

Southern Pacific
BULLETIN

February-March 1980

Using a Light Pen
To Change a Switch

— See Page 3

CONTENTS

- 3 CTC Project to Speed Trains
- 7 Testing Locomotives, Cars and Track Conditions
- 8 The Snow Removers
- 14 Oregon Division Tops in Safety Again

DEPARTMENTS

- 2 Editorial: We Will Do Our Job for Amtrak
- 6 Management Moves
- 10 Around the System
- 12 People
- 14 Appointments, Retirements, Deaths

COVER

Houston Train Dispatcher Arthur E. (Butch) Murray uses a light pen on a TV-like display screen to activate an automatic switch many miles away. Color monitors, like those shown on his desk, represent the latest advancement in the CTC field and will be used in connection with SP's 59-mile Giddings-to-Hearne CTC installation. See story on page 3.

ROBERT G. OTTMAN
Editor

ROBERT B. HOPPE
Assistant Editor

EDITORIAL OFFICE
Southern Pacific Building • One Market Plaza
San Francisco, CA 94105 • (415) 362-1212 Ext. 22487

Published monthly in San Francisco by the Public Relations Department for active and retired employees. Employees are encouraged to submit comments, story ideas and news items to the editor.



We Will Do Our Job for Amtrak

You may have read or heard recently that Amtrak is suing Southern Pacific in federal court over delays to the *Sunset Limited* that occurred last year between New Orleans and Houston.

Because of this, I want to reiterate Southern Pacific's policy, in force since we first began operating passenger trains on behalf of Amtrak in 1971: that we give Amtrak trains priority over freight trains, and that we operate them on time to the fullest extent of our abilities.

Let me emphasize that this policy applies not only to the *Sunset Limited*, but to all of the trains we operate for Amtrak, and I expect full cooperation from all concerned in carrying it out, in fulfillment of our commitment to Amtrak.

Overall, we've been doing a good job for this governmental corporation. During 1979, 81 percent of the trains we operated for Amtrak were on time, under the on-time guidelines in our contract. If the *Sunset Limited* is eliminated from these figures, 90 percent of SP's Amtrak trains were on schedule.

While major rehabilitation work has been underway on our Houston-to-New Orleans line, creating some operating problems, it is still essential that we do everything in our power to provide Amtrak with the same high quality service on this line as we do on the rest of our railroad.

The passenger trains that we operate on behalf of Amtrak will be among the finest in the country. That is our intention and determination, and we will take all necessary steps to see that it is carried out.

B. F. Biaggini
B. F. BIAGGINI
Chairman and
Chief Executive Officer

CTC Project to Speed Trains

A \$5.7 million installation between Giddings and Hearne, Texas nears completion.

A. E. (Butch) Murray, a Southern Pacific dispatcher at Houston, studied the bank of television-type monitoring screens mounted on his desk and reached for his light pen, a small device similar to a pen-sized flashlight.

He placed the lighted end of the pen on a siding switch symbol depicted on one of the screens (see front cover). That simple act threw a switch 808 miles away, sending an eastbound train into a siding at Clint, Texas, to clear the way for a westbound manifest headed for Los Angeles.

As soon as the westbound train had passed, the switch was thrown automatically and the signal changed, permitting the eastbound train to return to the main line. The "meet" was accomplished in a matter of minutes.

The electronic wizardry which makes possible such precise meetings of trains is—as most railroaders know—called "Centralized Traffic Control," or simply "CTC."

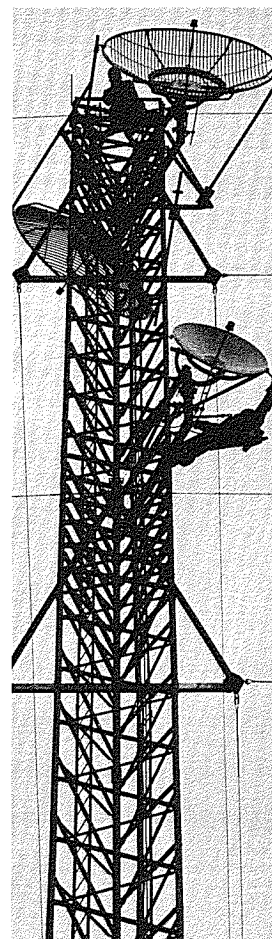
Railroads in the United States now have about 50,000 miles of track controlled by CTC, which increases the capacity of single-track railroad to nearly the equivalent of double-track line by giving train dispatchers direct control over distant train movements. Utilizing computers and microwave communications, it enables dispatchers to make trains moving both ways on single-track line meet precisely at long sidings.

CTC is a safe, modern, efficient method of directing railroad traffic, but it is expensive—which is why it presently controls traffic on only a little over one-fourth of the country's railroads.

Case in point: Southern Pacific's most recent CTC installation, now nearing completion on a 59-mile segment of track between Giddings and Hearne, Texas, will cost about \$5.7 million—or nearly \$97,000 a mile.

The project, which extends CTC to an additional portion of SP's long-haul transcontinental route, also includes the construction of an 11,000-foot siding at Caldwell and a 2,365-foot line change at Varisco.

The new installation will have the

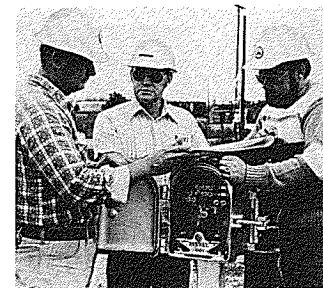


same advanced features as the CTC system already in use on our lines between Flatonia and El Paso. With its completion, SP will have more than 3,475 miles of rail lines controlled by CTC. Overall, this means that virtually the entire SP route from Portland, Oregon, to East St. Louis will be either CTC or double track.

The system's monitoring screens will give the dispatcher a color display of such things as sidings, switches, signals, train identification and the exact location of trains in the territory. They will also display warnings relayed by such safety devices as hot box detectors.

While dispatchers will use light pens to activate switches and signals in most cases, they will also have push buttons available for this purpose.

The Texas installation will provide the ability to identify and track the movement of specific trains and assign priorities to them. A computer will determine optimum "meets," based on train priorities. But the dispatcher will be able



Left: Adjusting microwave antennas on SP's new 200-foot tower at Caldwell, Texas, are Radio Equipment Installers Ken Austin (top) and Dale Weir. Above: Checking signal diagram in connection with the Giddings-to-Hearne CTC project are (l-r) Signal Gang Foreman Jim Josey, Construction Supervisor Doug Chenault and Materials Supervisor Tom Marrs.

to override the computer's decision, if necessary.

Within seconds, the dispatcher will be able to obtain a listing on one of his "TV" screens of all the trains in his territory, their exact locations, and the times at which they passed various points along the way. A printout of this information will also be available.

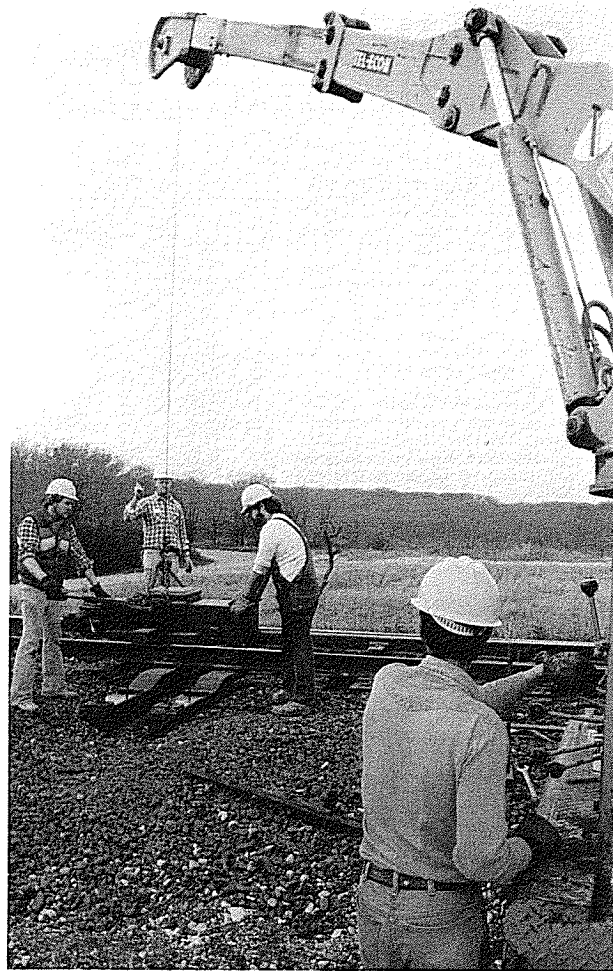
"The Giddings-to-Hearne CTC installation will be one of the most sophisticated on any railroad in this country," says Ralph Kirk, vice president at Houston, "and it will definitely help speed the movement of trains over our lines, including the new unit coal trains we are delivering to the Coletto Creek power plant, near Victoria." (A story on this traffic is planned for an early issue of the *Bulletin*.)

The use of process control computers in the Texas system is a refinement of more traditional CTC installations, Kirk points out.

These mini-computers set into motion previously programmed meet orders from dispatchers by transmitting micro-



Left: Division Welder Buddy Andrews works on "frog" at entrance to the new 11,000-foot siding at Caldwell, Texas. Above: Installing an automatic switch machine at Caldwell under supervision of Foreman James Josey (white hat) are (left to right) signal gang members Wayne Bennett, Rickey Colonga and Dennis Ganston (at crane controls).



With the completion of the Giddings-to-Hearne installation, SP will have more than 3,475 miles of rail lines controlled by CTC.

wave impulses which activate switches and signals in the field. The signals can direct a train to stop, slow down, proceed at speed or take a siding. And the switches

controlling entry to sidings or diverging routes are opened or closed automatically by remotely controlled switch machines.

The microwave facilities installed in connection with the project include two new 200-foot towers at Caldwell and Giddings. L. W. Keeling, microwave supervisor at Hearne, directed the installation.

In charge of construction for the CTC installation is D. M. (Doug) Chenault. His staff includes J. T. (Tom) Marrs, materials supervisor; Robert A. Hasselbach, electronic technician; and Signal Foreman W. T. Geis and James Josey.

The color TV screen monitors represent another significant advancement in the CTC field. Most present dispatchers' boards indicate the progress of trains by a series of flashing lights. Dispatchers relay signals to far-away trains by pushing buttons or flipping switches, instead of touching a light pen to a TV screen.

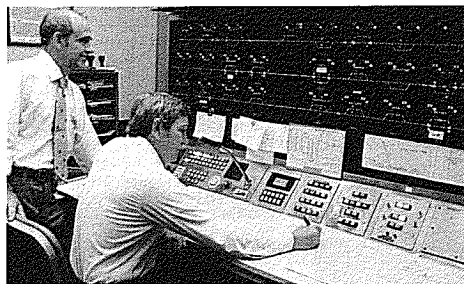
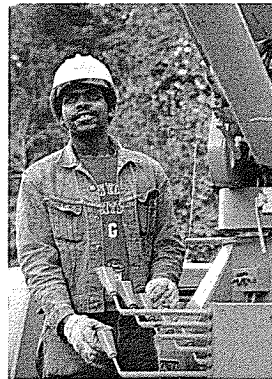
"This installation will have a parallel or back-up system built into it," says Rudy Nagel, engineer of signals at San Francisco, "which will be capable of functioning independently in the unlikely event of a communications failure.

Field equipment will take over automatically, computing system needs, switching trains to sidings and generally keeping all systems go. The trains will be able to keep right on operating."

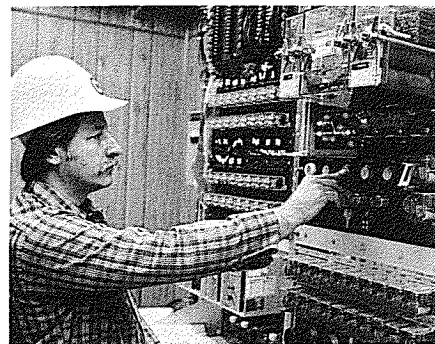
He explains that any interruption in control between the dispatcher and field units would cause the "Field Automatic" system to take over. In case of power loss at the field units, the back-up battery system will be capable of operating for several hours without being recharged.

Despite the electronic marvels of CTC, SP dispatchers stay in constant radio contact with train engineers in their territories to keep them informed on what is happening ahead and to alert them to any possible problems.

CTC has built-in mechanical and electronic protection against various possible mishaps. The system will not, for example, permit a remote-controlled switch to be operated while a train is passing over it. But in the long run, the safety of our operations depends on the alertness and vigilance of Southern Pacific employees. □



Top: Signalman James Lee takes over controls of boom truck during installation of CTC signal mast. Above: Houston Dispatcher Ray Stewmon, who will use the new TV display screens to control trains between Giddings and Hearne, is seated before one of SP's older CTC boards. Behind him is Bert Schoellkopf, electronics engineer, who is in charge of installing the computers and other sophisticated CTC equipment at Houston.



Electronic Technician Bob Hasselback checks automatic relays in one of the wayside buildings.

Management Moves

Traffic Department

R. G. Thruston, former assistant vice president-operations at San Francisco, has been appointed assistant vice president-sales at Houston. Thruston, who joined the company in 1955, served as superintendent of the Cotton Belt and the Los Angeles Division prior to his appointment as assistant vice president-operations in 1979.

Operating Department

W. E. Corbett has been appointed assistant to vice president-operations. Corbett joined the company in 1949. He served as assistant superintendent at Oakland before being named superintendent of the San Antonio Division in 1975.

J. E. Neal and **L. G. Simpson** have been appointed to assistant general manager. Neal will be headquartered in Houston; Simpson, in San Francisco.

Neal joined the company in 1957. He served as assistant superintendent at El Paso before being named superintendent of the former San Joaquin Division (1976) and Oregon Division (1977). He was appointed assistant vice president-sales in 1979.



Thruston



Neal



Ongert



Fisher



Simpson



Bredenberg



Phipps



Moore

Simpson, superintendent of the Sacramento Division since 1974, joined the company in 1959. He has served in a number of Operating Department positions, including assistant superintendent of both the former San Joaquin Division and Sacramento Division.

New Posts for Supts.

R. D. Bredenberg has been appointed superintendent of the Houston Division. Bredenberg, who joined the company in 1964 at Brownsville, Texas, has served as terminal superintendent at both St. Louis and Pine Bluff, as well as asst. superintendent on the San Antonio and Sacramento Divisions. He was appointed Western Division superintendent in 1979.

M. D. Ongert succeeds Bredenberg at Oakland. Since joining the company in 1968, Ongert has held numerous operating positions including assistant division superintendent on the San Antonio and Western Divisions. He was promoted to superintendent of operations planning and control last October.

H. D. Fisher has been named superintendent of the Lafayette Division. Fisher joined the company in 1969 and two years later he was promoted to assistant superintendent of transportation in San Francisco. He served as assistant superintendent on both

the Oregon and Sacramento Divisions before being appointed assistant to the general manager in 1977. Last year he was named Oregon Division superintendent.

L. L. Phipps succeeds Fisher as superintendent of the Oregon Division. Phipps joined the company as a locomotive fireman in 1961. He held a number of posts in the Operating Department prior to his appointment in 1971 as terminal superintendent at Avondale. He became assistant superintendent at Lafayette in 1973 and moved to the general office in 1977 as assistant to general manager. He returned to the Lafayette Division in 1979 as superintendent.

K. A. Moore has been appointed Sacramento Division superintendent. Moore joined SP in 1955 and moved up through various Operating Department positions. He served as terminal superintendent at Oakland before being named terminal superintendent at West Colton-Los Angeles. In 1979 he was promoted first to assistant superintendent, and later to district superintendent of the Los Angeles Division.

J. J. Tierney has been appointed Tucson Division superintendent. He succeeds **A. G. Bays**, who has been named assistant to general manager. Tierney joined SP in 1953, having served 10 years with an Eastern railroad. He held a number of positions in California, New Mexico and Texas before being named assistant division superintendent at El Paso. He was appointed Tucson Division superintendent in 1977 and Houston Division superintendent in 1978.

R. J. McWhirter succeeds Corbett as superintendent of the San Antonio Division. McWhirter joined the company in 1942 at San Antonio and held a number of positions within the Operating Department throughout Texas and Louisiana. He was promoted to senior assistant superintendent at Houston in 1978. □



McWhirter



Tierney

The Skilled Staff Aboard SP's Instrument Car Travels Around the System TESTING LOCOMOTIVES, CARS AND TRACK CONDITIONS

There's everything from a digital speedometer to a computer aboard Southern Pacific's Instrument Car 252.

This mobile laboratory, a research tool of the Mechanical Department's Technical Research and Development Office and once a passenger sleeping car, is equipped with sophisticated instrumentation and computer equipment. It is used to evaluate the performance of motive power, rolling stock and track conditions in a variety of research and test assignments, while comfortably accommodating as many as eight persons who are involved with a research program.

Instrumentation Engineer Joe Lambert provides a tour of the 83-foot-long, \$500,000 car.

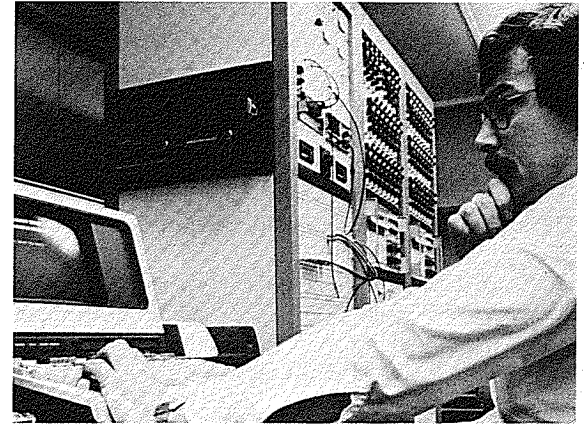
"The transformation from passenger car to Instrument Car was the handiwork of Car Shop #3 in Sacramento," Joe says as he walks into a brightly lit room that resembles a small computer facility. Here, in the heart of the Instrument Car, is a computer, analog recording devices, line printer, graphic display terminal and magnetic tape storage units.

"This is all state-of-the-art equipment," he points out, "and I consider the Instrument Car to be the best of its kind within the railroad industry. We are able to do studies on locomotives, flat cars, box cars—or any other kind of car—while in operation."

Instruments connected by cables to specific components of cars, locomotives—even loads of lumber, for example—can monitor such operating characteristics as the minute movements of suspension systems, the lateral action on the rail of the wheels with varied tread contours, or "rock and roll" tendencies of different cars at certain speeds.

Joe is one member of the field testing group that sets up and monitors the test programs. Other members of the group are Test Engineer Bob Allen, Mechanical Engineer Dave Rusconi, Engineer of Tests Dick Bardwell and Mechanical Engineer Jon Andresen. All test programs are initiated and directed through Ross Gill, manager of research and tests in San Francisco.

Much of Joe's time is spent preparing for a test. In addition to scheduling the upkeep and maintenance of the Instrument Car—from the diesel generators to the air conditioning and electronic equipment—he must also be an astute plan-



From this console, Instrumentation Engineer Joe Lambert monitors the data being collected during a test.

ner. He works closely with members of the Mechanical, Operating and Engineering Departments to ensure that the proper equipment for a test is available, that the test is coordinated with normal operations to avoid interruptions and that the Instrument Car is completely checked out and at the test site according to schedule.

Once this has been done, the study begins and Joe assumes an active role monitoring test equipment, checking the data that is being collected and making sure that the test runs smoothly.

"A test may last from a few days to several weeks," Joe says. "We may spend all day in one location, like the Tehachapis—which we use for most of our tractive effort tests—or we might ride from Los Angeles to Pine Bluff monitoring a load on a flat car. The average test program lasts about three weeks, and I guess I spend about 50% of my time away from Sacramento (the car's home terminal). In my five years on the Instrument Car, I've travelled over every inch of main line and have seen quite a few of the branch lines as well."

Some of those miles were covered while riding 137, the Dynamometer Car. That forerunner of today's Instrument Car was built in 1927 and designed spe-

cifically to test locomotives. It remained in service until 1978, the year 252 was completed.

"Compared to what we use today, 137 was a rudimentary research tool," Joe comments. "It took three people in the old car to monitor the data gathering devices. Today, one person can oversee the test equipment—which routinely takes 200 measurements a second—while the computer records and stores the data."

It's unfair to compare the two, however. The Instrument Car is the product of a technological revolution which has advanced at an incredible pace during the last 10 years.

Nevertheless, it was the Dynamometer Car which paved the way for 252—an extraordinary piece of equipment capable of testing new locomotive designs or fuel saving devices, as well as graphing the relationship of tractive effort, fuel consumption, wheel adhesion and cooling efficiency. This data, after it is carefully analyzed, may suggest solutions to problems or offer recommendations for important management decisions.

Ultimately, the Instrument Car is one of the company's resources for providing better service and a safer, more efficient railroad. □

The Snow Removers

**Skilled People and Effective Equipment
Handle this Wintertime Responsibility.**

"We've got the equipment, the manpower and the know-how for the job," explains Mike Burke, Sacramento Division assistant superintendent.

"But until meteorologists come up with fool-proof weather forecasts, we must also keep a 24-hour watch on the weather—alert to its slightest change—so that we are ready to implement our set procedures when it begins to snow, whether or not it was predicted."

Burke was explaining how SP keeps its trains moving throughout the winter over what railroaders call "The Mountain"—SP's main line over the Sierra, one of the nation's highest and most

rugged mountain ranges.

This direct rail line to Ogden handles up to 24 freight trains and two passenger trains daily.

"Things run smoothly today," Burke says, "because we have the tools to do the job properly. We work with diesel-powered snow-removal equipment and keep in touch with our crews with microwave radio and telephone communications."

It wasn't always that way.

Pioneer builders of the Overland Route didn't have today's sophisticated tools and equipment, so their solution was to put a roof over the railroad where the snowfall was heaviest. Of the 40 miles

of snow sheds once erected over tracks in almost a continuous stretch, about 2.5 miles remain today between Norden and Andover.

The majority of the railroad's snow removal operations in the Sierra are concentrated between Midas—seven miles east of Dutch Flat—and Truckee. Over this 47-mile stretch, elevations range from 4,100 to almost 7,000 above sea level.

Three types of equipment are used for snow removal.

Normally, the first piece of equipment to be called out is the flanger, a small caboose-type car, pulled by a diesel locomotive and fitted with a grader-like blade

which throws snow off the track. The snow is always directed to the outside bank of the railroad right-of-way so it will fall downhill.

When snow builds up to the point that the flanger can no longer keep up with it, the spreaders are put into operation. This piece of equipment is pushed by a diesel locomotive and fitted at the front with a dose plow and wings which can be moved up, down and to the sides as necessary to a maximum width of 17 feet. Spreaders also direct the snow over the edge of the roadbed and down the hill.

When the snow can no longer be

(Continued on page 11)

The mightiest snow fighter of all—the rotary snow plow—quickly clears the tracks near Chico, Calif.

AROUND the SYSTEM

Furth Appointed a Director of Federal Reserve Bank of SF

Alan C. Furth, president of Southern Pacific Company, has been appointed a director of the Federal Reserve Bank of San Francisco by the Fed's Board of Governors in Washington, D.C. He will complete the unexpired portion of a three-year term ending in 1981.

The Federal Reserve Bank of San Francisco serves a nine state district which includes Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah and Washington. It is part of the Federal Reserve System, which is responsible for determining monetary policy and providing the nation with fiscal, check, currency and other central-banking services.

Mr. Furth is a graduate of the University of California, Berkeley and its Boalt Hall law school. He began his business career in SP's Law Department in 1949, advancing to become the company's chief law officer in 1963. He was appointed executive vice president-law in 1976 and president of SP Company in 1979.

Eagle Eye Awards

Honored in recent weeks with SP's *Eagle Eye Award* for "special alertness in finding defects which were not easily seen through regular observation and for taking action which prevented possible accidents" were:

HOUSTON DIVISION: AW&E Truck Driver C. Arceneaux; Carman Helper J. Broussard; Chief Yard Clerk C. Butler; Fireman R. M. Berry; Yardmaster J. L. Boehn; Carman Helper S. A. Brooks; Brakeman E. O. Hartfield; Machinist Inspector J. H. Saldana; Carman G. T. Stovall; Fireman-Oiler J. Tuggle; Train Order Operator M. F. White.

OREGON DIVISION: Engineers E. A. Buurman and P. D. Carey; Brakeman L. D. Conley; B&B Carpenter V. Donley; Conductor S. D. Frack; Relief Signal Maintainer J. A. Wall.

LOS ANGELES DIVISION: Track Laborer B. E. Bartlett; Conductor K. W. Benson; Carman N. V. Chavez and A.

Cunningham; Brakeman A. N. Esgana; Switchmen G. A. Farris, D. G. Foos, and M. E. Gahring; MoW Yardman A. R. Hernandez; Brakeman L. Kinder; Carman N. D. Kemp; Engineer L. W. Larsen; Machinist R. G. Raymond; Carman G. Rameriz; Operator J. I. Shires; Switchman D. L. Tellez; Patrolman P. R. Gallant.

LAFAYETTE DIVISION: Operator T. H. Byrne; Conductor S. R. Fields; Switchman M. R. Guynes; Engineer P. N. Lantier; Conductor J. O. LeBlanc; Carman E. L. Perkins.

WESTERN DIVISION: Carman A. C. Bartolo; Engineers B. B. Kough, J. P. McEntire and J. E. O'Laque; Rear Brakeman P. A. Slavik; Signal Maintainer G. A. Whiney.

TUCSON DIVISION: Locomotive Supplyman F. Y. Contreras; Agent-Telegrapher H. C. Dooley; Locomotive Supplyman M. S. Encinas; Machinist Apprentice J. Gutierrez; Extra Gang Foreman D. R. Haws; Electricians R. Marrufo and E. W. Meiers, III; Machinist Apprentice J. N. Walker; Car Inspector V. Zavala.

SACRAMENTO DIVISION: Brakeman R. H. Gore; Carman B. M. Wayman. **SAN ANTONIO DIVISION:** Asst. Superintendent R. D. Maldonado.

COTTON BELT: Brakeman C. G. Wilburn.

Alert Employees at San Antonio Save Nearby Residents

Several people who were living near the San Antonio Locomotive plant owe their lives to the quick action of a group of SP employees.

Electrical Foreman G. L. McCarty noticed that a two-story house was on fire. He called TOPS Clerk J. L. Ramirez who, in turn, phoned the fire department. McCarty also called Machinists Ronnie Ott and Frank Onofre, and Electrician Leroy Garcia for assistance.

They ran to the house and awakened residents in the burning home and surrounding houses. Eight people were led to safety. No one was injured, although the house was gutted by the fire.

McCarty, in addition to being the local chairman of the American Railway Supervisors Assn., is a member of the China Grove Volunteer Fire Department. □

'Backhaul Bonanza' Winners Announced

The winners in the company's first nationwide sales contest—"Backhaul Bonanza"—were announced at SP's National Sales Meeting in early January.

Nine sales people in the Fresno and Reno District Sales Offices received silver "Salesmaster" awards for their achievements which went far beyond the goals set for their respective districts during the contest.

Their efforts, along with the hard work of the company's entire sales force, helped secure an additional 1,000 loads for rail cars that had been returning to us empty, and thereby adding substantially to the company's earnings. □



The Fresno sales staff includes (seated, l-r) Senior Sales Rep. R. P. Reiter, Sales Rep. Gail Campbell, Chief Clerk R. D. Morgan, who contacted customers during Reiter's illness, and (standing, l-r) Sales Reps. J. K. Huish and R. G. Seamus. District Sales Manager C. W. Douglas and Account Executive L. L. Huffman. Not shown: D. J. Yoder, now territorial sales manager at Tyler, Texas.

Right: The Reno sales staff includes Sales Rep. S. D. Chamberlin and District Sales Manager C. Q. Uggan (right).



Congratulations

William and Donna Mullikin, who both worked for many years as clerks for the Purchases and Materials Department at West Oakland before their retirement in 1970, recently celebrated their Golden Wedding Anniversary.

The '80 Census: A Statistical Portrait That Counts on You

On March 28, every household in the United States will receive a very important questionnaire in its mailbox—the 1980 census.

It is an ambitious project Americans have been undertaking at 10-year intervals for almost 200 years. The first census was taken in 1790 after delegates to the Constitutional Convention, which met in 1787, decided that population distribution should be the basis for direct taxation and apportionment in the House of Representatives. They approved a Constitutional requirement that every person be counted at least once every decade.

The 1980 census reaches out to an estimated 220 million people as it seeks such basic information as age, sex, occupation, income and about subjects such as housing, personal transportation and energy use.

Most people will be asked to answer the short form—19 questions. About one in five households, chosen randomly, will receive the long form, which contains an additional 46 questions.

Roughly 90% of the households will take their own census by simply filling in the questionnaire and mailing it back. Those who fail to return the form will have a census taker call on them. The remaining 10% of the households will be asked to hold the questionnaires until a census taker picks them up.

Federal law requires everyone to answer the census. Failure to do so can mean a fine of \$100. That same law also assures that everyone's answers are kept confidential. The only people who can see an individual's replies are census employees, who are sworn to secrecy under threat of a \$5,000 fine and five-year prison term. No other federal agency, or even the President, can see individual census answers.

From the more than 86 million questionnaires that are returned, a new statistical portrait of America

will develop. The statistics—enough information to fill some 300,000 pages—will reveal dramatic changes in American family life, income, housing costs, energy use, population distribution and will importantly affect Congressional representation.

New population patterns will require extensive redrawing of district boundaries for the House of Representatives. After reapportionment, a majority of the members of the House are expected to be Southerners or Westerners for the first time in the nation's history. California, Texas, Utah, Oregon and Arizona—all states where Southern Pacific operates—are expected to gain representation as a result of the 1980 census.

The census has other important uses, too. More than 100 federal programs, involving spending of some \$50 billion, are guided by census results. American business, from small-town stores to multinational corporations, rely on the census numbers to select plant sites or analyze sales and marketing strategies. And if you were interested in finding out where unmarried men or women live in a city, the census could provide that information—right down to the neighborhood.

1980 is the year for America's new statistical portrait. Make sure you're in the picture—fill out the census questionnaire on March 28. □

Law Dept. Appointment

L. M. Roach, general attorney of SWT and SPT of T&L with headquarters in Dallas, has been appointed assistant general attorney of SP Transportation Company.

Roach, who received his law degree from the University of Texas, joined the company in 1957. He is vice chairman of the Industry Committee for the National Association of State Transportation Specialists and a director-at-large of the Texas Motor Transportation Association.



The Snow Removers

(Continued from page 9)

pushed aside by a spreader, or if it is coming down so heavily that it cannot be controlled by merely shoving it aside, a rotary snow plow will be used.

There are two types of these diesel-powered rotary snow plows.

Rotaries with wide, moveable wings are used when it is possible to make a wide cut through the accumulated snow. Straight wing rotaries (with fixed wings) are used for narrow cuts in areas where there is heavy drifting or slide conditions. Rotaries can throw the snow out nearly 150 feet. During severe storms, they move constantly back and forth over the track throwing out the mounting snow. Rotaries team up with spreaders for post-storm clean up operations.

The determining factor in considering when certain equipment should be used for snow removal operations, Burke says, is not depth of snow, but the ability of the equipment in use to get rid of it. "The intensity of the storm determines the kind of equipment we use for snow removal operations," he says.

The equipment is kept constantly ready during the winter months. Five diesel rotaries (one straight wing and four wide wing) and five flangers are kept at Roseville; a spreader is on the ready at Colfax; two spreaders are at Truckee and two emergency rotaries are maintained at Sparks, Nevada.

Crews to man this equipment are called off the train-crew extra board at Roseville.

During snow removal operations, either the division superintendent or assistant superintendent—or both, set up headquarters at Norden. The weather information coming to them from official sources is constantly updated by radio reports from trains running at various locations along the line. As difficulties occur on line, the division officers move back and forth as necessary to personally direct operations.

"Snow removal operations are an important wintertime responsibility for us," Burke says. "Our success depends on hard-working crews, the proper equipment and a close working relationship between the Operating Department and Maintenance of Way personnel. This winning combination makes it possible to cope with the weather, while keeping the main line open and the trains running." □

PEOPLE

Ken Hunter: A Telescope Builder

Ken Hunter of Yuma readily admits he has too many irons in the fire! His interests and hobbies are photography, scuba diving, ham radio, and the building of telescopes. The telescopes first caught his interest in 1952 when a neighbor showed him the planet Saturn through a telescope. He has since built over 60 various powered telescopes.

Ken and his Southern Pacific Pipe Lines co-worker, Ray Shirley, have completed an eight-inch telescope. Since 1973 Ken has been in the process of building a 12½-inch Maksutov telescope, which has approximately 1,200 times the light gathering power of a human eye. According to Ken, there isn't much difficulty in building it, but a lot of patience is required because it takes so long. He admits that he is more interested in the mechanics of building telescopes and working to precise dimensions rather than their application. "I would much prefer to see somebody else use them," he says.

Hunter has experimented with special electronics on his telescopes, such as cameras and star guiding. Being a researcher and developer, he says a telescope is a good platform to use in experiments. While attempting to look for a certain star, he discovered that by tying a home computer in with his telescope, he could set it to automatically find and track the star since a star will change positions during the night.

When he completes the 12½-inch telescope, Hunter hopes to make it available to civic groups, such as scouting organizations and the Arizona Western College in Yuma as a teaching tool in astronomy courses.

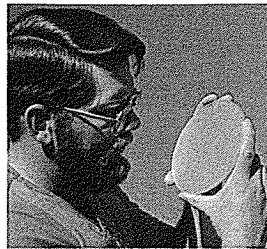
Having 20 years experience with ham radios, Hunter was instrumental in organizing a radio operators' club in Yuma. Members do public relations work for the city and run phone patches for U.S. military personnel overseas. They also handled emergency communications traffic when the El Centro earthquake struck in 1979.

Ken, electrical technician for Southern Pacific Pipe Lines, describes himself as an electronic trouble shooter. He is one of two SPPL employees for the Yuma District, which covers approximately 200 miles from the Niland Booster Station near the Salton Sea in California to the Growler Pumping Station, 50 miles east of Yuma. Co-worker Ray Shirley, a mechanical technician, and Ken are on call 24 hours a day and are responsible for keeping the system operating. Their functions are coordinated so that one can cover the other's job during vacation or other absence. A normal day consists of periodic maintenance and inspections and calibration of pressure transmitters and electronic equipment.

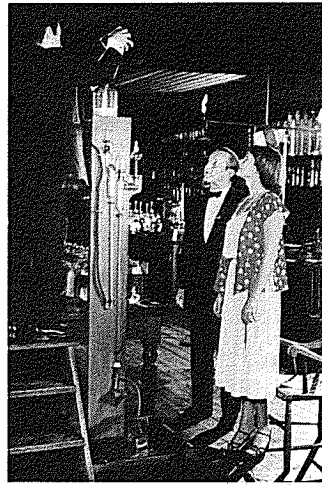
Ken was sent to Yuma 3½ years ago as an electronic field engineer through his employment with Cubic Corp., a defense contractor. Prior to that, he worked for the Assn. of Universities for Research in Astronomy—AURA—at Kitt Peak National Observatory in Tucson. While there, his duties were in the Electronics Research Laboratory. He also worked at Cerro Tololo Inter-American Observatory in La Serena, Chile.

Hunter and his wife, Vicki, celebrated their first wedding anniversary in February. "She has been very understanding," he says. "She gives me the freedom and time I need alone to devote to my projects."

—Mary Alice Reeves



Ken Hunter



Assisting Madeleine Edison Sloane (right) with the re-enactment of her great-grandfather's invention of the incandescent lamp are Robert Koolakian (left) of the Edison Institute and William Clay Ford, Chairman of the Edison Institute Board of Trustees.

This SP Lawyer's Great-Grandfather Was Thomas Edison

"What was Thomas Edison really like?"

People who meet Madeleine Edison Sloane, contract attorney in the Law Department at San Francisco and great-granddaughter of America's foremost inventor, can't resist asking her that question.

"In my first interview on television, I was asked to recall family discussions about Edison," she says. "I replied that we never discussed him at home. I suppose that came as a surprise, but you must remember that my father was only 12 when Edison died, so even his recollections are limited."

Madeleine explains that most of her historical information and anecdotes have been gleaned from Edison's diary and several biographical accounts written about him.

Over the past several years, Madeleine has participated in ceremonies or special events honoring her great-grandfather.

Last year was busier than usual.

1979 marked the centennial of Edison's invention of the first practical incandescent lamp. On October 21 in Dearborn, Michigan—where Edison's original Menlo Park, New Jersey laboratory was moved and restored by Henry Ford in 1928—more than 400 guests from around the world watched the re-enactment of Edison's experiment. Madeleine assumed the role of her great-grandfather.

"The incandescent lamp was an invention that revolutionized the world," Madeleine points out. "Often, people overlook the fact that the light bulb was just one part of a complex system for the distribution of electric light in small units. Edison had to invent everything—from the fuses, switches and generators to a system that could distribute electricity to individual homes and buildings. There had never been anything like this before."

Edison accomplished this, she emphasizes, with a limited knowledge of mathematics and less than a grade school education.

Madeleine speculates that this man, whose inventions such as the alkaline storage battery, phonograph and motion picture camera are part of our everyday lives, probably could not have been a creative genius in our modern society.

"He was very curious," she says, "and his curiosity was always getting him in trouble. He would experiment with things just to see what would happen. He burned down a barn once—probably the result of one of his experiments!"

"Today he would be arrested for arson and thrown into our criminal justice system. I'm not sure his scientific creativity would have survived."

Fortunately, he was born in a different era and developed into an inventor whose theoretical ideas had practical applications. It was Edison, Madeleine points out, who was a pioneer in establishing organized research as a business and was able to carry his inventions far beyond the laboratory.

"Being the great-granddaughter of Thomas A. Edison is something I'm very proud of," Madeleine says. "I have a lot of admiration for the man. He was a real pioneer—a self-educated, but very creative and curious man whose inventions were the result of hard work, perseverance and single-mindedness."

Edison's dedication and commitment, however, were not without a humorous side. His diary reveals a whimsical personality. Describing an experiment by one of his associates to hatch chickens artificially by using an electric incubator, Edison wrote: "Just think, electricity

employed to cheat a poor hen out of the pleasures of maternity."

"He was quite a character," Madeleine concludes. "He never ceases to amaze me." □

They Are Only Games, But Gerry Hunter Knows Every Rule

"A sports official doesn't hesitate. He calls 'em as he sees 'em."

Gerald Hunter speaks with authority. As an official for amateur athletic competitions—soccer, basketball and baseball—he is both criticized and praised. Yet he is confident that he makes the right decisions, even when the spectators voice their disapproval.

"I'm the one closest to the action on the playing field. I know the rules inside out. And I participate in special clinics to discuss the rules and their interpretations," Gerry points out.

Gerry, SP's district sales manager at Seattle, devotes most of his spare time to officiating. An all-around high school athlete, he chose baseball as the one sport to concentrate on during his college days.

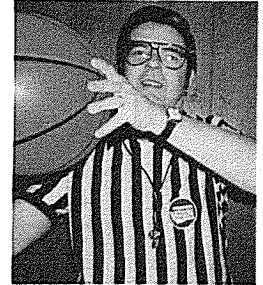
The transition from athlete to referee began with a physical education class in sports officiating. He found the course interesting and began refereeing high school basketball games during baseball's off season. Soon he was umpiring baseball as well. In 1970 Gerry did something unusual—he began refereeing soccer, a sport he never played competitively.

"Tom McCarty (retired area sales manager in Seattle, then Gerry's supervisor) sparked my interest in soccer," he recalls. "Tom's a big fan of soccer and promoted it in Bellevue, Washington, a suburb of Seattle. He helped establish the first junior soccer leagues in Bellevue. This was about the same time that my son became interested in the game, too." Gerry studied the rules, observed the game and was soon qualified to officiate.

Hundreds of rules govern soccer, basketball and baseball. It's a major task to learn all of them and a never-ending struggle to keep up with the changes, revisions and latest interpretations.

"It keeps me busy, that's for sure," Gerry admits. "Each year I must pass both written and oral tests in each

sport to retain my qualification to serve as an official. I also spend about two weekends each month attending clinics which provide additional understanding of the rules. I belong to seven associations for sports officials—from the NCAA (National Collegiate Athletic Association) to



Gerry Hunter

the Lake Washington Jr. Soccer Officials Assn. And, of course, I umpire or referee a couple of games a week during the season for each sport." Somehow, Gerry also finds time to coach a Little League team.

"We're a very sports-minded family," Gerry says. "Otherwise I'd never get away with spending so much time at this." His wife, Judy, plays tennis; his daughter, Lori, is an ice skater; and the combined athletic pursuits of his two sons, Scott and Jeff, include soccer, hockey, baseball, track, swimming and basketball.

Gerry considers soccer the most challenging of the sports he officiates. "There are 22 players on the soccer field and one referee to enforce the rules. It requires a lot of stamina. There are no time outs—unless there is an injury—and you're constantly running up and down a 100-yard-long playing field. The spectators often add to the confusion because most of them don't know the rules, and even fewer understand them."

Although the development of the "instant replay" on television has added more pressure on the officials, Gerry supports his fellow rule-keepers. "Officials are making split-second decisions, often under difficult circumstances. They do their best to see that a game is played fairly and, I'm convinced that most do an exceptional job." □

Safety Pays



For the second year in a row, Oregon Division transportation employees won top safety honors among the company's nine divisions. (A story on the 1979 awards is on page 14.) During the year, various units of the division received special awards, like the rain gear worn by Brooklyn Switchman Claudia Knowles and Conductor Bob Loonstyn, for having achieved interim safety goals. Then, in December, each transportation employee received a \$15 gift certificate in honor of winning first place. The division's 2,300 operating employees had less than 4 percent of the injuries recorded for the entire system last year.

CALIFORNIA STATE
MAR 7 1980
RAILROAD MUSEUM

BULK RATE
U. S. POSTAGE
PAID
San Francisco,
Calif.
Permit No. 41