoma City, Okla. The building will house files on more than 135,000 aircraft and 450,000 airmen. Starting at top left and reading clockwise, W. Lloyd Lane, Aeronautical Center Manager, on the podium as master of ceremonies. • Part of the crowd of 500 which attended the dedication. • Putnam City High School Band supplied the music. • Open house guests watch an IBM 7040 computer do its stuff. • The Administrator supplies the press with background data. • Senator A. S. (Mike) Monroney, Mr. Halaby and William J. Schulte, Asst. Administrator, Office of General Aviation Affairs, pause for a chat after dedication ceremonies. For the occasion, the building was ringed by 101 foreign flags representing countries which have or had students in training at the FAA Academy. The flags are now on display in the cafeteria of the new building. During the open house which followed the dedication more than 6,000 persons visited various Center facilities.

FAAers ON THE JOB



Charles R. Greene

This is the man who "pays later" when you travel now. As Chief, Accounts Payable Branch, Accounting Operations Division, Washington headquarters, Charles R. Greene oversees payments of about $1,000,000 per year for travel by Agency personnel on official business. In an average year, 12,000 FAAers are on the road which adds up to a lot of work for Greene's staff of 25. Settling travel claims is only a small part of Greene's money disbursement—his branch pays all the Agency's bills, except payroll. After 27 years of Federal service, the last 12 with FAA, Charlie and his wife expect to retire in about two years to devote full time to a Christmas tree farm he acquired last year.

James E. Roncone

Testing test equipment frequently tests the tester's ingenuity, but James E. (Jim) Roncone, electronic maintenance technician at Minneapolis SMS-407, manages to stay one-up on the complex gear in his charge. One of his jobs is to make sure the Minneapolis VOR monitor works. He could have called the flight service specialists to ask if the right light was burning, or wire a relatively expensive meter to the monitor. He didn't like either approach —one would be time-consuming, the other expensive; he wanted something cheap and reliable. So he made his own tester; an ingenious plug-in jack incorporating a light which Jim is shown holding between thumb and index finger.