



Quarterly Bulletin of the Calaveras County Historical Society
Volume XXIII April-July, 1975 Numbers 3 & 4

Calaveras County

Goes Electric

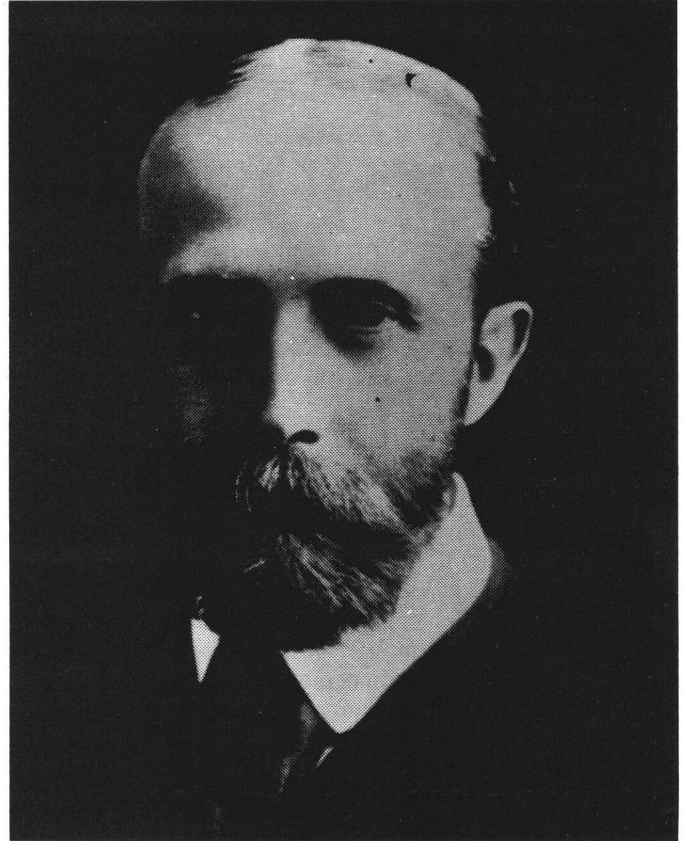
By Charles R. Joy

Editorial Note: Early development of the generation of hydroelectric power in and next to Calaveras County near the turn of the century contributed much to the rapid expansion of the now immense Pacific Gas & Electric Company. The Standard Electric Company on the Mokelumne, the Sierra & San Francisco on the Middle Fork of the Stanislaus, and the Western States Gas & Electric on the American River, each had transmission lines criss-crossing our county. The little Utica Power Company was, however, the only producer of electricity that could be considered exclusively a Calaveras enterprise. One by one, these pioneer companies were absorbed into the California Gas & Electric Company or into its successor, P. G. & E.

We are much indebted to Mr. Charles R. Joy, son of a P. G. & E. pioneer, who recently presented us with an exceptionally interesting manuscript of that company's development of hydroelectric power in our county. During the course of the editing of Mr. Joy's article, we became so interested in this subject that additional research resulted which enlarged the original paper and increased the number of illustrations.

Much of the hydroelectric story is fairly recent history. In fact, a number of the participants are still with us, mostly in retirement. The building of the dams, powerhouses, and transmission lines was a remarkable achievement, both from an engineering and technical standpoint and by the immensity of the job. It was a dramatic success story of human endeavor, even though it was spread out over many years. The facilities created have well stood the test of time, although one by one the original installations have been replaced by up-to-date structures. But the foundations of the original projects are still the fundamental basis of our modern hydroelectric system.

It is impossible, in as brief a presentation as this, to include mention of more than a very few of the persons who played a part in this memorable bit of Sierran history. None the less, we salute



ANDRE PONIATOWSKI

Prince Poniatowski, or, as the local populace jocularly referred to him, "Prince Pint O' Whiskey," pioneered the commercial development of hydroelectricity in the Southern Mines. High-born, and well-connected, the Prince made a strategic marriage that assured his success in California. With Poniatowski ingenuity and Crocker money, the Electra powerhouse was built in 1902, later becoming one of the leading components of the P. G. & E. Company which soon emerged from a complicated series of mergers. The Crockers sold out their own and the Prince's interests in 1903 to the founders of the P. G. & E., and, much disappointed, Poniatowski retired with his family to France.

P. G. & E.

them all, and dedicate this issue to their grand efforts, the benefits of which we enjoy today, as will our descendants in the years to come.

Like so much of the history of the Mother Lode area, the quest for gold was to be the primary setting for the development of electrical energy in Calaveras County. All of the early generating plants which were to serve the county derived their energy from

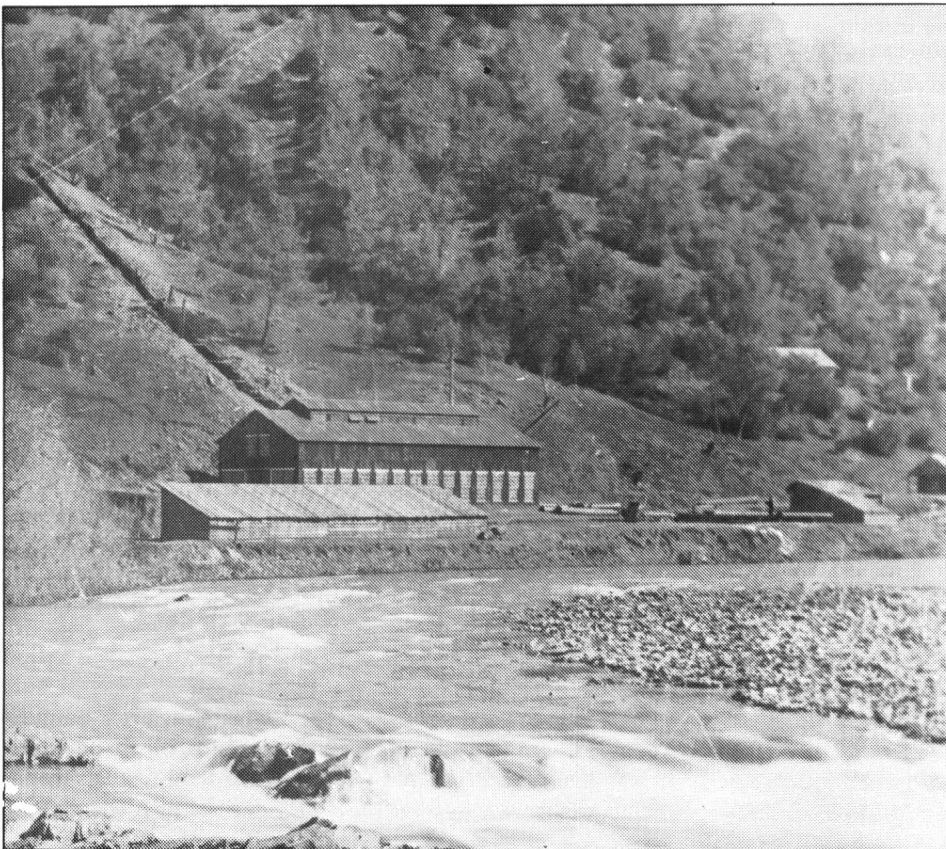
the water sources first exploited by early mining companies. Much of that history took place, however, in Amador, Alpine and Tuolumne counties, next to Calaveras County, because their eastern reaches control the headwaters of the Mokelumne and Stanislaus rivers. The Utica powerhouses at Murphys and Angels were the only ones actually built within Calaveras County and remain so today.

Development Of The Mokelumne

The oldest hydroelectric plant that was to serve northern and central Calaveras County was the Electra on the Mokelumne, constructed in 1902, about three miles upstream from the present Highway 49 bridge. But the first plant to be built, and truly one of the very early commercial hydroelectric installations in the state, the Blue Lakes generating plant, was completed five years before, just two miles downstream from Electra. This was designed as a pilot plant for a much larger operation to provide power for the Bay Area. To understand the history of this early pilot plant, we must go back to 1855 when the gold miners of Slabtown and Butte City, in Amador County, built a ditch and flume system to bring water to their diggings. In 1870, this became the

Sutter Canal and Mining Company. Then, in 1892, the Blue Lakes Water Company, named for their source lakes at the head of the Mokelumne in Alpine County, acquired the Sutter system, intending to supply Oakland with water.

The history of the development of electric power in this area is rooted in European nobility. It was the genius of Prince Andre Poniatowski, of noble Polish descent, born in Paris in 1864, that inspired the first electrical energy to flow through Calaveras County. After a visit to the South African gold fields, where he learned much of the needs of mines and of engineering, the Prince traveled to the United States in 1892. Two years later, he married Elizabeth Sperry, the daughter of the prominent Stockton miller, the niece of James Sperry, the hotel proprietor and promoter of Big Trees, and most important, the sister-in-law of William H. Crocker, wealthy San Francisco banker. Backed by English and San Franciscan money, the Prince organized the California Exploration Company in 1896, and began to actively develop mines in the Calaveras vicinity. Soon he became involved with Thomas Bullock in the promotion of the Sierra Railway Company. Early in 1897, Poniatowski sold out his interest in the Sierra Railway to the Crocker at a substantial profit, and then acquired control of the Blue Lakes Water Company. This move soon led to the construction of the first hydroelectric powerhouse in the area, as I mentioned above. It was located on the Amador side of the Mokelumne River just a mile or so upstream from the present Highway 49



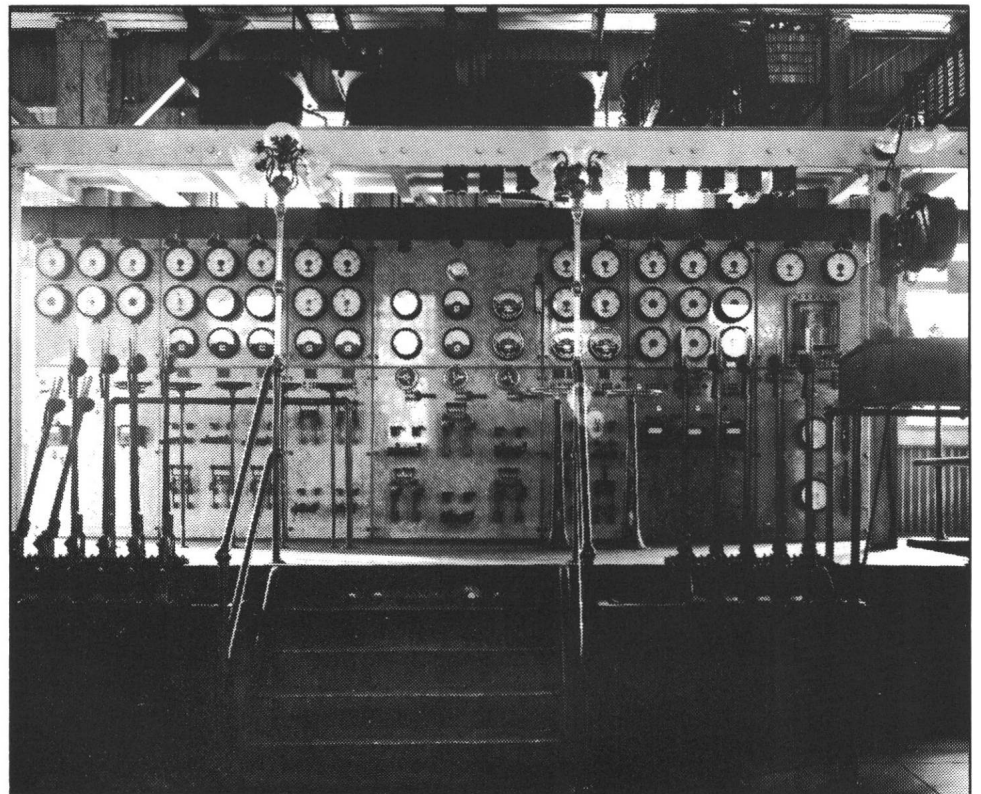
BLUE LAKES POWERHOUSE
A view of the first commercial hydroelectric power plant which was constructed in the Southern mines, taken by "teen-ager" Frank Peek of Mokelumne Hill, who later became a prominent electrical engineer with the General Electric Company.

From Society Files



OLD ELECTRA - 1920's

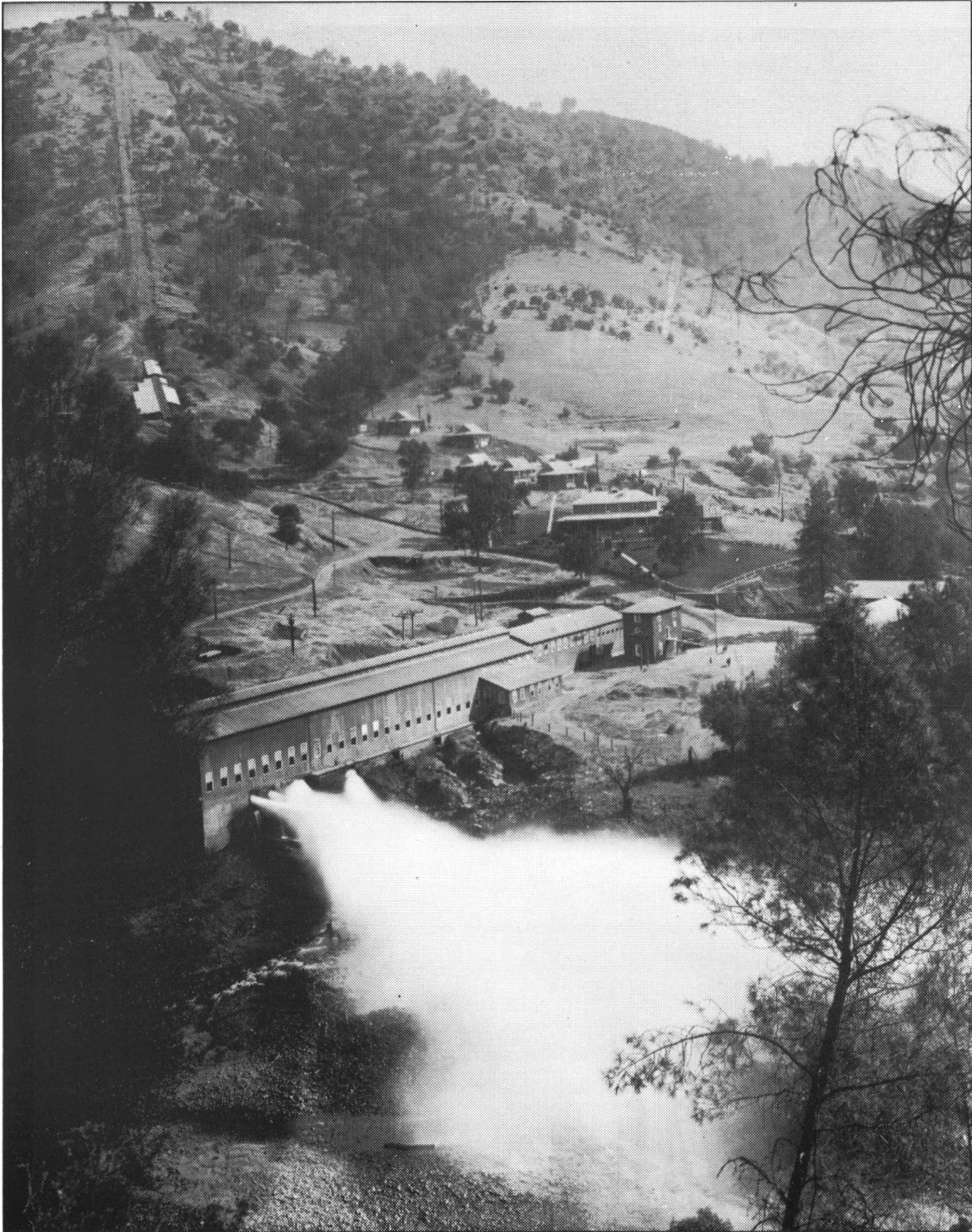
For half a century these old Stanley generators spun at 240 RPMs to help fill the constantly growing demand for "juice" in Superior California. Only when New Electra was completed in 1948 were these obsolete generators allowed to come to rest for good. By then, Prince Poniatowski's achievements had well become a part of electrical history.



ELECTRA SWITCHBOARD

When this switchboard was installed, it was one of the most modern electrical hookups in service in California. The myriad of switches and meters neatly mounted on the massive soapstone panels was most impressive in 1902. And the lamp shades look like something out of the best Corning glass shop.

P.G. & E.

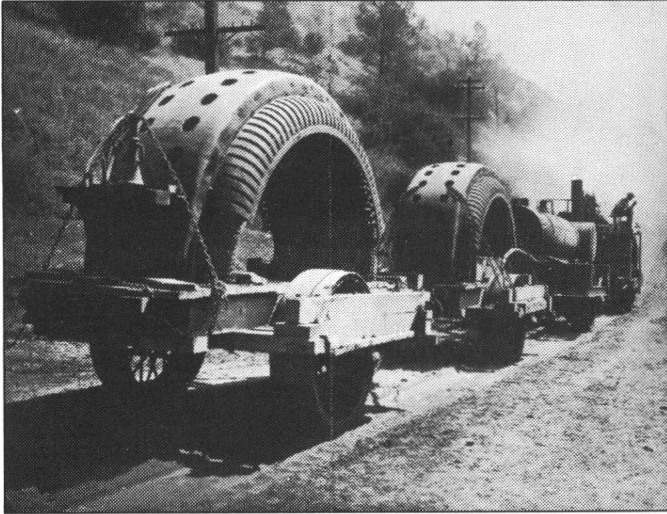


ELECTRA POWERHOUSE

The "old" Electra plant as it appeared in the 1930's. This powerhouse, with its water storage and distribution system, became a monument to the versatile and

imaginative Prince Poniatowski. Progress, however, half a century later, required that this pioneer facility be replaced with a larger and more up-to-date plant.

P. G. & E.



GENERATOR FOR ELECTRA - 1905

The stator of one of the new 5000 KW generators, dismantled into two pieces, is hauled into Electra by a steam traction engine.

P. G. & E.

bridge. The powerhouse and the camp were named after the Blue Lakes which are the source of the Mokelumne.

The Blue Lakes powerhouse used water dropped 1040 feet from the old miners' canal to three 450 KW generators. Blue Lakes began generating electricity on October 25, 1897. This was sold to local mining and other industrial customers.

Even while the Blue Lakes plant was under construction, the Prince was putting together a much larger organization which he named the Standard Electric Company (after the miners' ditch from the high country). The purpose of this company was to build a large powerhouse just above the original pilot plant to serve the Bay Area with water-generated power. This was to be called the Electra plant. In order to acquire experience in the long distance transmission of electricity, Standard Electric built a pole line from Blue Lakes City to Stockton in 1899. During that same year the Blue Lakes powerhouse was badly damaged by fire, was immediately rebuilt, and resumed operations. Power needed for the construction of the Electra plant was supplied from Blue Lakes.

In May of 1902, Electra began generating, taking over the load from the Blue Lakes plant which was then shut down. Standard Electric completed their 60,000 volt transmission line (another first in electrical engineering) to San Francisco in November of the same year, and Mother Lode power was now helping to light the Bay Area and run its electric motors.

The initial Electra installation consisted of five 2000 KW, 2300 volt, 60-cycle Stanley inductor generators directly connected to two Pelton impulse water wheels operating under a 1466-foot head of water at 240 RPM. In 1905, two additional 5000 KW units were installed. Voltage was stepped up to 60,000 for the Bay line, but up to only 17,000 volts for the line that was built in the years following

by P. G. & E. running south through Calaveras and Tuolumne counties to Mariposa. This second line served the Blue Jay and Easy Bird mines, the towns of Mokelumne Hill and San Andreas, and the Lightner, Dolling, Summerville, Marshall and Smythe mines near Angels. Other mines near Big Oak Flat and Groveland in Tuolumne County and the McAlpine mine in Mariposa also used electric power from this line.

In 1909, the Bay line was extended to Mission San Jose, and the next year to Santa Cruz, where the Davenport Cement Company was completing a large portland cement plant, using a total of 28,100 horsepower.

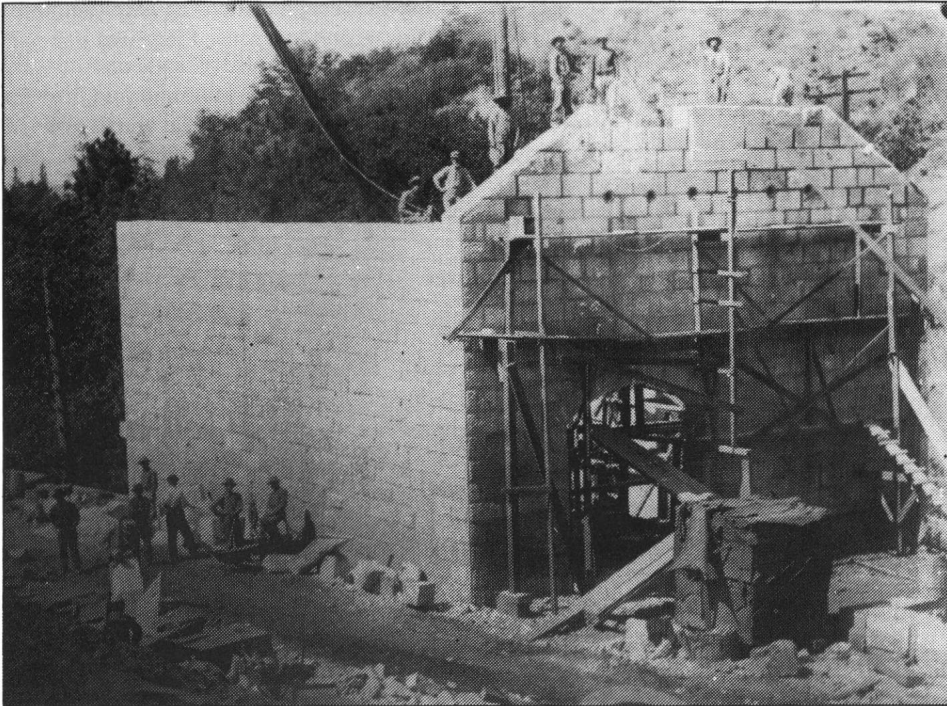
The superintendent of the Blue Lakes powerhouse, and a key engineer and supervisor later on in the Standard Electric Company, was Paul M. Downing. Downing, a Stanford classmate of Herbert Hoover, later became vice-president and general manager of P. G. & E.

Nearly three decades after Prince Poniatowski startled the west with his 60,000 volt transmission line to the Bay Area, the "Calaveras Californian" announced in its June 26, 1930 issue that a huge campsite was being established at Chili Gulch near Mokelumne Hill to house a mammoth construction crew erecting a 230,000 volt tower line from the new Salt Springs and Tiger Creek powerhouses on the Amador side of the Mokelumne to the city of Newark in Alameda County. This line then was, and still is, the greatest transmitter of electrical energy across Calaveras County. The line enters the county about four miles south of the Highway 49 crossing of the Mokelumne, leaving the county about fifteen miles west of Valley Springs. It nearly parallels the route of Prince Poniatowski's pioneer venture.

In later years, the East Bay Municipal Utility District became the leader in Mokelumne River development, primarily for the water with which to supply the rapidly growing East Bay area. (That story will be told in a future issue of Las Calaveras. Ed.)

The Utica Story

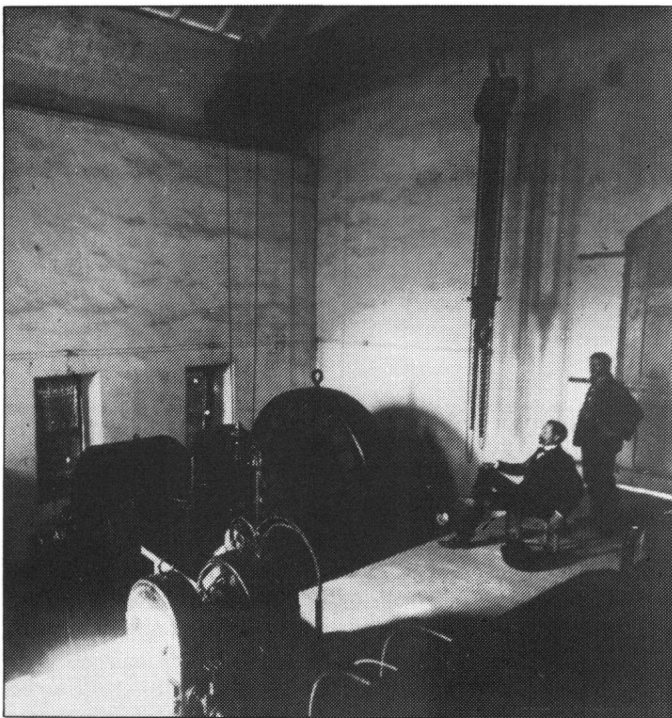
Electrical development in the southern part of Calaveras County also had its origin in early-day gold mining. It was the need for water for placer mining and the use of the hydraulic monitor for mining the auriferous gravels that brought about the construction of ditches and flumes from the headwaters of the North Fork of the Stanislaus. Then, as gold mining turned to the use of deep shafts to tap the quartz veins, energy was needed to drive the hoists, compressors and stamp mills. In the 90's, the Utica Mining Company became one of the leading gold producers in California. Already this active company had purchased the Union Water Company in 1887 for its large Stanislaus water holdings, and in the following year made extensive repairs and improvements to the system. In the fall of 1889, the water got so low that the mines had to shut down. Immediately, the Utica Com-



MURPHYS POWERHOUSE

The Utica Mining Company completed this solidly constructed building in 1899 to house the six-foot tangential Dodd wheel and Westinghouse generator that was to produce 750 kilowatts at 2500 volts to run the mines at Angels.

Old Timers Museum, Murphys



MURPHYS POWERHOUSE - 1899

Dan Dyer, first operator of the new powerhouse, watches his generator. In 1902, a second generator was added on the lefthand side.

Old Timers Museum, Murphys

pany went to work. The Ross Reservoir was built and readied for the winter's rains. Meanwhile, four Pelton wheels had been installed at Angels to power the Utica's machinery. Again, in 1892, water ran out, so the reservoir was enlarged.

In the meantime, in the middle 90's, plans were made to generate electricity at Murphys from water available there and transmit it to Angels. Again, another devastating water shortage shut down the mines in '98 until December. By 1899, the new powerhouse at Murphys was completed and "went on line" with a Pelton wheel and Westinghouse generator, producing 750 kilowatts. A second generating unit was added in 1902, and by then, all the Utica's operations at Angels were on electricity except for the Cross Shaft hoist, which was water-powered.

The water storage facilities inherited from the Union Water Company and improved by the Utica were located on the headwaters of the North Fork of the Stanislaus in Alpine and Tuolumne counties, primarily in Silver Valley at the Union Reservoir.

In 1910, the Utica Reservoir was built. In order to regulate the water diverted from the Stanislaus drainage at McKay's Point on the Calaveras side of the North Fork, the Hunter Reservoir was completed in 1927. In June, 1928, the "Prospect-Citizen" reported that a new dam, the Spicer, was being built on Highland Creek, to provide more storage for the system. This, the fifth dam in Utica's system, was 65 feet high, 435 feet long, and impounded 4062 acre feet. Existing capacity was increased in the early Thirties.

The Angels powerhouse, originally built in 1889, was rebuilt in 1940 to provide more power for the city of Angels, with a Pelton wheel and a General Electric generator.

When the mines at Angels shut down shortly after World War I,



ALFRED J. GIANELLI

“Al” Gianelli, chairman of the Calaveras Board of Supervisors, officiates at the closing down ceremonies of the old Murphys powerhouse in January, 1954, when the new automatic facility was put on line. Al had been on the Utica’s construction crew 55 years before when the old plant was built, and had been an operator from 1911 to 1928.

San Andreas Museum

the Utica made all of its electrical energy available to the city. The Murphys powerhouse was strictly limited, and even with the additional small Angels plant, Utica could furnish electricity only for a limited number of customers. Altaville and the surrounding area were served by P. G. & E.’s old 17,000 volt line from Electra. Over the years Utica power had been extended, in addition to the mines at Angels, to Hodson to power the Royal and, later, the Mountain King mines. Another branch line went to Sheep Ranch, and still another went to Carson Hill. It had been necessary for Utica to obtain additional power from P. G. & E. in order to fulfill its commitments. Finally, in 1946, the tiny utility, owned still by the Hobart Estate, sold out to P. G. & E.

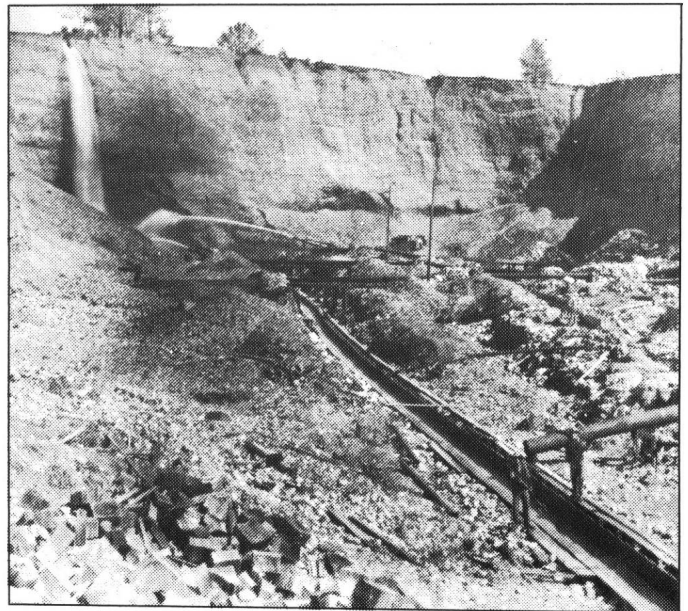
A longtime Utica superintendent was A. C. “Al” Wilson, who served from about 1910 until his retirement in 1942. He was replaced by Howard Dynan. Jack Twisselman was office manager for Utica at Angels for many years. The executive offices of the company were in San Francisco.

The Camp Nine Project

The third electric power company that must be recorded in the history of hydroelectricity in our county is the Sierra & San Francisco Power Company. This corporation also had its roots in the gold mines, but was actually formed in San Francisco to alleviate an uncertain and inadequate supply of power for the street railways in the city. This company was organized in 1909 to take over the physical facilities of the Stanislaus Electric Power Company, which had just completed one of the largest hydroelectric plants in California, but had gone broke in the process. We must now go back a few years to pick up our story, much of which comes from the splendid memory and files of Fred Leighton of Sonora, who was an office man and paymaster of the plant builder, the Union Construction Company.

A gold mine promoter named Beach Thompson, whose partner, Winsor Keefer, mysteriously disappeared in 1897 near Dogtown, had succeeded in the ownership of the San Domingo (or Jupiter) hydraulic mine near Altaville and to important water rights on the upper Middle Fork of the Stanislaus. Thompson was successful in interesting certain of the influential persons involved in the street railway companies of San Francisco with the concept of a substantial hydroelectric plant on the Stanislaus. San Francisco was to get the power and Thompson was to get water for his hydraulic mine. This water was to be siphoned up onto the Calaveras side of the Stanislaus canyon near Collierville, run down a ditch to Cataract Gulch, then through a long tunnel to Coyote Creek, and then proceed on to Altaville and Dogtown.

The Union Construction Company was organized with Boston



SAN DOMINGO HYDRAULIC MINE

This, the Jupiter pit, was the gravel mine where Beach Thompson was going to recover the gold by hydraulic-king with water from Camp Nine.

Fred Leighton



VALLECITO HEADQUARTERS

More than a dozen buildings, as well as a few tents, comprised the headquarters of the Union Construction Com-

pany just south of Vallecito, on the ranch presently owned by Parker Mather.

Dr. Wesley Walker

capital to build the complex of dams, flumes, and the powerhouse. At the same time, the Stanislaus Electric Power Company was being formed to take over the facilities, their operation and the distribution of the power. A large construction camp and project headquarters were established at Vallecito in 1906. For three years this complex construction program continued and brought the project to virtual completion, but exhausted the financial resources of the Stanislaus Electric Union Construction combine. It was at this stage that the Sierra San Francisco Company was organized to take over the facilities and the operation. This progressive company, under the control of the Bylesby Holding Company of Chicago, eventually acquired a large holding of local utilities with the Tuolumne Water Company and Stanislaus Milling & Power Company being among them.

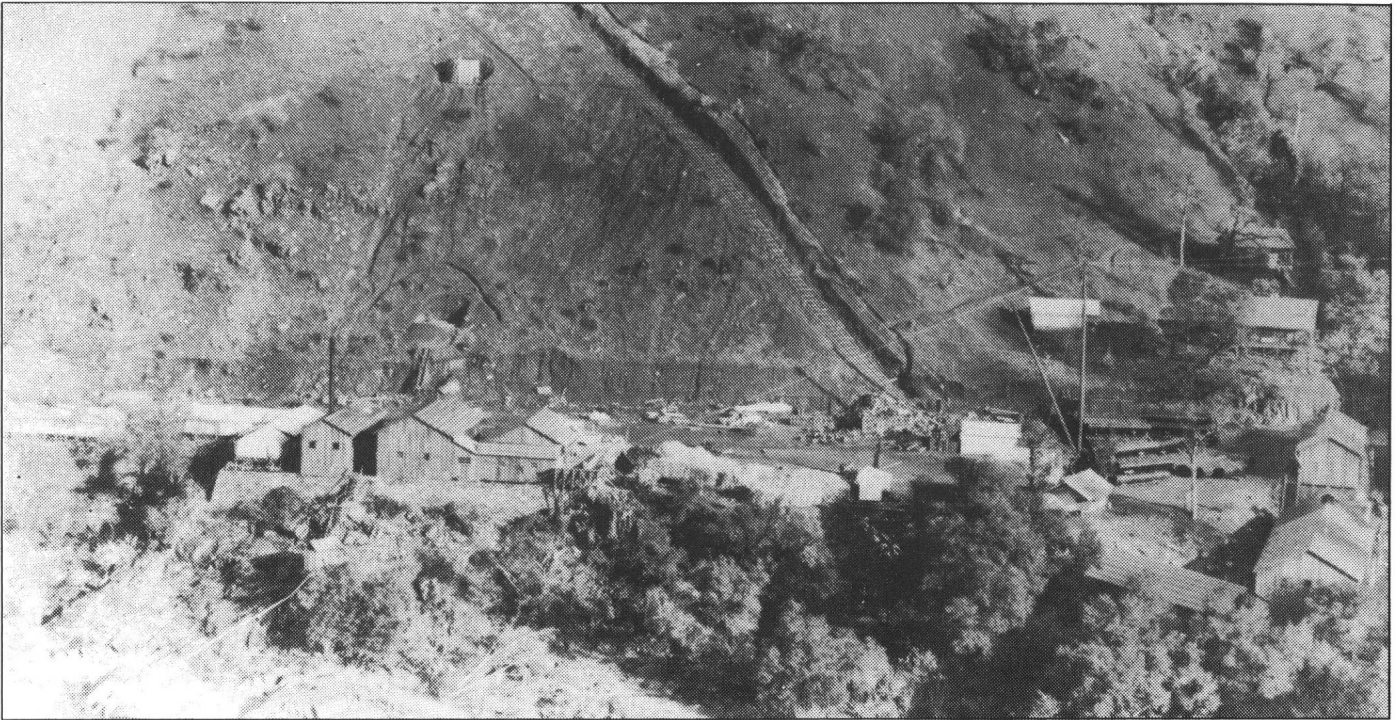
Union Construction Company has built the Relief Dam, an incredible achievement, high on the Middle Fork of the Stanislaus for the primary water storage. This dam was necessary to provide a sure supply of water during the dry part of the year. The water then dropped down the Middle Fork to Sandbar Dam, thence through 15 miles of wood flumes literally hung on the walls of the canyon to the forebay above Camp Nine. This precarious supply line was replaced by eleven miles of tunnels in 1939. By 1910, the high voltage transmission line was completed to Alviso, continuing across the Bay to the substation in San Mateo, and

from there to the City and south as far as Salinas. By then, with several competing power companies in the Bay Area, the 40,000 KWs from the Stanislaus were difficult to sell.

The next powerhouse to be incorporated into the Sierra & San Francisco system was the Spring Gap plant, built near Baker's Crossing on the Middle Fork of the Stanislaus. The water actually came out of the South Fork and was carried to Spring Gap in Tuolumne Water Company's Philadelphia ditch to the intake. Total mileage of Tuolumne Water's canals from above Donnell's Flat on the Middle Fork to the Columbia area at one time totaled more than sixty miles. This represents the original Miners' Ditch, completed about 1859.

In 1927, P. G. & E., which had been leasing Sierra & San Francisco's facilities since 1920, finally acquired the latter company. Additional dams, tunnels, powerhouses, and other improvements were made, culminating with the complete rebuilding of the old Camp Nine generating plant in 1961, over half a century after the original construction.

Ironically, Beach Thompson's gold mining project was a failure. After building the siphon, several miles of large ditches, and driving a half-mile of tunnel, the project was abandoned when test runs using Utica water showed a much lower gold value than expected, and when legal technicalities prevented Thompson from taking water from the Middle Fork of the Stanislaus and introducing it into the Calaveras River drainage.

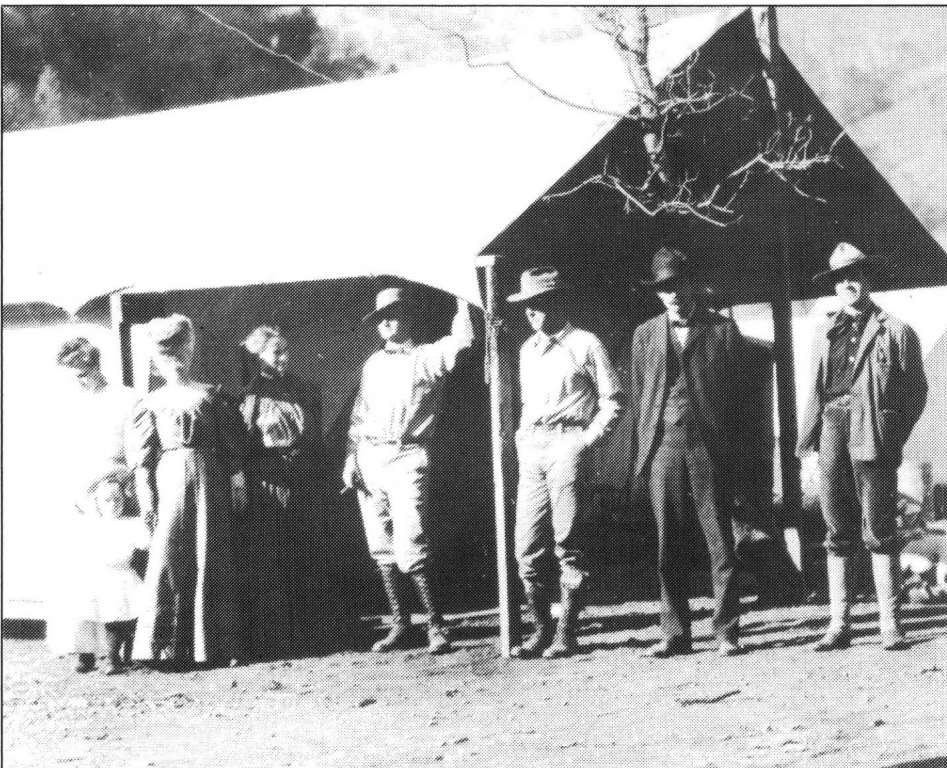


CAMP NINE CONSTRUCTION

Ground was broken and Construction Camp Nine was built in 1906-7 on the North Fork of the Stanislaus, at the

site of the Stanislaus Electric Power Company's new 40,000 KW hydroelectric plant.

Fred Leighton



**CHIEF ENGINEER CARPENTER
AND STAFF**

Resident engineer Carpenter (center) maintained his headquarters in a tent right in the center of the action at Camp Nine. Here he poses with his staff and their wives. Mrs. Carpenter is holding their little daughter's hand.

Fred Leighton



THE HUNDRED SLAVONIANS

Leader Vukasinovich proudly lines up his army of Slavonian emigrants who were hired to build the Camp Nine road. Seven tortuous miles of roadway from Vallecito into the Camp Nine site were constructed on a tight schedule in 1906 and early 1907 by these energetic Europeans. Their carefully built rock retaining walls

are readily visible today along this historic road, still the principal access to the new Stanislaus powerhouse and the recently opened Flintkote quarry and slurry plant. Many of these "new" Americans found permanent employment in the Mother Lode mines at Angels Camp and Jackson.

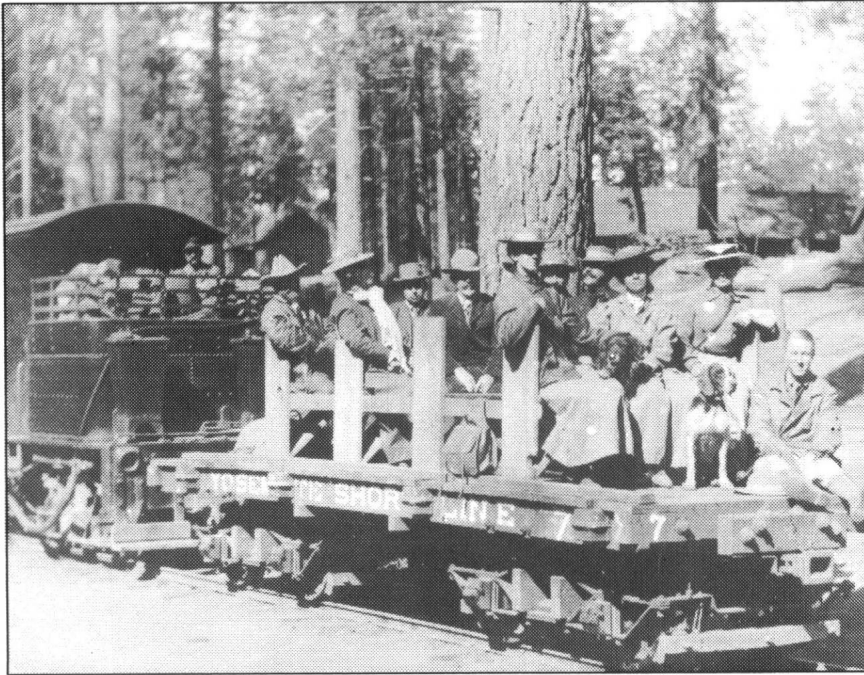
Fred Leighton



STANISLAUS POWERHOUSE

A view of the first power plant at Camp Nine in mid-construction by the Union Construction Company. The bridge on the left was for Beach Thompson's siphon pipe.

Kathleen Mitchell

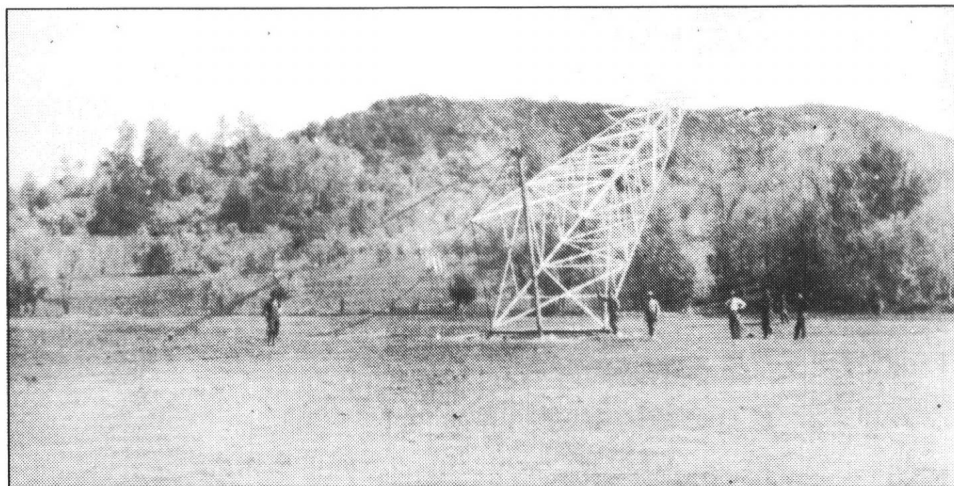
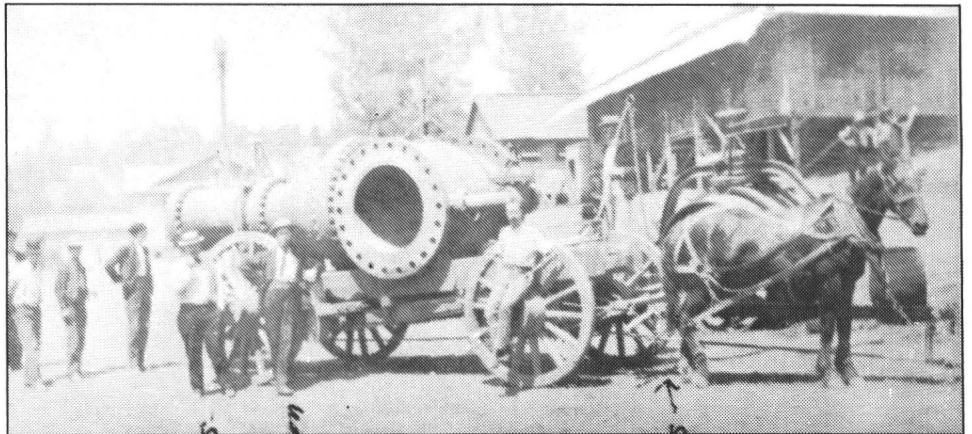


INSPECTION BY THE BRASS
 The Union Construction Company of Vallecito was part of a complex organization that involved, among many other concerns, the Standard Lumber Company, operating in Tuolumne County. So D. H. Steinmetz, Standard's manager, takes the U. C. Company's "brass" and their wives into the woods to view his operations. His visitors include General Manager and Mrs. R. S. Buck, Assistant General Manager (Captain) and Mrs. H. F. Jackson, Assistant Manager Seton Porter (and his dog), and Beach Thompson, who started it all in an unsuccessful attempt to mine the auriferous gravels at Dogtown with Stanislaus water.

Fred Leighton

THE MAIN VALVE
 This enormous valve casting was photographed in front of the Vallecito office on its way to Camp Nine. Fred Leighton is the well-dressed office man casually leaning against the wagon just forward of the rear wheel.

Fred Leighton



ERECTING A TRANSMISSION TOWER

A crew erect a tower near Vallecito with the help of a "gin-pole."

Kathleen Mitchell



MULE TEAMS AT CAMP NINE

Animal power provided transportation for great quantities of supplies and equipment for these early

hydroelectric installations.

Kathleen Mitchell

**ENGINEER O'SHAUGHNESSY
INSPECTS**

Fred Leighton remembers driving Mr. O'Shaughnessy, consulting engineer, from San Francisco up to Relief Dam from Sonora in this double team in 1909.

Fred Leighton





WOODEN PRESSURE PIPES

Two immense redwood-stave pipes, bound together with “jillions” of steel clamps, wind snakelike across the high country near the Camp Nine forebay.

Kathleen Mitchell



STANISLAUS FLUME

Fifteen spectacular miles of wooden flume were constructed down the Middle Fork of the Stanislaus to the Camp Nine forebay. Eight feet high and nine feet wide, an immense amount of lumber was required to build the flume. Maintenance was a major problem, particularly as time went on. Note the rail track on top, which facilitated inspection and repairs. Equally spectacular was the replacement of the flume in 1939 by eleven miles of tunnels blasted out of the bedrock.

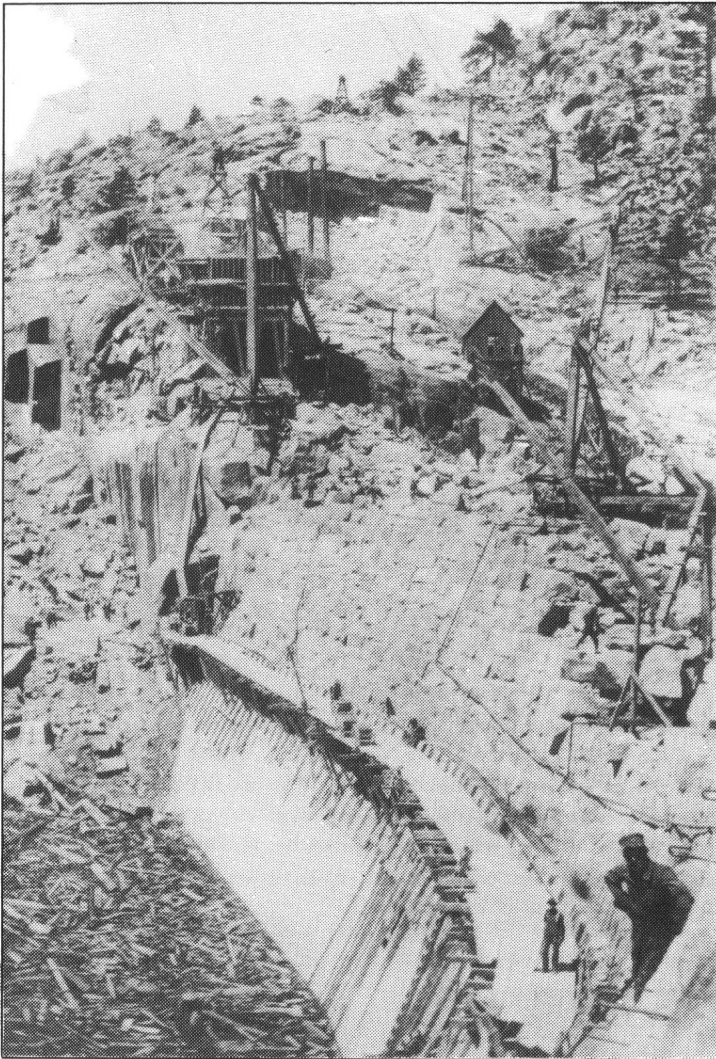
Kathleen Mitchell



THE OLD AND THE NEW

At Camp Nine, a shiny new 1908 automobile swings out around a tired but dependable old Concord coach and heads for Vallecito.

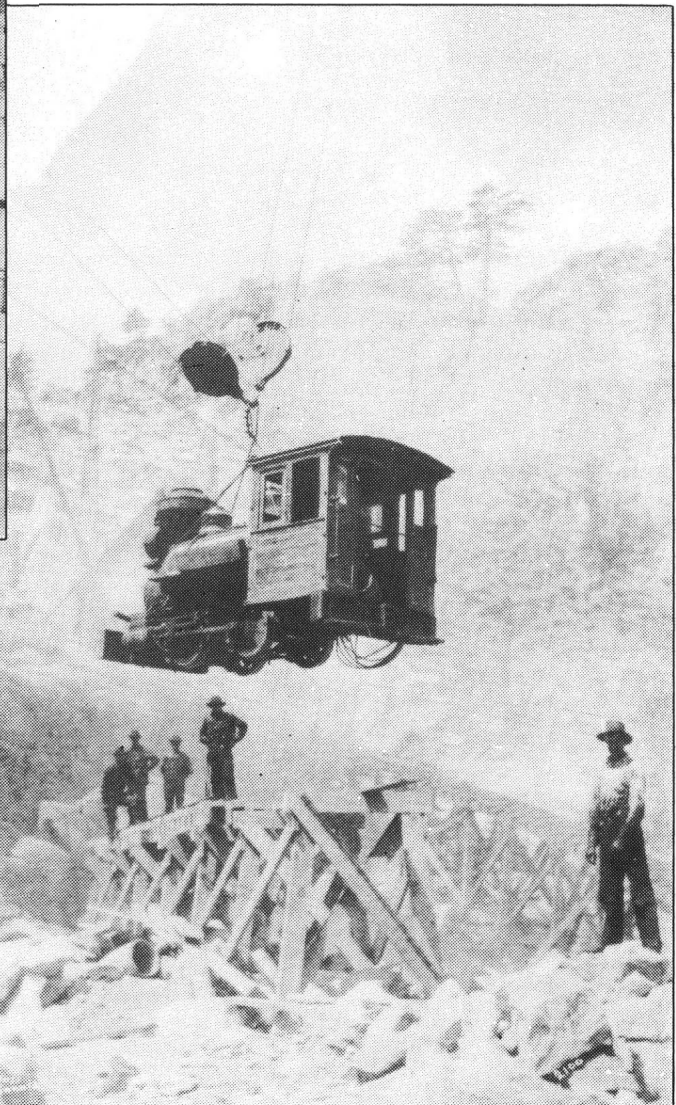
Kathleen Mitchell



RELIEF DAM CONSTRUCTION

Located in the High Sierra near the head of the Middle Fork of the Stanislaus, this dam was constructed out of rock quarried from the cliffs near the site. The upstream side of the dam was faced with concrete. In 1907-08, this was a major achievement, especially when considering the remote location.

Dr. Wesley Walker



THE HIGH LINE AT RELIEF

The skillful construction crew on the Relief Dam job lower the "Donkey" engine into place in the quarry adjoining the dam. A "highline" and a few "sky-hooks" can accomplish miracles in a situation like this.

Dr. Wesley Walker

Western States Electric Enters The Scene

We have not yet finished our story of electricity in the western portions of Calaveras County. Probably because mining was of less importance here than in the southern parts of the county, we do not find the extensive distribution of electrical energy. But again, mining activity in El Dorado County had given rise first for energy demand up there. The American River Electric Company by 1903 was operating a small plant on the South Fork near Placerville. In that same year, the company had bought a right-of-way across the Mokelumne River near Middle Bar, through Paloma and Valley Springs, to the Jenny Lind dredging grounds, and to a terminal in Stockton. The large Gwin mine near Paloma was, no doubt, a potential customer, but never signed up for power other than for its electric lights. The extensive hoisting, compressing, and milling machinery there was run by water power from the Mokelumne ditch right up until the mine's shut-down in 1908.

The powerful Byllesby Company, ever a challenger to the P. G. & E., formed the Western States Power Company out of the American River Electric Company and other smaller units. When the Calaveras Cement venture appeared on the horizon in 1924, Western States built a 60,000 volt line from Valley Springs through Double Springs, North Branch, Joses' Ranch, Kentucky House, Fourth Crossing, and intertied with the Utica Company at Altaville. Here, the Utica connected Western States with the other Byllesby operations (Sierra & San Francisco). This made

Western States a formidable competitor for the P. G. & E. in this county.

Clarence Evans, a native of Valley Springs, began his electrical career with the Western States Electric Company in 1924 as a construction worker on the Valley Springs-Altaville section of the transmission line referred to above. He recalls other northern county employees on that project, such as his brother, George, Nathan Ross, and Bill Sowden. Mr. Evans states that the Western States Company did not supply the Penn Mine at Campo Seco. In those competitive days that important mining and smelting operation was served by another line from El Dorado, built by P. G. & E. Evans continued to work for P. G. & E. after the merger, and was a long time assistant agent in San Andreas, where he now lives in retirement.

The Kentucky House Affair

With the steady decline of gold mining after World War I, the big users of electricity almost disappeared in Calaveras County. Then with the unexpected development of a new mineral industry, cement, at Kentucky House just south of San Andreas, rivalry among the electric power companies burst out for the last time. Western States slugged it out with the giant P. G. & E. for this prize customer.*

*Today, half a century later, this is still the biggest gas and electric customer in the Mother Lode, and one of P. G. & E.'s very important accounts.



SHORTY HARRIS
Shorty (left) lived in this cabin at Relief and regulated the flow of water from the dam. Many visitors to Relief affectionately remember even today Shorty's hospitality and his wonderful doughnuts.

Kathleen Mitchell



STANISLAUS POWERHOUSE - 1920

Although Sierra & San Francisco was the first operator of this plant, P. G. & E. leased it from S. & S.F. in 1920 and operated it from then on. A number of the employees' families lived at Camp Nine, in houses hidden in this view by the trees in front of the plant. When the new powerhouse was completed in 1961, the old residences and other Camp Nine facilities were removed, as the new plant was essentially automatic and was serviced by personnel from Angels Camp.

P. G. & E.

For the story of electrical energy at the Calaveras Cement Plant, we have drawn from the memory of Ralph Garbarini, who was chief electrician from 1926 and, later, general foreman of the plant until his retirement in 1948. He now resides in Jackson, California.

Construction of the substation at Kentucky House began in 1926. The power was to be received at 60,000 volts and stepped down to 2300 volts. This was to be the first time that power was taken off anywhere in the county directly to a customer from a transmission line as high as 60,000 volts. The most sophisticated Allis-Chalmers equipment was installed to operate the modern plant. Who was to catch this valuable customer? The old 17,000 volt line of P. G. & E. of 1910 vintage was a block away, but did not have near enough capacity. P. G. & E., however, immediately extended a short line to the plant for temporary power. In the meantime, the financial moguls of Montgomery and Wall streets were at work. A merger was in the making. Western State's 60,000 volt line was a trump card, and it was in just the right spot. Rivalry ended when P. G. & E. bought out their competitor to get that line to tie in Calaveras Cement. This made the P. G. & E. the sole supplier of electricity in Calaveras County except for the little Utica. Twenty years later, P. G. & E. took over the last holdout at Angels.

In 1948, a new and enlarged Electra powerhouse went on line, and in 1961, the new Stanislaus plant at Camp Nine was completed. The Oakdale and South San Joaquin Irrigation districts, which had built the Melones Dam in the Twenties, continued the development of their extensive Stanislaus water rights with the Tri-Dam project in the Sixties. Soon the old Melones plant will be replaced by a new and larger plant, as more and more clean hydroelectric energy is harnessed from the Sierra rivers. Some of these Sierra plants run continuously to supply "base load," while others are cut in to generate the electricity required at peak demand.

Some PG&E Personalities

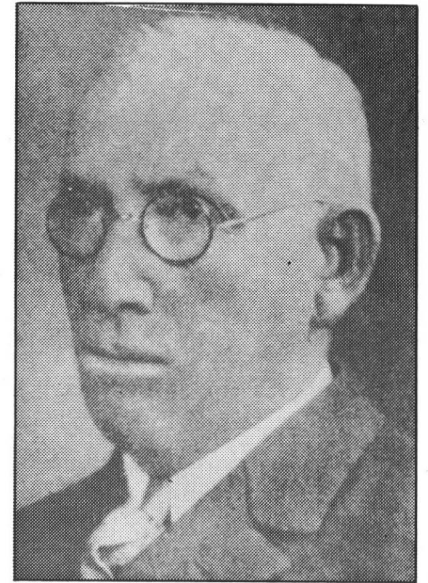
The hydroelectric history would not be complete without some comments about a personality who dominated the Calaveras scene from 1912 until his death in 1952. Charles Michael Joy was born in 1875, the son of impoverished Irish immigrant parents, who fled from the Irish potato famine in County Tipperary in the early 1850's, first to Michigan and then to Clinton (now a ghost town) on the north slopes of Butte Mountain in Amador County, arriving there about 1859. His father, Michael Joy, and his brothers, Thomas and Mathew, worked on the original Blue Lakes Dam from 1885 to 1887. His own four sons, Floyd, Emmett, Charles R. and Donald, worked for their father in Calaveras County. Thus three generations of Joys make up part of the history of electricity in Amador and Calaveras counties. Charles M. Joy first went to work for the Blue Lakes Water Co. in 1894. This company was merged into the Standard Electric Company as has been related and then into Pacific Gas and Electric Co. It was after nineteen years in the water division of these companies that Charles M. Joy was offered the post of superintendent for the en-



JOY TRANSPORTATION - 1913

Charles Joy poses in the two-wheeler he used locally at San Andreas, with his daughter Doris and son Charles.

C. R. Joy



CHARLES M. JOY

Charlie carried the torch for P. G. & E. for many years in Calaveras County.

C. R. Joy

tire P. G. & E. territory of Calaveras, Tuolumne, and a part of Mariposa counties. The year was 1912 when Charles Joy and his wife and school sweetheart, the former Amelia Ferrari, from Butte City, and their two sons and daughter, moved to San Andreas from Sutter Creek. Two more sons were born in the company house in San Andreas.*

The 17,000 volt line from Electra powerhouse had been completed to the mines in Mariposa County and maintenance of these lines was to be the Herculean job of the young superintendent. To maintain a line in such terrain he must call upon the horses of the O'Connell Livery Stable in San Andreas, the Sierra Railway from Angels to Jamestown, and then more horses. If the electrical trouble was near Angels, headquarters were set up at Lemue's Hotel, and horses were hired from the Tryon or Love livery stables. A temporary crew would also be hired there. The writer recalls hearing from his father that on more than one occasion neither train nor horses could travel to Jamestown via Melones. On those occasions it required a horse rig to Valley Springs thence a ride by the S. P. Railroad to Lodi, Stockton, and then a connection with the Sierra Railway at Oakdale and then to Jamestown. Here again horses, wagons, and crew would be hired and the search for trouble might take the workers as far away as northern Mariposa County. Groveland, in Tuolumne County, would then become the crew's headquarters. Later, Clarence Getchell and

*This house was originally built by Prince Poniatowski's California Exploration Company in 1898. In 1903 the building became the transformer house for Standard Electric and, later, headquarters for P. G. & E., and is now owned by retired agent Theodore Kravitz.

Fred Winkler, Sr. were to provide the first gasoline engine transportation in the form of Model T's.

In the meantime, domestic service was being extended in Mokelumne Hill and San Andreas. The official over Joy was also a pioneer in the electric business in Calaveras County. Walter E. Eskew supervised Electra powerhouse on the Mokelumne River and was responsible for Amador and Calaveras counties. When the merger of the competing companies previously recorded took place, the P. G. & E. divided their territory into divisions, districts and agencies. In 1924 Charles Joy became agent for all of Calaveras County. The district office was in Jackson and the division headquarters was in Stockton. Joy's territory then included the expanding Calaveras Cement Company and the maintenance of electric service for the building of the Pardee Dam near Valley Springs.

In the May 4, 1912, issue of the "Calaveras Prospect," a column relates the formation of the California Railroad Commission. This commission was also given the power to regulate electric and telephone rates. This was the predecessor of the present California Public Utility Commission. The P. G. & E. and other state utilities found this to be a constraint on their pioneering efforts. This friction was to lead to state initiatives known as the Water and Power Acts of 1922, 1924 and 1926. All were designed to put the State of California into the public power business. The writer recalls an incident regarding one of the elections. It took place at the North Branch precinct, probably at Milan Dragomanovich's store. Charles Joy was handing out "pro" P. G. & E. material near the voting booth. An ardent public power backer challenged Joy as to whether he was at the required dis-



WALTER E. ESKEW

District Manager of Amador and Calaveras counties for P. G. & E. over the years 1918-45, Mr. Eskew was a familiar figure in Calaveras County. P. G. & E.

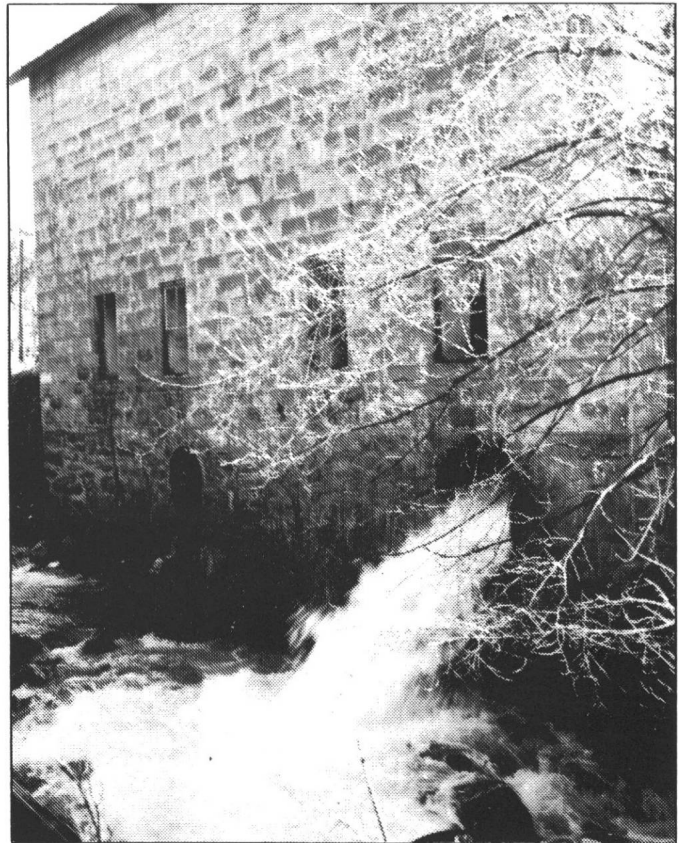
tance from the voting booth for such activity. Charles Joy considered the individual to be fiscally irresponsible as far as using tax monies and stood his ground. Pushing and shoving began, but Joy, the loyal free enterprise man, won the day. It was such actions as this that won Charles Joy the reputation of being a "company man." Yet all knew he would be fair and just even if it meant "the company" must yield.

The writer remembers another incident during the time that the 230,000 volt tower line right-of-way was being purchased in the late 20's. A right-of-way specialist from the "city office" (San Francisco) complained to Charles Joy that an irate land owner had evicted him from the property where he was trying to purchase a right-of-way. Joy called on the owner. He explained that the line would be safe and promised that all the live oak would be cut to specification and stacked where the owner wished and also made it clear that the "city slicker" would not be back. Charles Joy did this without authorization but this agreement, like many similar ones, was honored by the company. The company knew they could trust him and so did the Calaveras County public.

The years of Charles Joy's agency for the P. G. & E. in

Calaveras County were lean ones in economic terms until World War II. Therefore, many of the local residents depended upon P. G. & E. for seasonal work to supplement the incomes from their ranches or other part-time employment.

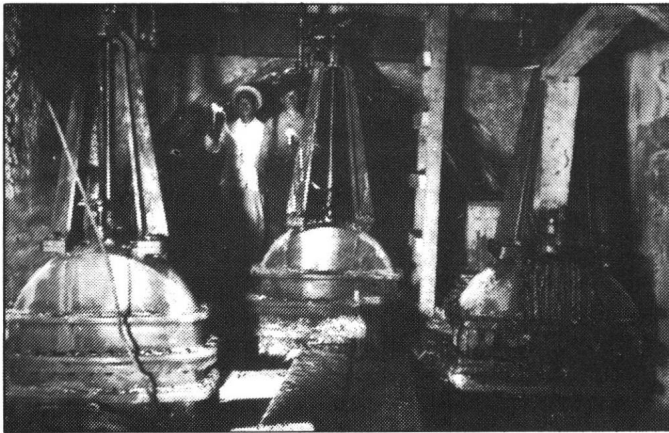
One of Joy's earliest "right hand men" from 1912 to about 1916 was Clyde Dillworth. Dillworth later became head electrician for the City of Stockton. Individuals who started to work for the P. G. & E. under Charles Joy and continued to make permanent careers with the company were: Rinaldo Cuneo, Leo Ratto, Forest Malespina, Charles Danz (deceased), Louis Chappetto (deceased), and Ray Trabucco, all of Mokelumne Hill. Other pioneer workers who started their young careers under the tutelage of Charles Joy were: Henry Zierdt (deceased), State California Highway Patrolman; Joseph Huberty, Sr. and Joseph Huberty, Jr., prominent local barristers and jurists; Lester Nuner (deceased), international oilman with Caltex; the late Doctor Wendell Schowerer; William Messer, and Jim Waters of Calaveras Cement Co. Among many other old Calaveras names were Arthur Leonard, John Rivera, Alex Pillon, Andy Fischer, Lincoln and Carl Del Orto, Steve Cuneo, Henry Pozar, Calvin Zwinge and Alvin Frioux.



MURPHYS POWERHOUSE

Discharge at the old Utica plant. This water then flowed down through Murphys on to the Ross Reservoir, and then through the Angels powerhouse.

P. G. & E.



RELIEF DAM VALVES

These large valves controlled the release of water from Relief Reservoir and had to be installed, of course, before the dam was built. From here the water flowed down the Middle Fork of the Stanislaus to Sand Bar Dam where it entered the fifteen-mile flume to Camp Nine forebay.

Dr. Wesley Walker

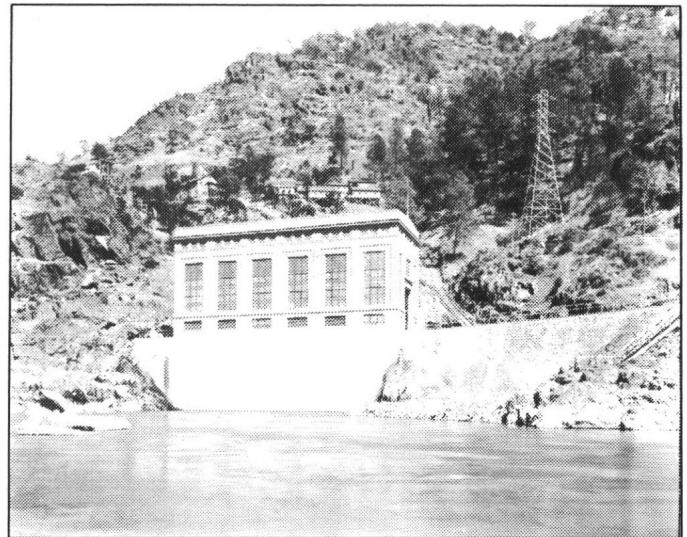
The "P. G. & E. Progress," a company journal, of August, 1930, says: "Nine-tenths of the task of finding out about Charles M. Joy's 37 years of service record was catching up with him. Not that Charlie was trying to keep out of the way; he was merely making his daily round of seventy or eighty miles looking after the electrical needs of a good-sized part of Calaveras County." Seven years later the same publication said, "Charlie Joy is just about a one-man electric company as agent in charge of most of Calaveras County. His routine was to make rounds looking after the electrical needs of practically the whole county. His supervision includes watching over fifty miles of power lines, repairing breaks caused by storms or forest fires, running service connections to homes, shops or ranches, hooking up mines, selling appliances, bookkeeping and collecting."

Charles Joy's service culminated in 1946 when he received his fifty-year badge from A. Emory Wishon, P. G. & E. vice president and general manager. But he was often consulted by the company on public relations for several more years. Charles M. Joy passed away in July, 1952.

Many of the employees of the rapidly expanding P. G. & E. were recruited from the companies taken over. For example, the last employee of the Utica Power Company was William Lagomarsino. He started with Utica as an electrician in 1944 and is now "troubleman" for P. G. & E. in the Mother Lode headquarters at Angels Camp.

Pioneer Meter Readers

One of the earliest users of electricity in Calaveras County, other than mining companies, was the A. L. Suessdorf Brewery in



MELONES POWERHOUSE - 1927

Built by P. G. & E., this was one of the last major installations on the Stanislaus when the present Melones Dam was constructed by the Oakdale and South San Joaquin Irrigation districts. It will be replaced by a larger facility as a part of the New Melones project of the U. S. Bureau of Reclamation.

P. G. & E.

Mokelumne Hill. A receipted bill shows that Standard Electric Company, Blue Lakes City, California, billed the brewery on Sept. 30, 1902: four lights for the sum of \$1.60*

On the same date the Leger Hotel at Mokelumne Hill was billed \$19.00 for sixty-four lights. No meters were in existence. The same sources also show that on September 28th, 1920, a receipt from Charles M. Joy to Myron Greve of the Leger Hotel declares payment of a bill of \$1.38 for a previous reading of 629 watt-hours and a current bill for the same number of watt-hours. Apparently that was a minimum charge and indicates that by this date meters were being used. Until 1921, the meter was read and the charges calculated at the same time. After April 25, 1921, the readings were sent to Stockton for computation and then returned for collection. A receipt signed by Charles Joy on June 3, 1921, for 134 KWH for the Leger Hotel totaled \$10.98. Thus the shadow of the computer age was first beginning to be seen in the electric utility field. By the 1940's, special collectors and meter readers had been employed.

The use of electrical energy was now being vigorously encouraged by advertisement, a policy that has continued until the present energy crisis. In the January, 1928, issue of the "Calaveras Prospect & Weekly Citizen" we read:

*This and the following bills mentioned were donated by Myron Greve to the Emmett Joy library.

Officers Of Calaveras County Historical Society

President	Miss Bessie McGinnis, Angels Camp
1st Vice President	Tad Folendorf, Angels Camp
2nd Vice President	Fred D. Cuneo, Calaveritas
Secretary	Mrs. Cheryl D. Smith, Mokelumne Hill
Treasurer	Drew Garland, Murphys
Directors	Milton B. Smith, Murphys
	Mrs. Grace Alford, Angels Camp
	Don Cuneo, San Andreas
	Mrs. Eva Soracco, San Andreas
	Francis Queirolo, Stockton
	R. Coke Wood, Stockton (Honorary)

“Las Calaveras”

Editor	W. P. Fuller, Jr., San Andreas
Associate Editor	Mrs. Ida Long, Mokelumne Hill
Assistant Editor	Miss Anne Richard, Angels Camp
Production Editor	Mrs. Zelma O. Altmeyer, San Andreas

Las Calaveras is published quarterly by the Calaveras County Historical Society. Individual memberships (\$5.00 a year). Family (\$7.00) and Junior memberships (\$1.00) include subscription to Las Calaveras. Non-members may obtain copies of Las Calaveras from the Secretary. The original historical material in this bulletin is not copyrighted and anyone is invited to use it. Mention of the source will be appreciated.

The Calaveras County Historical Society, a non-profit corporation, meets on the fourth Thursday of each month at the Grange Hall in San Andreas - except for dinner meetings which are held each quarter at different places in the county.

“P. G. & E. officials state that particular stress will be laid on development of additional business to offset the reduction in revenue due to the voluntary cut in rates.”

In the previous spring (1927), the “Prospect-Citizen” reported that P. G. & E. had hosted 200 journalists at a barbecue at the new Calaveras Cement Plant to show the marvels of electric energy in this county. And one month later the same newspaper unknowingly made what may be a prophetic announcement when, in an editorial for February 2, 1928, it said, “Abolition of the use of electricity would precipitate a world crisis that would be more terrible than the World War.”

In Conclusion

What will the story be concerning electrical energy of the future? Will it be derived from nuclear energy, solar energy? Whatever, it probably will not be as romantic, and not as economical, as hydroelectricity.

New Members

Mr. and Mrs. Joseph Beckett, Hathaway Pines
Mrs. Joan R. Gunderson, Valley Springs
Mrs. John M. V. Haldack, Menlo Park
Mr. C. Frederick Meinke, Arnold
Mrs. Irene Meisenheimer, San Francisco
Mrs. L. S. Robinson, Oakland
Mrs. E. S. Scherer, Coarse Gold
Mrs. Cheryl D. Smith, Mokelumne Hill
Mr. Samuel B. Wagner, San Francisco

In Memoriam

Reginald Gianelli	Earle (Duke) Raggio
Clara M. Leonard	Betty A. Rosenthal
Louis (Bill) Lucini	Millicent V. Scott
Florence P. Martell	Homer E. Wyatt

Acknowledgements

We gratefully thank the many persons who helped supply the data for this issue. Among them were Anne Burnett and Lawrence R. McDonnell of P. G. & E.'s San Francisco office; William Sarcander, P. G. & E.'s Stockton office; John DeMattei, Oliver Garcia and William Lagomarsino, P. G. & E., Angels Camp; Clarence Evans and Theodore Kravitz, retired P. G. & E'ers; Ralph Garbarini, Fred Leighton and Kathleen Mitchell. A number of others were consulted on specific points and were most helpful.

Published references consulted included “P. G. & E. in California,” by Charles M. Coleman; “Sierra Railway,” by Dorothy N. Deane; P. G. & E. Magazine and P. G. & E. Progress; private library of the late Emmett P. Joy; Hydroelectric Power Sources of U. S. Federal Power Commission, 1968; Calaveras County newspapers.

County Historical Records

A Calaveras County Heritage and Historical Commission was appointed in January by the Board of Supervisors to foster and promote the preservation of the county's archives. Howard Bjorkman (County clerk), George Poore (Museum), Mrs. Pat Porath (Library), Dr. M. B. Smith, Fred Cuneo, and Willard Fuller were named to the Commission, and Dr. Smith was designated as chairman.

Back Issues

A list of our back issues is available for the asking. Out of print issues will be supplied as “zerox” copies. Price to members is 60 cents a copy, and a discount is given for orders over \$10.