

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

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**NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM**

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*  
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

**1 NAME**

HISTORIC

Adams Power Plant Transformer House

AND/OR COMMON

Adams Power Plant Transformer House

**2 LOCATION**

STREET & NUMBER

Off 15th Street near Buffalo Avenue

--- NOT FOR PUBLICATION

CITY, TOWN

CONGRESSIONAL DISTRICT

Niagara Falls

--- VICINITY OF

36

STATE

CODE

COUNTY

CODE

New York

36

Niagara

063

**3 CLASSIFICATION**

**CATEGORY**

**OWNERSHIP**

**STATUS**

**PRESENT USE**

\_\_\_DISTRICT

\_\_\_PUBLIC

OCCUPIED

\_\_\_AGRICULTURE

\_\_\_MUSEUM

BUILDING(S)

PRIVATE

\_\_\_UNOCCUPIED

\_\_\_COMMERCIAL

\_\_\_PARK

\_\_\_STRUCTURE

\_\_\_BOTH

\_\_\_WORK IN PROGRESS

\_\_\_EDUCATIONAL

\_\_\_PRIVATE RESIDENCE

\_\_\_SITE

**PUBLIC ACQUISITION**

**ACCESSIBLE**

\_\_\_ENTERTAINMENT

\_\_\_RELIGIOUS

\_\_\_OBJECT

\_\_\_IN PROCESS

YES: RESTRICTED

\_\_\_GOVERNMENT

\_\_\_SCIENTIFIC

\_\_\_BEING CONSIDERED

\_\_\_YES: UNRESTRICTED

INDUSTRIAL

\_\_\_TRANSPORTATION

\_\_\_NO

\_\_\_MILITARY

\_\_\_OTHER:

**4 OWNER OF PROPERTY**

NAME

(John G. Haehl, Jr., President and  
Chief Executive Officer)

Niagara Mohawk Power Corporation

STREET & NUMBER

300 Erie Boulevard West

CITY, TOWN

STATE

Syracuse

--- VICINITY OF

New York

**5 LOCATION OF LEGAL DESCRIPTION**

COURTHOUSE,  
REGISTRY OF DEEDS, ETC.

Office of the County Clerk

STREET & NUMBER

Niagara County Courthouse

CITY, TOWN

STATE

Lockport

New York

**6 REPRESENTATION IN EXISTING SURVEYS**

TITLE

New York State Survey of Historic Resources; Niagara Falls Historic Structures Survey; National Register of Historic Places; Historic American Engineering Record; Historic American Buildings Survey

DATE

1967;1973;1975;1977;1965

FEDERAL  STATE \_\_\_COUNTY  LOCAL

807

DEPOSITORY FOR  
SURVEY RECORDS

New York State Division for Historic Preservation; Niagara Falls Planning Dept.; National Register of Historic Places;

CITY, TOWN

American American Engineering Record; Historic American Buildings Survey (Albany; Niagara Falls; Washington)

STATE

N.Y.; N.Y.; D.C.

# 7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

## DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Adams Power Plant Transformer House is the only surviving plant structure. It was designed by the distinguished architectural firm of McKim, Mead and White, and between 1895 and 1961 it witnessed a number of dramatic breakthroughs in the production and distribution of cheap electric power. Constructed of locally quarried limestone and originally flanked by two large power houses, this 1 1/2-story building is presently utilized by a local chemical firm to house its frequency converters. It is well-maintained.

For many years before the construction of the Edward Dean Adams Power Plant, engineers had dreamed of harnessing the awesome power of Niagara Falls for the service of mankind, but because of the great difficulties involved and the tremendous capital required for such a project, nothing of any consequence had been done. In 1886, however, Thomas Evershed, the New York State Engineer, produced a plan for a hydraulic canal which would use Niagara's waters to make electricity. Evershed's plan attracted a group of investors, and in 1889 they incorporated the Cataract Construction Company to build the project.

Construction on the canal and a 7,500-foot-long brick-lined tunnel, which was to run from the powerhouse under the city of Niagara Falls and return water to the river in the gorge below the falls, started in 1890. Work on the power plant itself did not begin until 1895, largely because of the desire to incorporate certain revisions to the Evershed Plan, recommended by an international advisory board of engineers, into the overall scheme.

To design its power plant the Cataract Construction Company retained the architectural firm of McKim, Mead and White. According to Cataract president Edward Dean Adams, the architects were charged with designing a facility that met three major specifications. First, the structures should be aesthetically pleasing because of public interest in conserving the scenic beauty of Niagara Falls. Second, the edifices had to be protective because of the region's extremely cold temperatures and the delicacy of some of the machinery utilized. Finally, the buildings should be designed in such a way that the myriad of tourists who came to Niagara Falls could safely visit them and come away with an understanding of the processes involved. McKim, Mead and White met this challenge and designed a plant, according to architectural historian Constance M. Greiff, in which they "eschewed the fashionable Roman and French

(continued)

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# 8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input checked="" type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input checked="" type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES 1895-1961 BUILDER/ARCHITECT Cataract Construction Co. McKim, Mead and White

## STATEMENT OF SIGNIFICANCE

According to Paul M. Lincoln of the Cornell University School of Engineering, the Edward Dean Adams Power Plant "marks an epoch in electricity." It "stands as a monument to the greatest single step in advance that was ever taken in the electrical field."<sup>1</sup> That step involved the convergence and synthesis of decades of scattered technological developments into systematic electrical engineering technology. The construction of this large-scale, alternating-current central power station made long-distance commercial electrical transmission a reality, opened the door to full development and utilization of the immense power potentials of the Niagara Falls, and provided the large blocks of low-cost electric power essential to the basic industries upon which 20th-century American industrial growth hinged. "Electricity has transformed society and the story of electric power in the twentieth century is one of immense expansion and technical development," say historians Ralph Greenhill and Thomas D. Mahoney. "This expansion and development was based on the successful 'harnessing' of Niagara."<sup>2</sup>

When the New York State legislature granted the original charter for power development at Niagara Falls in 1886, electric power development was still at a pioneer stage. The Cataract Construction Company and the Niagara Falls Power Company considered various other methods of power transmission before the decision in 1891 to develop a central station electric power plant. This constituted a radical departure from earlier power development at a time when practical experience with alternative electric generating systems offered little in the way of guidance.

(continued)

<sup>1</sup>Quoted in Edward Dean Adams, Niagara Power: History of the Niagara Falls Power Company, 1886-1918, Vol. II (Niagara Falls, 1927), 355.

<sup>2</sup>Ralph Greenhill and Thomas D. Mahoney, Niagara (Toronto, 1969), 159.

# 9 MAJOR BIBLIOGRAPHICAL REFERENCES

(See continuation sheets.)

## 10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY ca. 7 acres

UTM REFERENCES

A 17 615913.20 4717.115.40  
ZONE EASTING NORTHING

B [ ] [ ] [ ] [ ] [ ] [ ]  
ZONE EASTING NORTHING

C [ ] [ ] [ ] [ ] [ ] [ ]  
ZONE EASTING NORTHING

D [ ] [ ] [ ] [ ] [ ] [ ]  
ZONE EASTING NORTHING

VERBAL BOUNDARY DESCRIPTION

(See last page of description.)

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

STATE	CODE	COUNTY	CODE
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## 11 FORM PREPARED BY

NAME / TITLE Description and visit by: Ralph J. Christian, Historian  
History by: James Gardner, Historian, Historic Landmarks Project

ORGANIZATION American Association for State and Local History DATE September 1978

STREET & NUMBER 1400 Eighth Avenue South TELEPHONE 615/242-5583

CITY OR TOWN Nashville, STATE Tennessee ZIP 37203

## 12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL  STATE  LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE DATE

FOR NPS USE ONLY	
I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER	
	DATE
DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION	DATE
ATTEST	DATE
KEEPER OF THE NATIONAL REGISTER	

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CONTINUATION SHEET Adams Power ITEM NUMBER 7 PAGE one

forms followed in homes for their wealthy clients and returned to the powerful rhythms and harsh stoniness learned in Richardson's office."<sup>14</sup>

Power House 1 and the northeast half of the Transformer House were completed in 1895 and made their first delivery of power to the Pittsburgh Reduction Company (later Alcoa) in Niagara Falls on August 26 of that year. Success in transmitting long distance power encouraged expansion, and in 1899 the directors authorized the construction of an additional power plant and an addition to the Transformer House, a project virtually completed by the next year. Water to propel the plant's turbines was diverted from the Niagara River by an intake canal which conveyed it into 180-foot pits underneath the powerhouses. Vertical penstocks in the pits took the water to the turbines, and after being utilized by the turbines, the water was returned to the river via the 7,500 foot tunnel under the city.

For several years after its completion, the Adams Power Plant was the largest facility of its kind in the world. Like so many pioneer projects, however, it became quickly outmoded, and in the early 1920's the Niagara Power Company relegated it to a standby facility. The plant remained in operation until 1961 when the Niagara Mohawk Power Company closed it down after surrendering water rights to the New York State Power Authority. In 1965, because of a tax liability, the company demolished Power Houses 1 and 2, filled in the canal, and leased the Transformer House to Union Carbide.

The limestone Transformer House rests on foundations of the same material and features a beltcourse which girds the building at window-sill level. Basically the building consists of a rectangular-shaped main block, measuring approximately 40 by 180 feet, and two small wings which project from the southeast facade. Exterior ornamentation is provided chiefly by wall, window, door, and roof treatments. On the northwest and southeast facades and the southwest end, stone pilasters rise uninterruptedly from the beltcourse to a heavy stone cornice at the roofline and flank the segmentally arched window surrounds with their multipaned wood sash windows. The unpilastered wall on the northeast end features a double wood

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<sup>14</sup>Constance M. Greiff, Lost America: From the Atlantic to the Mississippi (Princeton, 1971), 157.

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CONTINUATION SHEET Adams Power ITEM NUMBER 7 PAGE two

door, with T-hinges, set in a segmentally arched opening and flanked on either side by single windows set in rectangular surrounds. A smaller door provides access through the southwest end. Along its roofline, the edifice exhibits a heavy boxed stone cornice and triangular-shaped pediments pierced by single porthole windows. The building is capped with a slate-covered gable roof featuring copper ridge poles.

Inside, the structure appears to have undergone little alteration except for the removal of its original transforming equipment. The brick-lined walls are an original feature as are portions of the floor which are constructed of stone blocks. Also believed to be original are the porcelain insulators for the "getaways" on the southeast side of the building and an overhead crane, currently utilized by the present tenant. Presently, Union Carbide uses the building to house three 1930-era rotary converters to supply 25-cycle current to its electric furnaces. The Transformer House appears to be in very good condition and is well maintained.

Boundary Justification. The boundary described below contains less than one acre and includes only the Transformer House. No other original powerplant structures are extant.

Boundary Description. As indicated in red on the accompanying maps [(1) U.S.G.S. 7.5' Series, Ont.-N.Y., Niagara Falls Quad., 1965; (2) AASLH Sketch Map, 1978], a line beginning on the western edge of the right-of-way of 15th Street at a point approximately 80 feet south of its intersection with Buffalo Avenue and extending southwestward approximately 400 feet along a line marked in part by a chain link fence to a point 10 feet due west of the southwest corner of the Transformer House; thence, southeastward approximately 80 feet along a line parallel to and 10 feet distant from the southwest end of the Transformer House to the north edge of a paved access road; thence, northeastward approximately 300 feet along the north edge of said road to the western edge of the right-of-way of 15th Street; thence, northward approximately 100 feet along said right-of-way to the point of beginning.

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In 1893 the company finally decided to adopt the polyphase alternating-current system just then being proven in scattered demonstrations. The successful operation of the power plant in August 1895 represented, says historian Robert Belfield, "a solution to the complexity and confusion" that had hindered electric power development in previous decades.<sup>3</sup> According to historian-industrialist F. L. Koethen, these pioneering efforts and innovations single out the Adams plant as "the birthplace of the modern hydroelectric power station."<sup>4</sup>

After going into operation, the Adams Power Plant had a remarkable impact on 20th-century American social and economic growth. The plant, historian Belfield suggests, was "the first truly universal electric power system" that "possessed the flexibility to meet every consumer's demands."<sup>5</sup> Retaining well into the 20th century its position as the largest hydroelectric power plant in the world, the Adams central station provided power for electric traction, light, and heat and proved significant as a magnet for industrial development. Alcoa, Union Carbide, and other basic electrochemical industries trace their origins to the availability of cheap power at Niagara. This history of innovation and achievement, according to economic historians Arthur C. Bining and Thomas C. Cochran, clearly designates the Adams plant as "one of the landmarks of electrical history."<sup>6</sup>

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<sup>3</sup>Robert Belfield, "The Niagara System: The Evolution of an Electric Power Complex at Niagara Falls, 1883-1896," Proceedings of the IEEE, LXIV (September 1976), 1344.

<sup>4</sup>F.L. Koethen, "The Story of the Men Who Built the Electrochemical Industry with Niagara Power" (1961). Paper supplied by the Carborundum Company for the Electrochemical Society, Inc.

<sup>5</sup>Belfield, "The Niagara System," 1350.

<sup>6</sup>Arthur C. Bining and Thomas C. Cochran, The Rise of American Economic Life, 4th ed. (New York, 1964), 448.

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The Adams Power Plant Transformer House is the only surviving plant structure. It was designed by the distinguished architectural firm of McKim, Mead and White, and between 1895 and 1961 it witnessed a number of dramatic breakthroughs in the production and distribution of cheap electric power. Constructed of locally quarried limestone and originally flanked by two large power houses, this 1 1/2-story building is presently utilized by a local chemical firm to house its frequency converters. It is well-maintained.

History

Full exploitation of the power potentials of Niagara Falls eluded entrepreneurs for decades. Competition from the steam engine and limited access to the falls due to development of the Niagara Reservation in 1883-84 precluded significant utilization of this natural power source under existing technology. In 1886 Thomas Evershed, an engineer for the Erie Canal, proposed a plan to combine traditional mill-over-the-wheel-pit technology and a diversionary canal in order to expand the number of possible industrial sites outside the park boundaries. His proposal attracted the attention of Charles Gaskill, who organized in 1886 the Niagara River Hydraulic Tunnel, Power, and Sewer Company, later known as the Niagara Falls Power Company. On May 31 of that year Gaskill and his associates obtained a charter for power development from the New York State Legislature. When the Evershed plan proved too costly and too dependent on the willingness of industry to locate in the area, however, the project languished.

In 1889 a group of New York investors headed by J. P. Morgan, William K. Vanderbilt, and John Jacob Astor bought out the Gaskill group and set up the Cataract Construction Company to manage the Niagara Falls Power Company development.

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The new investors immediately abandoned the Evershed scheme and developed a new strategy for the falls project. Concerned that a local market alone would not support the extensive development that the area merited otherwise, the investors proposed constructing a central station to supply nearby industrial users and at the same time reach distant nonindustrial consumers. This scheme, according to company president Edward Dean Adams, was considered "a radical and revolutionary proposal."<sup>7</sup> The idea of a central power station challenged convention and custom, for power production was still essentially a localized concern dominated by individual producer-consumers. Even without the hindrance of tradition and custom, the technology for long-distance transmission did not yet exist. No one had conclusively demonstrated an efficient or profitable method of producing and transmitting power from a central station. Accordingly, although moving ahead with the construction of a basic canal and tunnel system in 1890, Adams and his associates delayed any decision on the precise method of power development until after consulting with leading experts in the field. On June 21, 1890, Adams established the International Niagara Commission to survey the state of the art and recommend the most feasible plan. The Commission studied a range of proposals, including power transmission through manilla or wire rope, hydraulic pipes, compressed air, and electricity. Although the Commission found electric power the most promising, none of the proposals offered the complete solution that the Cataract Company had hoped to find. Nevertheless, the Commission proved important, for, according to Adams, it "marked probably the first of the notable international conferences of scientists for industrial purposes."<sup>8</sup>

Both the company and the Commission favored electricity for the development of Niagara, but little agreement existed over the precise method. In 1890 electrical power transmission  
(continued)

<sup>7</sup>Adams, Niagara Power, 255.

<sup>8</sup>Edward Dean Adams, "Historic Hydro-Electric Development at Niagara Falls." Speech delivered at a meeting of the American Institute of Electrical Engineers, Niagara Falls, N.Y., May 27, 1926.

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was still at a pioneer stage plagued by an assortment of different systems at different voltages, producing currents of different character. The main dispute focused on the alternative systems of direct current versus alternating current. Thomas A. Edison, the father of modern electrical technology, was a persuasive advocate of direct current, even though it was not considered profitable to transmit this form of electricity long distances. His principle opponent was George Westinghouse, who, with his associate William Stanley, had conducted a number of experiments by 1890 to demonstrate the practicality of alternating-current transmission. Although Edison and other critics warned of the dangers of the high voltage associated with alternating-current transmission, Westinghouse insisted that alternating current was more efficient and reduced the loss of power in transmission. Early efforts with single-phase alternating-current systems in Willamette Falls, Oreg., and Telluride, Colo., appeared to confirm Westinghouse's arguments. The most convincing demonstration, however, came in August 1891 in Germany. Using a more sophisticated and advanced polyphase system, Swiss hydroelectric engineers from the Maschinenfabrik Oerlikon transmitted alternating current over 100 miles with relatively little loss of power. While not yet convinced to adopt an alternating-current system for Niagara, the Cataract Company was nevertheless persuaded by this preliminary evidence that long-distance electrical transmission was possible. Accordingly, in December 1891 the company announced its decision to construct an electric power central station system at the Falls.

In 1892 the company hired George Forbes, an English engineer, to advise on technical matters. Forbes had been impressed by the Swiss demonstrations, and in May 1893 he convinced the company to develop a polyphase alternating-current system similar to that developed by Oerlikon. By that time Westinghouse had himself successfully demonstrated a polyphase alternating-current system at the 1893 Chicago World's Fair. Because of Westinghouse's experience, the Cataract Company signed a contract with his company on October 27, 1893, for the construction of ten 5,000-horsepower polyphase, alternating-current generators based on a design by Forbes. The I. P. Morris Company of Philadelphia contracted to build the 5,000-horsepower Faesch and Piccard turbines. At this point the project still rested essentially on theory and potential and represented a daring risk on the part of the company. "No hydraulic power development of

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comparable size had ever been built," say historians Greenhill and Mahoney, "and electrical power transmission was still at a pioneer stage."<sup>9</sup>

Housed in a Transformer House designed by the New York architectural firm of McKim, Mead and White, the first two Niagara generators began operating on August 26, 1895, and transmitted electricity to the nearby Pittsburgh Reduction Company. On November 15, 1896, the Niagara station began long-distance transmission to Buffalo, N.Y., 22 miles away. Thus the Niagara power development proved an instant success. By taking the two-market approach and constructing what Belfield terms "the first truly universal electric power system" that "possessed the flexibility to meet every consumer's demand," the company had managed to secure sufficient outlets to assure profitable continuous operation.<sup>10</sup> In particular, the large blocks of cheap power made electrochemical and electrometallurgical industries such as the Pittsburgh Reduction Company (later Alcoa), the Carborundum Company, and Union Carbide economically feasible, and the industries in turn justified the scale of the Niagara project and made it a financial success. In 1901 the success of the venture was fully demonstrated when Niagara power lighted the Pan-American Exposition in Buffalo. By that time, Niagara Station No. 1 had reached its full generating capacity of 50,000 horsepower, and construction had begun on the 55,000-horsepower Station No. 2. The entire plant was completed in 1904 and officially named in 1927 after the Cataract president, Edward Dean Adams. The Westinghouse generators remained in operation until the plant closed in 1961.

The impact of the Niagara power development was remarkable. Under the combined impetus of New York capital and American and European technology, a synthesis of electrical power technology had emerged that constituted, says electrical engineer Lincoln, "the greatest single step in advance that was ever taken in the electrical field."<sup>11</sup> According to technological  
(continued)

<sup>9</sup>Greenhill and Mahoney, Niagara, 156.

<sup>10</sup>Belfield, "The Niagara System," 1350.

<sup>11</sup>Quoted in Adams, Niagara Power, 355.

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historian Harold I. Sharlin, "the engineering world hailed the achievement as representing the coming of age of electrical engineering."<sup>12</sup> In the decades that followed, the polyphase alternating-current central station power system became a model for electric power development throughout the United States. "Electricity has transformed society and the story of electric power in the twentieth century is one of immense expansion and technical development," say Greenhill and Mahoney. "This expansion and development was based on the successful 'harnessing' of Niagara."<sup>13</sup>

Continuation Sheet Adams Power

Item Number 9 Page two

Sharlin, Harold I., The Making of the Electrical Age: From the Telegraph to Automation (New York: Abelard-Schuman, 1963).

Stetson, Francis Lynde, "The Use of the Niagara Water Power," Cassier's Magazine, VIII (July 1895), 173-92.

Then & Now: Niagara Falls, New York, 1892 to 1967 (Niagara Falls: Niagara Falls Area Chamber of Commerce, 1967).

<sup>12</sup>Harold I. Sharlin, The Making of the Electrical Age: From the Telegraph to Automation (New York, 1963), 211.

<sup>13</sup>Greenhill and Mahoney, Niagara, 159

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Adams, Edward Dean, "Historic Hydro-Electric Development at Niagara Falls." Speech delivered at a meeting of the American Institute of Electrical Engineers, Niagara Falls, N.Y., May 27, 1926. Mimeographed copy at Niagara Falls Historical Society.

\_\_\_\_\_, Niagara Power: History of the Niagara Falls Power Company, 1886-1918, 2 vols. (Niagara Falls, N.Y.: Niagara Falls Power Company, 1927).

Belfield, Robert, "The Niagara System: The Evolution of an Electric Power Complex at Niagara Falls, 1883-1896," Proceedings of the IEEE, LXIV (September 1976), 1344-1350.

Bining, Arthur, and Thomas C. Cochran, The Rise of American Economic Life, 4th ed. (New York: Charles Scribner's Sons, 1964).

Brooke, Cornelia E., "Adams Power Plant Transformer House," National Register Inventory, 1975.

Greenhill, Ralph, and Thomas D. Mahoney, Niagara (Toronto: University of Toronto Press, 1969).

Grieff, Constance M., Lost America: From the Atlantic to the Mississippi (Princeton: Pyne Press, 1971).

Kirkland, Edward C., A History of American Economic Life, 4th ed. (New York: Appleton-Century-Crofts, 1969).

Koethen, F. L., "The Story of the Men Who Built the Electrochemical Industry with Niagara Power" (1961). Paper supplied by the Carborundum Company for the Electrochemical Society, Inc.

MacLaren, Malcolm, The Rise of the Electrical Industry During the Nineteenth Century (Princeton: Princeton University Press, 1943).

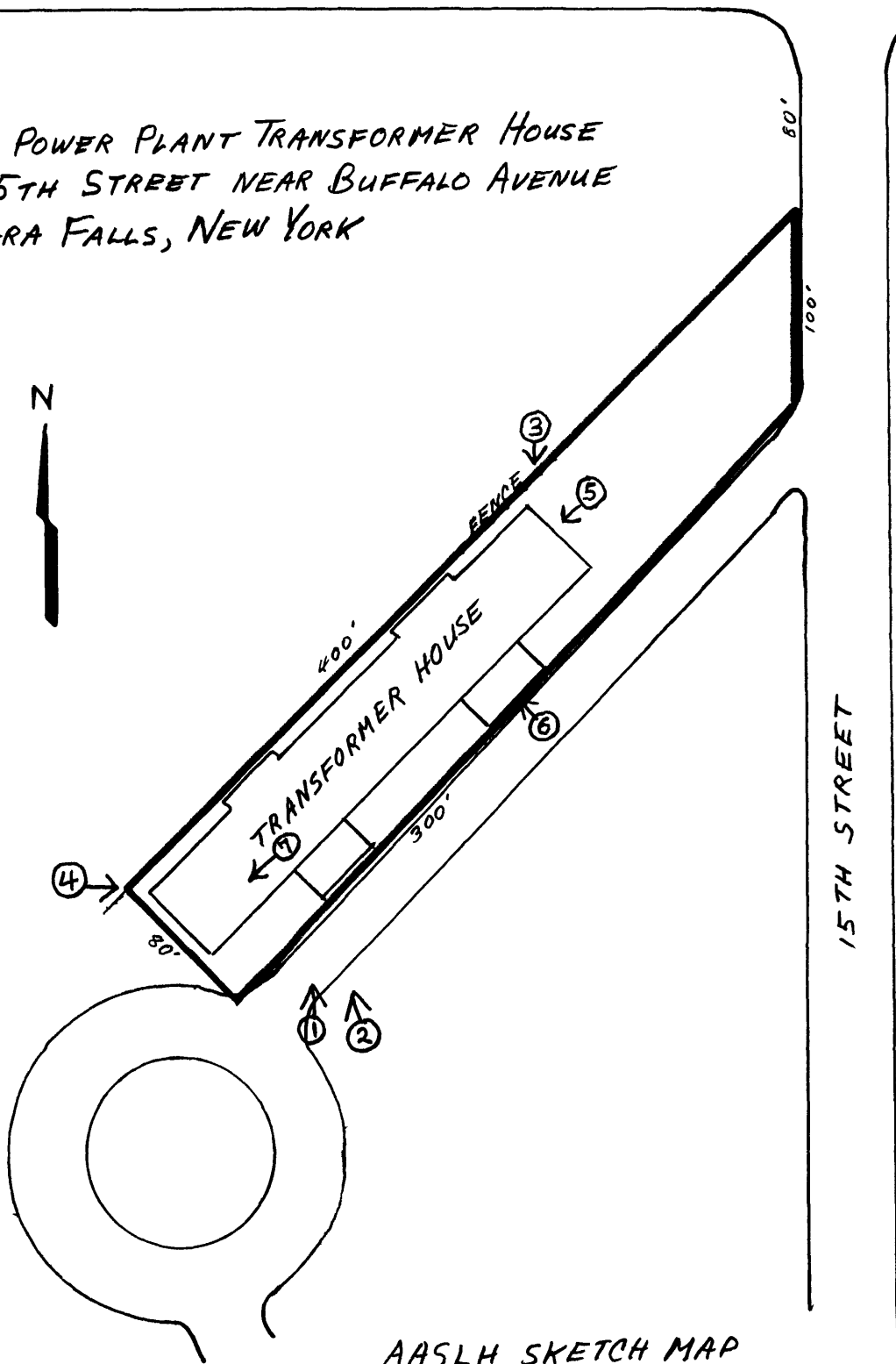
Meyer, Herbert W., A History of Electricity and Magnetism (Cambridge: MIT Press, 1971).

(continued item 8 page six)

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BUFFALO AVENUE

ADAMS POWER PLANT TRANSFORMER HOUSE  
OFF 15TH STREET NEAR BUFFALO AVENUE  
NIAGARA FALLS, NEW YORK



AASLH SKETCH MAP  
BY: J. B. GARDNER  
1978  
○ → PHOTO ANGLES

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