

## CHAPTER II

### *Folsom—Grandfather Hydro Plant*

ON THE granite bank of the American River at the town of Folsom, northeast of Sacramento, is Folsom Powerhouse, ancestor and first of the present P. G. and E. family of 58 hydroelectric plants. Folsom occupies a special niche in the Company's history. Its completion and first operation July 13, 1895, marked a new achievement in long-distance transmission at high voltage. Its story began nearly half a century before the plant itself became a reality.

In the summer of 1895, Folsom's generators began producing electricity for transmission at 11,000 volts to the state capital, 22 miles distant. By October the plant's four generators were in operation, with a total capacity of 3,000 kilowatts. The dream of high-tension transmission lines delivering power at low cost to San Francisco and Oakland, to the industries clustered around the Bay, was approaching realization.

The citizens of Sacramento recognized the importance of their new source of electric power. A Grand Electrical Carnival celebrated the event September 9, 1895. A salute of 100 guns greeted the dawn of the electrical day. The Capitol was outlined with thousands of incandescent lamps. A night parade of illuminated floats mounted on electric streetcars passed through streets festooned with lights. The engraved invitations, with typical Western fear of understatement, described Folsom as "the greatest operative electrical plant on the American continent."

Engineers came from distant cities to inspect the installation. The editor of the *Journal of Electricity* referred to Sacramento as "the first American city to demonstrate the practicability of

long distance transmission at high voltage." The Sacramento *Bee*, following the Carnival display, said:

"In Sacramento has been first practically solved the grave problem of the long transmission of electric current for power and light purposes. Not only is this the longest power transmission line but also the largest electric power plant in the world, in the sense of power actually developed."

The writer is reluctant to endorse these claims. Assertion of "first" in electric achievement is dangerous without detailed technical specifications. It is enough that the Folsom system marked a momentous advance in the commercial application of electricity.

The output of Folsom Powerhouse was employed in Sacramento by the electric street railway system and by industries and commercial establishments.

Within a short time, when more power was needed, another 750-kilowatt generator was installed in a building erected below the Folsom plant to take advantage of an additional 26-foot fall in the stream that dropped from the forebay. The main plant operated under a head of 55 feet. The smaller plant is notable now chiefly for its curious rope drive, a museum piece which still is in place. Instead of the customary belting, rope was used to connect the revolving shaft of the water turbine to the shaft of the generator which was on a platform high above the turbine. Twenty-two hundred feet of hemp rope were threaded in 26 strands over large grooved drums attached to each shaft, with an ingenious overhead device to take up the slack. The powerhouse operators assure present-day visitors that the novel drive worked effectively. The little supplementary plant, long since obsolete, is unused, but the main Folsom plant still is in operation, its original generators running as smoothly as they did when they were installed more than a half century ago.

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The Folsom story started more than a hundred years ago at Georgetown, in the mountains of Eldorado County, with the arrival in 1850 of Horatio Gates Livermore. The newcomer, an immigrant from Livermore, Maine, saw his future in the