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ELECTRICITY COMES TO WILLSBOROUGH

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Static electricity was known about as early as 600 B.C., but not understood nor described until 1600, at which time William Gilbert described the electrification of many substances. As a result Gilbert is called the father of modern electricity. All through the 1700's and 1800's there were many experiments conducted with electricity by men whose names were given to the specific rule of electricity which they discovered. Some of these men were Coulomb, Volta, Ohm, Ampere, Henry, and Faraday, whose experiments all led to the invention of the electrical generator in 1870 by Z. T. Gramme. The first arc lights in the United States, using Gramme's generator, were in Wannamaker's store in Philadelphia in 1878. In that same year Joseph Swan, of England, invented the carbon filament light bulb, but two years later Thomas Edison built and patented a bulb before Swan could put a patent on his, thus began the use of electricity in the United States.

The first use of commercial electricity in this area was in Plattsburgh during the year 1889. The following year, 1900, Fenton Barber built a dam and a small generating station on the small pond along Route 9, south of the hamlet of Lewis. Once the success of this small private generating plant was realized, Barber along with brothers Eldon and Seldon Mason, who were from the Essex/Willsborough area, started looking for a site on

The amount of water power supplied was enough to amply provide single phase power to the surrounding towns early on, but you must realize that most households had only one or two light bulbs in the beginning. Some of the businesses in the villages had more lights. The Riverside Hotel, site of which was about where the Paine Memorial Library now sits, had many lights. The ballroom, kitchen and all of the rooms had lights. A notation in the personal diary of Edna M. Hoffnagle under January 1, 1906 says that there was "electricity in Riverside Hotel for first time". Shortly thereafter the load on the Power Co. generator was increased due to the addition of streetlights in the village of Willsboro. The spelling of Willsborough to Willsboro was officially changed that year 1906.

The water from behind the dam was directed to the Leffel turbine through long, round wooden tubes, called penstocks. The amount of water could be controlled by the raising or lowering of gates at the entrance to the penstocks at the dam. During low summer water these gates were opened all the way, and if not enough water was coming through; the plant would shut down until enough water was collected behind the dam to resume normal generation for another period of time. And you think we have blackouts today!!!

The water passing through the blades of the turbine would cause the turbine to spin at about 900 r.p.m's., which in turn spun a G. E. generator (s.n. 93805) producing 2300 volts of electricity which was sent out over the lines to the customers where it was reduced from 2300 volts, by means of a transformer, to what we call house voltage or @ 115 volts. Because of the amount of water available and the number of customers using all of their electric facilities, the 115 volts could vary considerably. Early in the life of the Power Co., the lights would be turned off at @ 11 p.m. each night, this included the streetlights. According to another entry in Hoffnagle's diary, she states that on Feb. 13th, 1906 "streets lighted by electricity for the first time".

For the next nineteen years the Boquet Electric Power Co. continued to grow with the usual business problems and concerns of any small business. During this time period there were many new electrical appliances offered on the market for home use, and of course this added load to the small generator whose rated capacity was 125 kw. This translates to 3125 forty watt light bulbs, not much capacity by today's standards. By 1925, the Company had 40 miles of main line and nearly 100 transformers, but nowhere near enough power. The plant was run for many years by Joe Wilkins and his wife Lydia, who lived on the property in the small house next to the powerhouse.

Because the Power Co. had a lot of power lines and inadequate means of regulation and overload protection, there arose many problems as the load increased. An example of that was, taken from the writings of Koert Burnham, the woodworking shop owned by Leo Baker on Bull Run Hill in Essex. Most of the equipment in his shop was connected by belts run off the shaft of a 100 h.p. 3-phase motor. The switch to connect his equipment to his electric supply was simply a solid copper throw switch with no overload protection at all. As he attempted to start his equipment, he would hit the switch several times to get everything up and running. Of course while he was doing this, all of the lights in the five local hamlets would dim, sometimes causing damage to their

the sale of the Boquet Power Co., a line had been built along the Middle Road to serve the farms in that area. Can you imagine what this must have been like for the farmers to now have just a turn of a switch to have lights in the barn and also power for milk cooler. The main streets of the local towns also had streetlights, however dim they were, it was probably a great improvement over the faint light glowing from the houses. The entire electric system was quite crude by today's standards, with very little means of system protection along the lines.

It was the intention of the Associated Gas & Electric Corp. to buy all of the small independent power companies in each town and inter-connect all of these small systems into one large power company in northeastern New York. Until the small power companies to the north of Willsboro were purchased, the primary concern was to find a way to increase capacity of the existing system in the Willsboro/Essex area. This was done by hiring Dominec Ashley of Glens Falls to lay-out and build a line from near the railroad station in Willsboro over the mountain to Burnham's large sawmill. Here at the mill they connected a generator to the mill motor, giving the system an additional 50kw capacity. This small generator was synchronized with the larger one at the powerhouse in Willsboro by means of two light bulbs, one connected to the line out of the Willsboro powerhouse and the other on the small 50kw generator. The object was to get the bulbs shinning at about the same brightness at which time you would through in the connecting switch, thus adding the capacity of the smaller generator to the entire system. Now we have a mechanism with a large dial that has a needle, much like a compass needle which spins, and can be slowed down by controlling the speed of the nearest generator until the needle points to about 12 o'clock on the dial. At this point the oil switch can be closed, tying the two circuits together. George Oliver was the man who was responsible for the operation of the generator at Burnham's Mill. George later retired from the Associated Gas and Electric Corp.

During the twenty years that the Boquet Electric and Power Co. was in operation, the power lines were below the telephone wires on every pole. This created a dangerous situation for the telephone lineman who had to climb up through the electric lines which were energized at 2300 volts. In all those years only one fatality occurred on the local lines, and that was a man named Victor Martin who was electrocuted on the pole in front of the Congregational Church, by slipping and falling down onto the energized primary lines below him. This compares to the thirty plus contact fatalities that NYSEG has had since 1915. During the early 1900's, a power company lineman could not purchase life insurance since the fatality rate nationwide was near 50 percent of all linemen hired. There is no such thing as an "old" careless lineman, only dead ones.

After the Associated Gas and Electric Corp. had acquired all of the small local companies, they immediately began the task of improving and interconnecting these smaller power companies. To do this they had to build lines from a major source of generation outward to customers in all of the towns in their franchise territory. This is when they started purchasing and building hydro-generation along the Saranac and Ausable Rivers. This now meant that the power would have to be transmitted over long distances to the outlying areas. To do this means new lines had to be built capable of