



JOHN
venue
California

The year was 1852



THE YEAR was 1852. The setting was San Francisco of the gold rush era, feverish with excitement and bursting with growth. Peter Donahue, a young foundryman, with a franchise from the infant city and little else but faith and enterprise, organized the San Francisco Gas Company with several associates. Reality began to clothe his dream of lighting the streets with gas in the great city he foresaw rising beside the Golden Gate.

Another event of historic importance to the future of California took place in the Sierra Nevada foothills in 1850. In what is now Nevada County, five gold seekers headed by Charles Marsh, a civil engineer, formed the Rock Creek Water Company to bring precious water by ditch to work dry hillside gold diggings. They were the first of many thousands of miners who unknowingly prepared the way for the great Sierra hydroelectric development of today by building a vast system of mountain reservoirs and waterways.

These were the origins of Pacific Gas and Electric Company. They were the earliest trickles in two streams of economic development which merged finally in one organization, now proudly commemorating one hundred years in the service of California.



PETER DONAHUE knew nothing of the gas business, but he employed a gas expert from New Jersey. He bought pipe on credit in Philadelphia, imported coal by sailing ship from Australia, and in his small foundry built retorts for distilling gas from the coal.

The first gas lamps lighted the muddy streets of San Francisco amid public acclaim on the night of February 11, 1854. "The lights burned very brilliantly, and it required only a larger number of them to render our streets as light as day," the *Daily Alta California* reported, adding, "The good results from the introduction into the city are almost incalculable."

Soon other gas companies were formed in San Francisco and plants were built as well in other growing towns, among them Sacramento, Marysville, Stockton, San Jose, Oakland, Berkeley, Nevada City, Grass Valley, Vallejo, Napa and San Rafael. Lamplighters who began their rounds at dusk, moving from lamp to lamp with torch in hand, became the picturesque symbol of the period.

From the first, as independent companies sprang up, there was a trend toward consolidation of separate systems for economy and better service to customers.

MEANWHILE the development of hydraulic mining in the Sierra Nevada proceeded rapidly. Two notable inventions occurred in this development. In 1853 Edward E. Matteson, a Connecticut Yankee, devised the first high pressure water nozzle to wash pay dirt into his sluice box at American Hill, Nevada County. In 1878 Lester Pelton, a carpenter of Camptonville, Yuba County, discovered the principle of the high speed water wheel driven by a jet from a nozzle such as Matteson had invented.

Pelton was seeking greater power for lumber and grist mills of the area, but within a decade his invention was to have an unforeseen use for electric generation.

It was in 1879, the year following his discovery, that the first central electric station in the United States—and possibly in the world—came into existence in San Francisco. George H. Roe, a partner in a brokerage firm, sought to regain his loss on an unclaimed shipment of experimental electric equipment. Seeing commercial possibilities in it, he organized the California Electric Light Company. Two small dynamos driven by steam were placed in service, supplying current for 21 carbon arc lamps. Customers were charged \$10 per week per lamp—a tremendous sum by comparison with today's low electric rates.





THE ERA of electricity had begun, and the end of gas use for lighting already was foreshadowed. Electric lights were brighter, cheaper and more convenient. Edison's invention of the incandescent lamp in 1879 gave electricity a further advantage over gas.

Just as gas plants had done, steam-operated electric plants for lighting service sprang up quickly in many California towns during the 1880's. The organizers of these companies saw opportunity for profit, but the real benefit was to the customers they served.

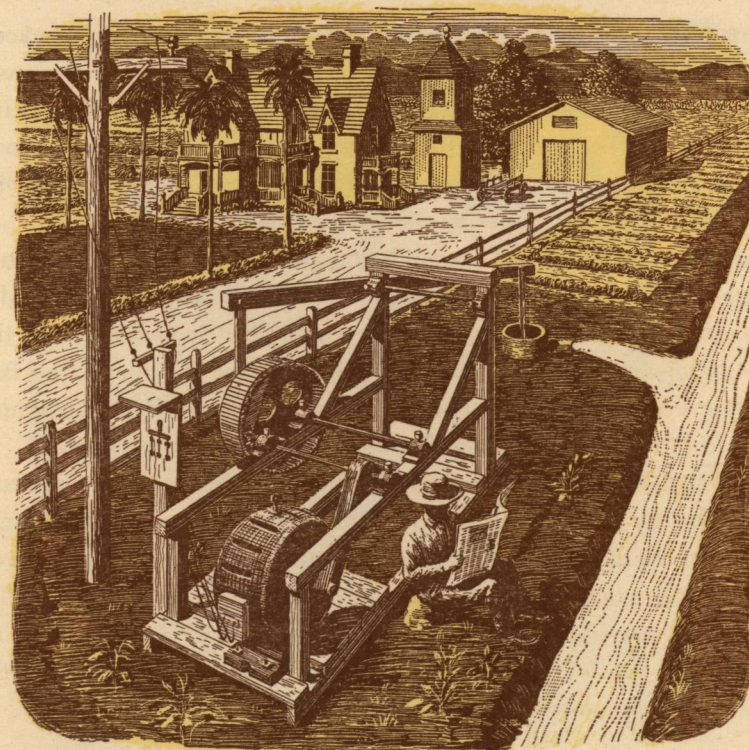
In the mountains the application of water power by means of Pelton wheels connected to generators followed naturally. It provided a new use for the miners' reservoirs and waterways. Built at large cost, these were just then in danger of falling into disuse because of legislation against hydraulic mining to end the silting of rivers.

Hydroelectric power found a ready market for lighting streets and business places in the mountain communities. Nevada City and Grass Valley were the first in Northern California to benefit from it, in 1887. Extension of power lines for the electric operation of mine hoists and quartz mill stamps soon followed. Systems spread as means were found to transmit electric power over increasing distances.

THE EARLIEST of the hydroelectric plants on the present P. G. and E. system was Folsom Powerhouse on the American River. It operated continuously from 1895 until 1952, when a Federal reclamation project caused it to be shut down, later to be destroyed. The builders of Folsom were H. G. Livermore and his sons, Horatio P. and Charles E. Livermore.

A. G. Wishon, who later became president of the San Joaquin Light and Power Corporation, was the guiding spirit behind a development on the Kaweah River, with a vision of applying electric power to irrigation pumping in the dry San Joaquin Valley. His successful demonstration in 1899, and two others in the Sacramento Valley in 1898, were of tremendous importance in the development of California's agriculture.

On the Yuba River Eugene de Sabla, John Martin and Romulus R. Colgate built the Nevada, Yuba and Colgate power plants in quick succession. Their Bay Counties Power Company transmitted electricity a record distance of 142 miles to Oakland in 1901. On the Mokelumne River, Prince Andre Poniatowski and W. H. Crocker by 1902 had organized the Standard Electric Company to transmit power to San Francisco. On the Feather, E. T. and Guy C. Earl and engineer Julius Howells built the first electric plant of the Great Western Power Company in 1908.





COMPETITION between various utilities, both electric and gas, was keen and led to numerous consolidations. It had become increasingly apparent that the duplication of expensive systems to compete for the same customers was wasteful. Combination made possible better service at lower rates. Regional systems developed and a linking of these became the logical next step.

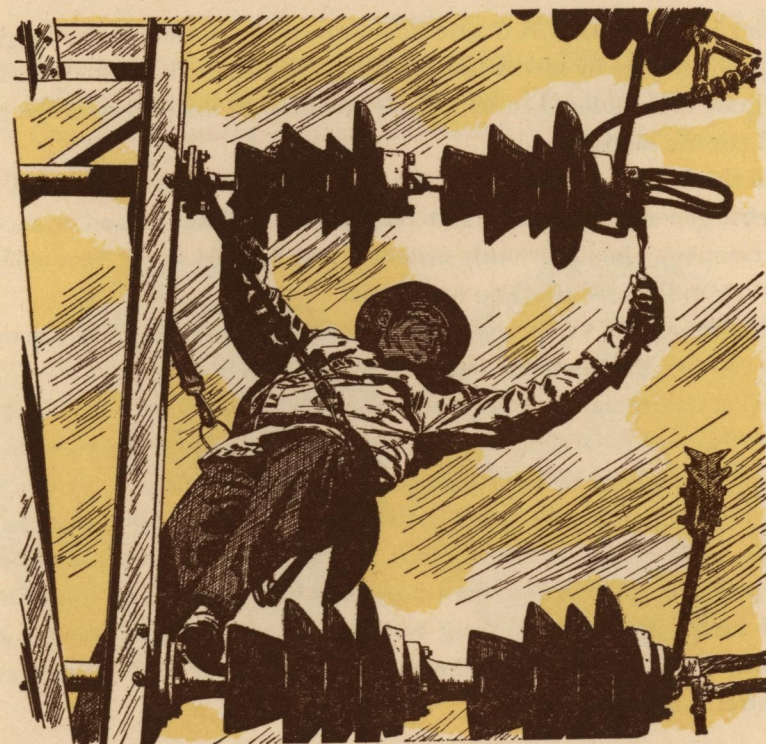
Out of this trend toward consolidation grew Pacific Gas and Electric Company. It was organized on October 10, 1905, to bring together under one management the San Francisco Gas and Electric Corporation (the latter-day descendant of Peter Donahue's original company), the Bay Counties Power Company, Oakland Gas Light and Heat Company, Standard Electric Company and a number of smaller systems.

Only six months after the formation of the new company the destruction caused by the San Francisco earthquake and fire of 1906 brought the venture close to disaster. With courage and determination, however, the directors guided the company through the emergency. By 1912 P. G. and E. was able to begin its first large hydroelectric expansion, on the Bear and South Yuba Rivers. Developments of increasing size on the Pit, the Mokelumne and other rivers followed.

THE AREA served by P. G. and E. gradually increased through successive consolidations. Its system was extended widely in the Sacramento Valley. In 1919 a number of Shasta and Tehama County plants were acquired. In the 1920's hydroelectric properties on the Stanislaus River were added and the Salinas-Monterey area, Stockton, Eureka, the Sonoma-Mendocino area and other localities were brought into the service area.

The result of this corporate growth was ever increasing economy of operation which was reflected in improved service to customers at steadily declining rates. Finally in 1930 a combination with two remaining large companies was effected under the P. G. and E. name. These were the Great Western Power Corporation, with its Feather River plants and its properties in San Francisco, and the San Joaquin Light and Power Corporation built by A. G. Wishon.

This in outline was the development of one of the world's greatest electric systems, serving nearly all of Northern and Central California. A comparably great interconnected gas system has grown from the first small company organized in 1852. The introduction of natural gas by P. G. and E. in 1929 helped stimulate the State's industrial progress just as electric irrigation pumping had spurred agriculture.





SINCE WORLD WAR II P. G. and E. has moved on to still greater heights of public service by successfully carrying forward the biggest expansion program ever undertaken by a single company in the history of the gas and electric industry.

In the first six postwar years the Company substantially doubled its electric generating capacity, matching all that P. G. and E. and its ancestor companies had previously installed, and by 1954 it will have added another million kilowatts on top of that.

Returning on a vast scale to the construction of steam-electric generating plants, the Company built the largest such plants in the West. To provide Californians with a great new supply of natural gas, P. G. and E. built the world's largest diameter high pressure natural gas pipeline to transport gas from distant Texas and New Mexico fields.

The Company's expenditure in this unprecedented program will have exceeded one billion dollars by 1953. And already P. G. and E. is projecting new generating plants, both steam and hydroelectric, for immediate and future construction, along with further expansion of natural gas facilities to supply the continually growing needs of Northern and Central California.

The Coffin Award

A fitting climax to a century of achievement in the service of California came for Pacific Gas and Electric Company in the year of its centennial celebration.

This was the award of the Charles A. Coffin Medal, the most highly prized mark of distinction among American electric utilities.

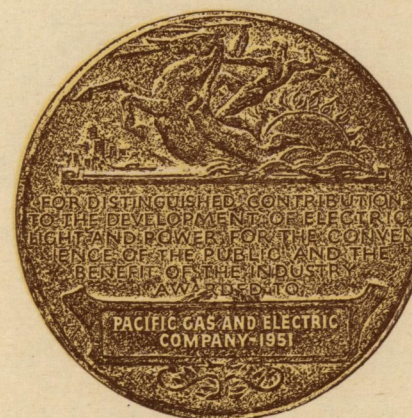
Established thirty years ago by the first president of the General Electric Company, the Coffin Award was presented to P. G. and E. at the 1952 annual meeting of the Edison Electric Institute at Cleveland, Ohio.

The accompanying citation said, in part:

"For its courageous undertaking and its able execution of a huge construction program,

"For its cooperative and far-seeing acts which brought to all the people of the area and to the taxpayers of the nation the greatest economic advantage in putting to use the electricity generated as a by-product of a major irrigation and flood control project (the Central Valley Project),

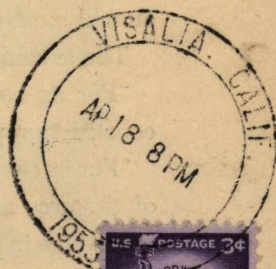
"And for the inestimable value which these great achievements have had in the preservation of the American system of free enterprise and in furthering the progress of the electric industry, the Pacific Gas and Electric Company is hereby declared the winner of the Charles A. Coffin Award for 1951."



Thanks for your
note - won't get
too busy - Ferns
& family plan to
New Orleans
today 7:30 - 5:00 - 7:00
took them to Fresno
airport. Love
PK

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