

Discrepancies and Inconsistencies

U.S.: John Dean Adams Power Plant

Closing Date

The closing date of the John Dean Adams Power Plant is the largest discrepancy in the available documents. Therefore, it deserves and has been given an article of its own. The vast majority of documentation claims that the Adams plant run until 1961, all based upon one inaccurate and exaggerated source. Without repeating the details here, the following is the case.

- 1) Due to its inefficiency, the Adams plant closed in 1924, not 1961, when its water allocation was given to the new and more efficient Schoellkopf 3C facility.
- 2) The Adams plant's output was not replaced by the output of the new Robert Moses plant as stated. Adams generated only 25 Hz power and Robert Moses generates only 60 Hz power. The 25 Hz and 60 Hz grids are almost completely separate.

Location of Generators

The same inaccurate source and sources that derive from it say that the generators were located in the Transformer House. The fact is that the generators were located in Power House #1 and Power House #2. Generators never were nor could have been located in the Transformer House, because this building was not on the hydro canal, had no source of water, was not of the “deep pit” design, and not connected to the discharge tunnel below. The Transformer House contained the transformers that interfaced the low voltage, 2-phase generators to the higher voltage 3-phase transmission lines leaving the facility.

Number of Generators

One source claims that there were 21 generators at the Adams facility. It is more likely that there were only 20 generators, since the five Scott-T transformer banks in the Transformer House each handled the output of only four generators. However, it is possible that a small “station power” or “house power” generator was installed in Power House #2 to enable the facility to restart without external power. (Restarting after a shutdown to connect Power House #2 to the discharge tunnel, required the use of diesel generators in Buffalo to send power back to Adams.) It is also possible, but less likely, that provision was made to allow maintenance on a generator, while still having 20 operational machines.

Voltages

Various source list the output voltage of the Adams generators at 2,000 volts and 2,200 volts. They also list the transmission line voltages leaving the facility as 10,000 and 11,000 volts for local distribution and 20,000 and 22,000 volts for distribution to Buffalo. Other documents mention the initial transmission line voltage to Buffalo being 11,000 volts, but later raised to 22,000 volts.

Reactivation

Given the 1924 shut-down and the 1937 court decision, it is unclear if this facility was reactivated during WW-II. The generators and transformers may have been sold for scrap by this time, but no documentation exist as to when this happened. Adams' generators were definitely gone and not reactivated after the 1956 collapse of Schoellkopf and the loss of its 25 Hz production.

U.S.: Schoellkopf 3A

Size of Generators

The generators in Schoellkopf 3A are believed to be 9,000 HP each. However, some sources say that they were 10,000 HP. According to my father, who was the generator operator at Schoellkopf, they were 9,000 HP

Number of Generators

Sources talk about between 13 and 17 generators at Schoellkopf 3A. One document states that the number is 15, also states that two of those generators are small, 1,000 Hp machines for “Station power” or “House power.” (These small, manually operated, machines allow the facility to perform a “black start,” without requiring power from the grid.) 14 is the number I remember, although my father did speak of “house Power” machines, which I have never seen. After the disaster of June 7, 1956, they were able to rebuild 12 generators and two were too damaged to be rebuilt. That would put the correct number of main generators at 14, which is what I remember..

Frequency of Power Generated

Generators in power plants of this vintage were often converted from DC to AC and from one frequency to another. Initially, Schoellkopf 3A had one DC generator and one generator at a relatively high frequency, each dedicated to a particular customer. Over time, most or all generators were converted to 60 Hz, which is what I remember as a child. After the June 7, 1956 collapse, total loss of Schoellkopf 3B and 3C, and the loss of the majority, 313,500 Hp, of 25 Hz capability, Some of Schoellkopf 3A's generators may have been rebuilt as 25 Hz machines.

U.S.: Schoellkopf 3B

Capacities ranging from 32,500 Hp to 37,500 Hp exist in the literature for the Schoellkopf generators. 34,500 HP is the most commonly used number, which is what I remember.

Canada: Ontario Power (below the Horseshoe Falls)

Total capacity: A source states the the 15 machines of this power plant produced a total of 205,000 Hp, which equates to 13,667 Hp per machine average. However, it is also stated in the literature that the early machines installed were 10,000 Hp and the last few were 12,500 Hp. This makes an average of 13,667 Hp impossible.

Reactivation and shutdown: These dates are also unclear. I do remember it being reactivated after the 1956 collapse of Schoellkopf and the loss of its 25 Hz production, with a shutdown in 1987. The operational status of this facility was clearly visible from the Maid of the Mist boat ride and the Goat Island State Park on the U.S. side.

Canada: Toronto Power (above the Horseshoe Falls)

Total capacity: A source states the the 11 machines of this power plant produced a total of 157,000 Hp, which equates to 14,273 Hp per machine average. However, it is also stated in the literature that the early machines installed were 10,000 Hp and the last few were 12,500 Hp. This makes an average of

13,667 Hp impossible. Another source states that both Ontario Power and Toronto Power each produced 100,000 KW of electricity, which equates to around 134,000 Hp.