A Look Back at Nikola Tesla's Accomplishments in the Niagara Falls Region

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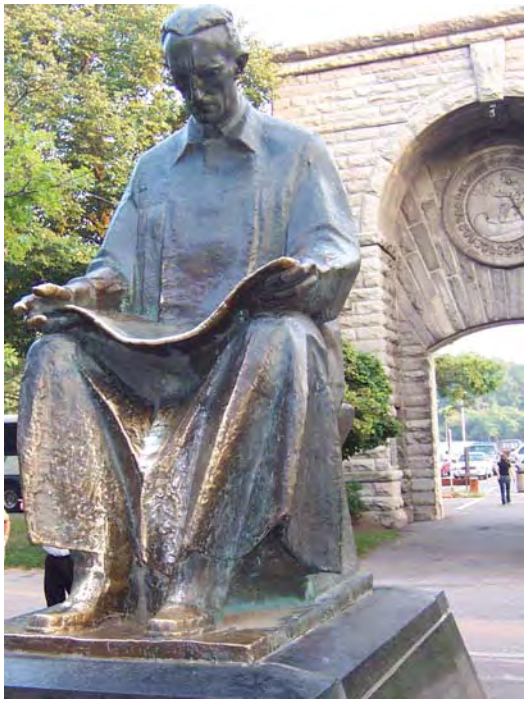
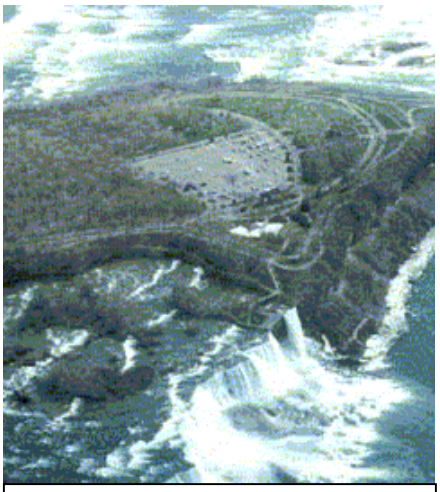

(credit: T. Valone)

> ***"It will not be long before we can transmit that power [of Niagara Falls] by means of a wire…over great distances…<u>I believe</u> the time will come when we shall transmit that energy without any wire." – Nikola Tesla***

These prophetic words from the great scientist Nikola Tesla stated in 1893, show how he never doubted his ability to transform the world by transmitting electricity over long distances by means of a wire with the awesome power of the Niagara Falls River. He was so far ahead of his time, that his belief in transmitting energy without wires is still not a reality today, but certainly feasible in the near future[1]. One only has to see the ability of worldwide wireless communications to see that the next natural progression will be to transmit energy without wires around the whole world. The dream of harnessing the power of Niagara Falls for generating electricity was something Tesla thought of when he was only a child. Seeing pictures of the awesome power of the Falls, he stated "Someday I shall harness it." He set huge ideas and forces in motion years before this work ever started. With his unique genius and sheer volition, he knew he could accomplish his dream. And what a great accomplishment indeed! Thanks to Tesla's invention of the AC induction motor, which allowed electricity to be transmitted long distances (DC electricity could be transmitted only for very short distances), Niagara Falls was the first city in the world to have commercial alternating current generation of electricity. The city of Buffalo, New York, was the first city in the world to receive electric power generated from a

[1] See Tom Valone's book, *Harnessing the Wheelwork of Nature, Tesla's Science of Energy* (Adventures Unlimited, 2002)

long distance away (22 miles), in 1896. Then, power lines were extended to Syracuse in 1905. This application of long distance power transmission eventually led to the present Niagara Mohawk Power Co. that distributes electricity throughout western and central New York. Soon, the whole world was lit by his genius just as he predicted in his statement above.



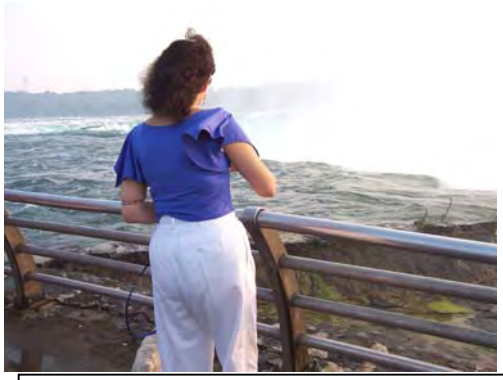
Bird's eye view of Goat Island, on the American Side of Niagara Falls, where Tesla's statue stands (credit: NF Library)

The *Niagara Gazette* (the foremost paper of the area at the time) had nothing but praise for the man they described as the "greatest living electrician." Scientists, politicians, financiers, men and women alike wanted to meet and hear him speak of his amazing inventions and discoveries. He was one of the most famous celebrities of his time.

Wanting to record all that we could relating to Tesla history in the Niagara/Buffalo area, a group of us researched all the landmarks still existing today that stands as witnesses to his incomparable genius by taking a trip back in time, when the excitement and thrill of Tesla's fame was felt by everyone.

We started our trip from the city of Buffalo, New York and headed to the Niagara Falls region. We decided to first go to Goat Island, a landmass between the Falls, and on the American side. Here is the beautiful Niagara Falls State Park, where a bigger than life-size bronze sculpture of Nikola Tesla towers over the plaza. The statue created by a Yugoslavian sculptor, was unveiled on July 25, 1976 commemorating the 120th anniversary of Tesla's birth. Behind it, is the only remaining part of the original Adams Power Station (Number One), the ornate entrance archway, which has at the top center, a medallion that features a Mohawk Indian traveling the Niagara River by canoe. The Edward Dean Adams Hydro-Electric Power Station Number One was inaugurated on August 26, 1895 by the Niagara Falls Power Company. The building was designed by Mr. Stanford White, one of the foremost architects of the time who used the Richardsonian Romanesque style then favored for churches, universities and public buildings. The Station's nameplate is currently on this entrance archway along with other commemorative plaques, are described further in this article.

Adams Plant Number One Entrance Archway, the only remnant of this building that housed the original Tesla dynamos, is located behind Tesla's statue (credit: T. Valone)

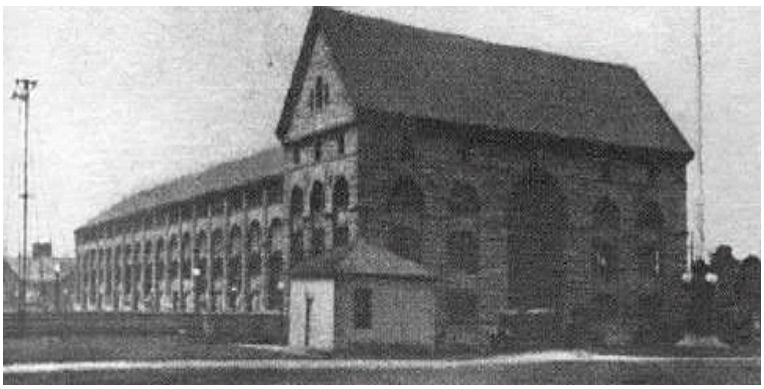


The author at the brink of the Falls (credit: T. Valone)

As we walked toward the Niagara Falls River, the thundering power of this rushing water was so loud that we were easily able to understand why Tesla was inspired on tapping some of it for the large-scale generation of electricity. This river has an average of 202,000 cubic feet per second of water flow. The gusting winds along with the heavy mist that the falls produces, visible hundreds of feet away, are really quite a unique experience. This untamed power and energy of Niagara Falls was revered by Tesla even as a child and we have to be forever grateful of his tenacity and perseverance in fulfilling his childhood dream of "Someday I shall harness it."

After experiencing the inspiring beauty of the river and falls, we started to look for the original generating Stations. We wanted to find the areas where the original plants we erected, so we headed to the Niagara Falls Library to see what they had in their archives. As we looked at the old Niagara Falls maps, showing the Adams plant site, we realized that we could find them if we would go out and look for them. Talking with the Librarian, she mentioned that one of the plants was still there. Armed with maps and our digital camera, we headed toward the Robert Moses Expressway. Once there, by hiking down the side of it, we reached the ground and then realized that we were now standing on the site of the original Adams Plant Number One. As we looked around, on the ground still remain large pieces of stone, probably parts of the original Station building. Sadly, there are no plaques or signs commemorating the site. This Plant contained ten 5000 horsepower Tesla AC generators yielding 37,000 kilowatts. The second Adam's Plant (Number Two) doubled that output. The original plant at that time was designed for 25Hz. however,

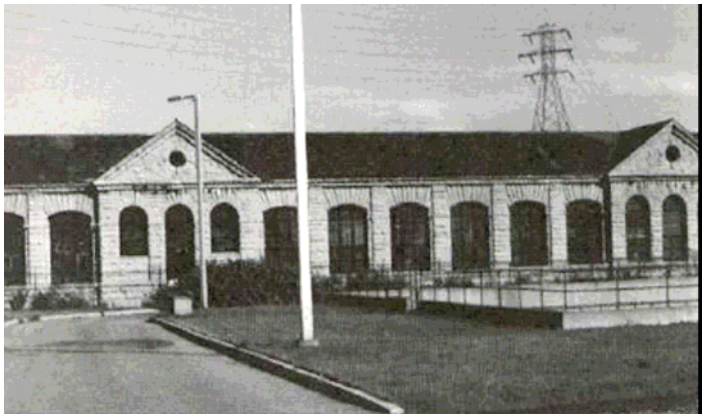
Photo of the area where the original Adams Plant Number One was erected (credit: T. Valone)



Adams Plant Number One - Courtesy, Niagara Falls Library

Replica of the Inaugural Plaque that was on the Adams Plant #1 (credit: J. Panting)

the subsequent expansion included conversion to 60 Hz.



Adams Plant Number Three. The only original building out of the three still standing today (credit: T. Valone)

As we continued to walk along we saw the Niagara Falls Sewage Treatment facility. Here is where the Adams Building Number Two once stood. Then adjacent to the canal, as we continue to survey the landscape, there it was, the Adams Plant Number Three. Still intact, this building was the original transformer house and is all that remains of the three original buildings. Over 100 years ago, this trio comprised the world's first complex of Alternating Current Power Generating Stations. The Tesla alternating current generators housed in this particular building were still working in 1961. At that time they were shut down, due to the opening of the new Robert Moses Power Plant. We have been told that at least one is stored at the Smithsonian Museum in Washington DC, although not on display. The Moses plant has a capacity of 1,950,000 kilowatts enough to supply a city the size of Chicago. Tesla was right when he foresaw the enormous potential of Niagara Falls!

Sadness and nostalgia came over us, as we saw what was left of Tesla's magnificent achievement in Niagara Falls. As we sat and talked we realized something: Yes, the buildings are gone, the generators shut off, but we had overlooked the most important fact, that is, thanks to Tesla, we have the ability of transmitting electricity anywhere in the world, no matter how far away from the generating plant. Electricity has become necessary for our existence, as Tesla predicted back in 1893 during an interview by the Niagara Gazette: ***"Electricity is becoming more and more an important factor in our lives…after a considerable amount of time it will become practically necessary for our existence."***

Today, a replica of the plaque that commemorated the accomplishment of the generation of electricity using alternating current is on the Original Adam's Plant Archway, behind Tesla's statue. (The original plaque was lost). It states, "To the engineers, financiers, scientists whose genius, courage and industry made possible here the birth of hydro-electric power and created the first five thousand horse power water turbines directly connected to alternating current generators and inaugurated in America long distance transmission of power by electricity".

Plaque Honoring Tesla as the Inventor of the AC Induction Motor (credit: T. Valone)

Also on this archway is a large plaque

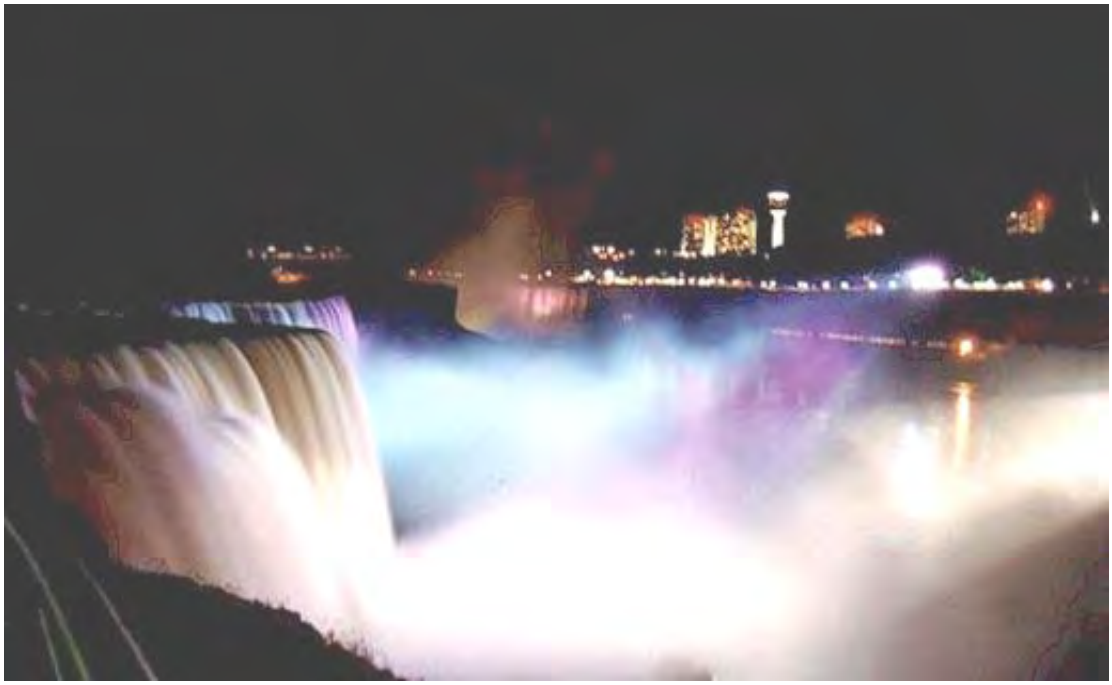
honoring Tesla and crediting him as the inventor of the AC induction motor which made possible the long distance transmission of electricity that so many had dreamed of up till then, but that only he could accomplish. The plaque was erected and dedicated on July 25, 1976, the same day as his statue was, on occasion of the 120th anniversary of this genius's birth. On the plaque, next to his name, on the right side are etched replicas of the original towering AC generators invented by him and placed in the Adam Plant Stations in 1896. On the left side are etched huge wire tower transmitters, which symbolize the long distance transmission, made possible by these AC generators. How wonderful to see that here in The Niagara Falls State Park on Goat Island, is a monument to Tesla's genius as the inventor of AC electricity. Visited by hundreds of thousands from all over the world, every year, we were very happy to see so many people reading the plaques, climbing the statue and becoming acquainted with how Tesla changed the world.

Leaving nostalgia behind and totally overwhelmed by the magnitude of Tesla' accomplishment here, we decided to walk up once again to his magnificent statue. As we walked toward it, my heart was filled with reverence and gratitude. I thought what a different world this would have been without Tesla's inventions (and he has so many). Most likely, we would have much more expensive DC electricity since Edison fought AC continually. Fortunately for us, Tesla changed forever the way we all live on the Earth.

The author proudly standing at Tesla's feet (credit: T. Valone)

I decided to climb up the statue as many people do, and feel what its like to be next to him. I was thrilled to be so close to the statue of an incredible genius! I started to think how it must have felt to be next to the real Tesla. I remembered how many celebrities of his time worked with him, Westinghouse, J.P. Morgan, his famous friends like Mark Twain, Sara Bernhardt. How wonderful it must have been to be able to be with him, hear him speak of his many new inventions yet to come.

After a long day, filled with the excitement of visiting all the places related to Tesla in this area, we were ready to sit and relax at the Top of the Falls restaurant, on top of the Niagara State Park gift shop, which has a magnificent view of the falls. As we dined, the sun started to set and the falls were no longer visible by its rays. What a shame that no longer we could enjoy the white cascading falls. At least, I thought, I could still hear the mighty rumble. Then, suddenly the beautiful colored beams of light were turned on and the falls were visible again! Beams of pink, blue, red, purple, green and white flashed giving the falls a different and breathtaking look. I smiled and thought to myself: To be able to see these beautiful falls, by AC electricity, even at night is yet another never-ending gift of Tesla to the whole world!



Niagara Falls at night, lit by the legacy of Tesla's genius (credit: J. Panting)

For further information

Tesla's history, biography, magnifying transmitter, wireless electricity, Niagara Falls history….get the book: *Harnessing the Wheelwork of Nature*, available on www.Amazon.com