

United States Department of the Interior  
National Park Service

# National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.



### 1. Name of Property

Historic name: The Delaware Station of the Philadelphia Electric Company

Other names/site number: NA

Name of related multiple property listing: NA

### 2. Location

Street & number: 1325 Beach Street

City or town: Philadelphia State: PA County: Philadelphia

Not For Publication: NA Vicinity: NA

### 3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this X nomination \_\_\_ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets \_\_\_ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

\_\_\_ national \_\_\_ statewide X local Applicable National Register Criteria: X A \_\_\_ B X C \_\_\_ D

<u>Andrew McDonald</u>	<u>5/17/2016</u>
Signature of certifying official/Title:	Date
<u>Pennsylvania Historical &amp; Museum Commission</u>	
State or Federal agency/bureau or Tribal Government	
In my opinion, the property ___ meets ___ does not meet the National Register criteria.	
Signature of commenting official/Title:	Date
State or Federal agency/bureau or Tribal Government	

### 4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- determined not eligible for the National Register
- removed from the National Register
- other (explain): \_\_\_\_\_

Patrick Andrews  
Signature of the Keeper

8/10/2016  
Date of Action

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### 5. Classification

#### Ownership of Property (Check as many boxes as apply.)

- Private:
- Public – Local
- Public – State
- Public – Federal

#### Category of Property (Check only one box.)

- Building(s)
- District
- Site
- Structure
- Object

#### Number of Resources within Property (Do not include previously listed resources in the count)

Contributing	Noncontributing	
<u>3</u>	<u>0</u>	buildings
<u>0</u>	<u>0</u>	sites
<u>2</u>	<u>0</u>	structures
<u>0</u>	<u>0</u>	objects
<u>5</u>	<u>0</u>	Total

Number of contributing resources previously listed in the National Register: 0

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### 6. Function or Use

#### Historic Functions (Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION – Energy Facility

#### Current Functions (Enter categories from instructions.)

VACANT/NOT IN USE

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## 7. Description

**Architectural Classification** (Enter categories from instructions.)

LATE 19TH AND EARLY 20<sup>TH</sup> CENTURY REVIVALS: Beaux Arts

**Materials:** (enter categories from instructions.)

Principal exterior materials of the property: Concrete

### Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

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#### Summary Paragraph

The Delaware Station of the Philadelphia Electric Company is situated on the west bank of the Delaware River in the Fishtown neighborhood of Philadelphia, along the east side of N. Beach Street. The nominated property's approximately 5.5 acre site is located to the immediate north of Penn Treaty Park. Begun in 1917 and completed in 1923, the monumental power station building occupies a ground area of approximately three acres. Constructed largely of reinforced concrete, the main building is five stories tall and consists of three major components: the boiler houses, a turbine hall, and a switch house. Several smaller ancillary resources, including an ash tank and a screening house and pump room, are located east of the main power plant. Additionally, a large pier measuring roughly 75' x 250', known as Pier 61, extends from the river bank just east of the power station and contains a five-story coal tower. Along Beach Street and Penn Treaty Park, there is a simple cast iron fence while a modern chain-link metal fence surrounds most of the remainder of the site. All existing resources are considered to be "contributing." The proposed National Register Boundary follows the original parcel (as shown in Figures 17 & 18) and includes all existing resources that were historically and functionally related to the Delaware Station within the period of significance.<sup>1</sup> The property retains integrity to reflect the period 1917-1923. Due to demolition of important later and substantial resources, the period was limited to the earlier phases of construction and operation. Accordingly, the parking lots and other land north of the building, although part of the *current* tax parcel, have been excluded from the boundary due to the fact that no resources remain from the post-1923 period, and this area was acquired later as part of an expansion that no longer exists.

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#### Narrative Description

The Boiler Houses, Storage Area, Turbine Hall, and Switch House represent component functions in the electrical generation process. They are interconnected and together comprise a single counted resource: the Power Station. Pier 61, the Coal Tower, the Ash Tank, and the Screen House and Pump Room comprise the remaining counted resources. (The Screen House and Pump Room are also counted together as a single resource.)

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<sup>1</sup> The five-story reinforced concrete and brick building across Beach Street from the Delaware Station was not associated with the power plant. This building was home to the American Can Company as indicated by both the 1917 and 1950 Sanborn fire insurance maps. The building is currently used as a multi-tenant office building.

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### *Power Station: Boiler Houses*

The arrangement of the Delaware Station reflects the coal-fired electrical generation process typical of large power plants in the early twentieth century. Closest to the river, there are two large, five-story Boiler Houses – Boiler House No. 1 and No. 2 – which are separated by a central Storage Area. Together, these three sections, which are constructed fully of reinforced concrete, form the south elevation of the power plant (see photos #7 & 8). The boiler houses are identical with seven bays on the east and west elevations, respectively, and five bays on each of the south elevations. Both boiler houses feature rusticated bases on the first floor, above which are tall, multi-light industrial steel windows in each bay and a large entablature with a denticulated cornice. Facing the river, the entablature of Boiler House No. 1 is inscribed with “THE PHILADELPHIA ELECTRIC COMPANY” in teal-colored ceramic tiles while the entablature of Boiler House No. 2 is inscribed with “DELAWARE STATION,” also in teal ceramic tiles. The roofs of the boiler houses are flat but contain extensive mechanical equipment and eight large, cylindrical metal steam stacks, four of which are located along the eastern roof perimeter of Boiler House No. 1 and four of which are located along the western roof perimeter of Boiler House No. 2.

On the interior, the boiler houses feature concrete floors, walls and ceilings and are identical in layout with twelve boilers each. The boilers, which consist of large rectangular concrete and brick structures, rise nearly to the top of the 60'-high space. Near the north and south ends of each boiler house, there are “firing aisles” where the boilers were controlled with a system of valves and levers (see photo #30). Along the perimeter of each boiler house, there is a network of concrete stairs and catwalks that provide maintenance access to the upper reaches of the boiler equipment.

### *Power Station: Storage Area*

Between the two boiler houses, the Storage Area is two-stories tall with a narrow central coal storage tower rising to five stories. There is a gap on either side of the tower between the adjacent boiler houses. Projecting from the fifth story on the east and west elevations, there are cross conveyor “wings” on each side of the tower, which connect to the coal bunkers above the boilers. On the interior, the Storage Area is a narrow, double-height space with an open plan (see photo#33). There are concrete floors and exposed concrete structure on the walls and ceilings. (*Historic Plans for the Station refer to the Storage Area as Storage “Building.”*)

### *Power Station: Turbine Hall*

To the west of the boiler houses and Storage Area is the Turbine Hall, the next largest component of the power plant. The Turbine Hall, as its name suggests, was the main operating space where turbines, powered by steam created in the boiler houses, generated electricity. On the exterior, the Turbine Hall is visible only on the north and south elevations and part of the west elevation. The north and south elevations are similar in appearance to the boiler houses with rusticated bases, tall, multi-light industrial steel windows in each bay above the base, and large entablatures with denticulated cornices. On both the north and south elevations, the entablature is inscribed with “THE PHILADELPHIA ELECTRIC COMPANY DELAWARE STATION” in teal-colored ceramic tiles. The roof features six gabled skylights, a concrete stair tower toward the center (adjacent to the boiler houses), and scattered mechanical equipment.

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On the basement level (ground floor), the Turbine Hall features six groupings of massive rectangular and square concrete piers arranged transversely along the building's north-south axis. The piers support large platforms on the main operating floor above where the power plant's six turbines and generators once stood. The immense size of the six turbine-supporting piers has the effect of creating seven distinct rectangular spaces on the basement level, which are fully open to the Turbine Hall's main ceiling over eighty feet above. These seven spaces are linked on the east and west sides by galleries which span the full length of the hall. The piers also feature center openings forming a "tunnel" along the hall's north-south axis (see photos #15 & 19).

The floor surfaces within the Turbine Hall are a combination of concrete and steel plates. There are numerous below-grade basins in the floor throughout the basement level, many of which still contain water. These basins were primarily used for water intake for the circulating pumps, which provided cooling water from the river to the turbines. Along the east wall of the Turbine Hall in the basement level, there are six small square rooms with concrete walls. These rooms, which correspond to the six turbines, contain air washer equipment. At the north and south ends of the basement level, there are elevated concrete platforms with metal pipe guardrails. Toward the east end of each platform, there are concrete stairs leading from the main basement floor to the platforms.

Between the basement level and the main operating floor, there is an intermediate mezzanine level. Accessed by various metal stairs on the east and west sides of the Turbine Hall, the mezzanine was constructed primarily to allow access to the upper reaches of the large tanks and pump equipment for maintenance and repair.

The main operating floor above the basement level is a monumental Classical space measuring approximately 88'-wide by 367'-long with an adjacent "gallery" space measuring roughly 28'-wide. The ceiling of the Turbine Hall, which is vaulted and contains six large gabled steel skylights, rises nearly 60' above the operating floor. All of the floor, wall and ceiling surfaces within the space are reinforced concrete. Along the west wall, adjacent to the Switch House, there is a series of alternating arched and rectangular blind openings. In the center bay on the west wall there is a door opening leading to the Switch House with decorative cast iron surround and a concrete entablature surround (see photo #21, left). Opposite, on the east wall, there are corresponding arched and rectangular openings which open into the east gallery.

There are seven large rectangular openings in the floor on this level, which provide visibility down to the basement level (see photos #23 & 26). The center five openings measure approximately 22' by 75' feet while the openings at the east and west ends measure 45' by 75'. The openings are surrounded by simple, painted steel railings. The floor spaces between each of the openings – where the turbines once stood, are concrete and currently contain some remnants of the turbine and generator equipment. Within the gallery east of the main operating space, there are several large cylindrical metal surge tanks and other equipment located on top of steel platforms.

#### *Power Station: Switch House*

The Switch House fronts on N. Beach Street and is five-stories tall and eleven bays wide on the primary or west elevation (see photos #1-3). Like the boiler houses and Turbine Hall, the Switch

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House features a rusticated base on the first floor with a plain concrete wall surface above. Between the 4<sup>th</sup> and 5<sup>th</sup> floors there is a denticulated cornice. On the 1<sup>st</sup> floor there is a tall double-leaf metal door with concrete pedimented surround in the center bay and two multi-light steel windows in the remaining bays. On the 2<sup>nd</sup> through 4<sup>th</sup> floors there are multi-light steel windows in all bays with spandrel panels between each floor. On the 5<sup>th</sup> floor, above the cornice, each bay contains a nine-light steel window. On the north and south elevations, which are treated much the same as the west elevation, there are recessed openings on each floors, which open to the fire stairs. Along the east side of the Switch House, the full first and second floors are connected to the Turbine Hall, however only a narrow center wing of the Switch House extends up the full five stories, meaning that there are long, narrow light wells on the north and south sides. Because the Switch House continues to function as an electrical substation for Exelon Energy, the interior was inaccessible at the time of survey. It is believed the Switch House interior remains largely intact, as it continues to serve its original purpose.

#### *Pier 61*

Centered on the power plant's east elevation, Pier 61 is a structure measuring roughly 75' wide and extending about 250' from the river bank into the Delaware River (see photos #12 and 13). The pier is built of concrete and has a flat surface. At its east end, there is a five-story Coal Tower, which is a separately counted resource (described below). The pier is surrounded on all sides by a chain-link metal fence with barbed wire.

#### *Coal Tower*

Located near the east end of Pier 61 is a separately counted contributing resource, the Coal Tower, a five-story building of reinforced concrete (see photos #12 and 13). Like the power plant, the tower features a rusticated 1<sup>st</sup> floor base with multi-light steel industrial windows on the east and west sides, which are both three bays-wide. Above the rusticated base, there is a simple concrete cornice. On the 1<sup>st</sup> floor there is a center opening that continues through the east-west axis of the building. On the north and south sides of the building there are multi-light steel industrial windows similar to those found on the main power plant. On the roof, there are large steel boom hoists extending above and out from the building on the north and south sides. The hoists were once used to lift coal delivered from barges on the river.

#### *Ash Tank*

The Ash Tank is located along the bulkhead just east of Boiler House No. 1 (see photo #9). Elevated on a concrete platform supported by arcaded supporting piers, the ash tank is a largely windowless reinforced concrete box. On the west side, facing the main power plant, there are several large steel conveyors that begin underground and travel up the side of the tank structure to the roof. On the north elevation there is one small multi-light steel window and on the south elevation there is a single-leaf glazed metal door leading to a steel balcony. There is also a steel ladder with cage on the west elevation.

#### *Screen House and Pump Room*

The water screening or filtering and pumping functions are combined in a single one-story building, the Screen House and Pump Room, which stands to the south of the Ash Tank along the bulkhead (see photo #10). Constructed of reinforced concrete, the building features a rusticated base and plainly treated walls with a simple cornice. There are several window and door openings currently covered by metal panels. The building has a flat roof.

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### *Adjacent Resources*

Although excluded from the National Register Boundary (see Boundary Justification), a large area north of the Power Plant is part of the current tax parcel but largely contains asphalt parking lots and other open areas with flat surfaces of gravel or dirt. This area was not part of the plant during the period of significance. There is a small, one-story brick Gatehouse located near the northwest corner of the power plant in the parking lot that fronts on Beach Street. This utilitarian building dates to the c.1950 expansion of the plant, and post-dates the period of significance.

At the northwest corner of the property there are four rectangular transformers and a cylindrical metal oil tank. These objects were added to the expanded site around 1970 and post-date the period of significance. Because the Gatehouse and the c.1970 transformers and tank post-date the period, are located on land acquired for later expansions, and were associated with extensive resources that are no longer extant, they are excluded from the boundary and not included in the resource count.

### *Integrity*

The Delaware Station of the Philadelphia Electric Company retains integrity in the aspects of design, materials, location, and setting. In terms of design and materials, both the overall form and the defining characteristics of the power station remain, including its reinforced concrete structure, tall smoke stacks, and Beaux Arts-style features including a consistent fenestration pattern, rusticated base, and cornice detailing. The quality, placement and condition of the construction materials, as well as the building's Beaux Arts style are both highly characteristic of public utility buildings in Philadelphia during the early twentieth century. In regard to location and setting, the building maintains its highly prominent riverfront position and is a major landmark for miles up and down the Delaware River. Although many of the industrial buildings and shipyards that once surrounded the station have long since disappeared, the Delaware Station continues to convey the highly prominent role that the Delaware River played in the history of Fishtown, Philadelphia, and the surrounding Southeastern Pennsylvania region.

Of thirteen resources counted in a survey of the site conducted in 1989, five remain.<sup>2</sup> The remaining resources include the original Power Station, Coal Tower, Ash Tank, and the Screen House and Pump Room. Additional surviving resources, such as the Guardhouse and an oil tank, have been excluded from the National Register Boundary because they post-date the period of significance. The resources that no longer exist include a large generating plant built to the east of the original building in 1954, a pump house built as part of the 1954 expansion, one gatehouse, a storage area, and three of four oil tanks (see site plan in Figure 21). Despite the loss of some resources – most of which consist of later and/or minor ancillary structures and objects – the site's primary, character-defining original resources, which include the monumental power station itself, are largely intact. As a result, the remaining resources can fully convey the industrial and architectural significance of the Delaware Station and the major role it played in powering the growth of Philadelphia into an industrial and urban giant in the early-mid 20<sup>th</sup> century.

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<sup>2</sup> Pennsylvania Industrial Resource Survey Form for the Delaware Station, Philadelphia Electric Company. Prepared by Stuart P. Dixon for the Philadelphia Historical Commission in 1989. This documentation is located at the Pennsylvania Historical and Museum Commission, State Historic Preservation Office in Harrisburg, PA.

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## 8. Statement of Significance

### Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Property is associated with the lives of persons significant in our past.
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- C. Property has yielded, or is likely to yield, information important in prehistory or history.

### Criteria Considerations

(Mark "x" in all the boxes that apply.)

- A. Owned by a religious institution or used for religious purposes
- B. Removed from its original location
- C. A birthplace or grave
- D. A cemetery
- E. A reconstructed building, object, or structure
- F. A commemorative property
- G. Less than 50 years old or achieving significance within the past 50 years

### Areas of Significance

Engineering;

Architecture

### Period of Significance

1917-1923

### Significant Dates

1917, 1920, 1923, 1953

### Significant Person

N/A

### Cultural Affiliation

N/A

### Architect/Builder

John T. Windrim, Architect

William C.L. Eglin, Engineer

Frank N. Kneas, Engineer



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**Statement of Significance Summary Paragraph** (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

Built in two phases between 1917 and 1923, the Delaware Station is significant under Criteria A and C for its association with the Philadelphia Electric Company and as a major work of architecture and engineering by architect John T. Windrim and others. As Philadelphia's largest power station in the post-World War I period, the Delaware Station satisfied exponential growth in the demand for electricity from industrial and domestic consumers. The building's outside role in the city's electrical system was emphasized by architect Windrim who, by applying the formal Beaux Arts style to the Delaware Station's vast scale, created an ennobling monument to electricity and to the industrial and social progress that Philadelphia Electric's expansion had enabled. Less visible to the public but nonetheless significant as a work of engineering, the building was the first major power station to be constructed of reinforced concrete rather than steel and, was the first to use certain innovative technologies in the generation of electricity. The Delaware Station's period of significance begins in 1917, with the first phase of construction, and ends in 1923, when the station as it exists today was complete and fully operational. With an expansion in 1953, the station continued to play a major role in the generation and distribution of electricity into the latter 20<sup>th</sup> century, however no resources beyond a small guardhouse remain from this period. Therefore, while the Delaware Station maintained a significant position in Philadelphia's electrical system beyond 1923, the period of significance has been limited by the existing integrity. The main power station and related 1917-1923 resources capably reflect the early phase of the property's history, when the Delaware Station achieved significance for architecture and engineering and played a critical role in the expansion of electricity throughout Philadelphia.

**Narrative Statement of Significance** (Provide at least **one** paragraph for each area of significance.)

*Philadelphia Electric: The Early Years*

Founded in 1899 and incorporated in 1902, Philadelphia Electric first formed as a corporation by consolidating many small electric utilities under a single large holding company. Since 1881, when the Brush Electric Light Company began supplying the first electric service in Philadelphia, 26 such utilities had emerged in neighborhoods across the city, usually to generate power for a particular product or building and not as general service providers. Brush, for example, was founded primarily to install and supply power for new electric street lamps along Chestnut Street in Center City. The Edison Electric Light Company of Philadelphia, on the other hand, supplied electricity primarily to consumers who desired to replace gas lighting in their homes or businesses with Edison's patented incandescent lamps.

The consolidation of Brush, Edison, and the other companies in 1899 was meant to eliminate wasteful competition and to create a standardized, citywide electrical grid. Philadelphia Electric faced enormous challenges in accomplishing this task. At the time of consolidation, the city's many small plants were "equipped with machinery of all sorts," as company historian Nicholas B. Wainwright describes, some of which "supplied direct current and some alternating current, those furnishing alternating current having different voltages and frequencies from their neighbors."<sup>3</sup> Much of this equipment was also soon to be obsolete and insufficient to provide

<sup>3</sup> Wainwright, 70.

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service to an ever expanding customer base, numbering 8,145 by 1900. In order for the Philadelphia Electric to succeed as the city's sole electric utility, therefore, it was imperative to create a more efficient system supplying a uniform current throughout the load area.

Led by Joseph B. McCall, who was elected president of the company in 1899 at the age of 29, Philadelphia Electric quickly adopted a new engineering plan and made great strides at standardizing service, particularly between 1902 and 1907.<sup>4</sup> McCall had apprenticed with entrepreneur Martin Maloney, the primary figure behind an earlier effort at consolidation, and knew intimately the ins and outs of operating a public utility in Philadelphia. One of McCall's most critical efforts toward the goal of standardization after 1899 was the creation of a large centralized plant that would theoretically be able provide all of the electricity that the city needed at a lower cost than the many smaller, less efficient plants. Around 1900, therefore, McCall purchased a large tract of land on Christian Street at the Schuylkill River, and in 1902 began construction on what was planned to be the largest coal-powered central power plant in the world, known as Schuylkill A-1.<sup>5</sup>

Designed under the direction of architect John T. Windrim, the station was capable of generating 81,000 kilowatts, a capacity that few in Philadelphia believed would ever be reached. Within only a few years, however, unrelenting growth in the city's electrical load demanded that the station be expanded with a new section, known as A-2.<sup>6</sup> The enlarged plant would serve a growing number of customers, which had reached 22,973 by 1907, and would satisfy enlarged contracts with the Pennsylvania Railroad. Construction on A-2 began in September of 1913 and was complete by 1915. At this point, the Schuylkill site, now capable of generating 130,000 kilowatts, was developed to its maximum capacity.<sup>7</sup> To satisfy projected growth over the next few years, therefore, an even larger station would be needed.

By 1916, much of the increasing demand on the system came from the area just south of Philadelphia, where the first World War had stimulated the rapid development of industries such as shipbuilding, steel plants, and munitions factories. On Hog Island, in particular, now the site of Philadelphia International Airport, the Emergency Fleet Corporation built a massive shipyard that required a tremendous amount of electricity. The shipyard employed 32,000 people, a number that resulted in a huge expansion in worker housing that further increased demand. As a result, McCall and his chief engineer, William C.L. Eglin, agreed that a major new power station would be required in the city of Chester, Delaware County, to forestall the power shortages that would inevitably occur if nothing were done.<sup>8</sup> Major shortages had already occurred in the load area supplied by Schuylkill A-1 and A-2. Acknowledging the critical need to expand its capacity, the Philadelphia Electric board in September of 1916 authorized the purchase of land and the construction of a new 120,000kw station on the Delaware River in Chester, at a cost of \$5,500,000. Known as the Chester Waterside Station, the plant's first turbine began operating in October of 1918 and the building was largely complete by the

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<sup>4</sup> Wainwright, 70; 79.

<sup>5</sup> Wainwright, 73.

<sup>6</sup> Wainwright, 92; 113.

<sup>7</sup> Wainwright, 110.

<sup>8</sup> Matthew Sneddon and Aaron Wunsch, "Chester Waterside Station," Historic American Engineering Record (HAER), No. PA-505, 1998, p. 20.

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following year. Due to its vast size and generating capacity, the company believed that it would satisfy all existing and future demand through 1919.<sup>9</sup>

### *The Development of the Delaware Station*

After the United States entered the World War I in April 1917, Philadelphia experienced even greater industrial expansion, particularly in the areas of shipbuilding, locomotive manufacture, textiles, and the production of rifles, munitions, and other provisions for combat. So great was Philadelphia's contribution to the war effort, in fact, that the city became known as the "Arsenal of America."<sup>10</sup> This extraordinary growth demanded enormous amounts of electricity, so much, in fact, that the load threatened to overwhelm the Philadelphia Electric system. While the company initially believed that the new Chester station would satisfy all demand through 1919, growth was increasing so rapidly that McCall and Eglin insisted on the construction of yet another large central station to ensure that demand would be satisfied.

Due to the incredible concentration of textile-related industries in the Kensington area of Philadelphia, along with the shipyards and other factories in adjacent Fishtown, a site northeast of Center City along the Delaware River was thought most suitable for expansion. It was there that demand was most acute and there that McCall had already planned on building a central station, as evidenced by his prior purchase of the Beach Street site in 1913. The opening in 1917 of the company's primary coal yard on Petty's Island in the Delaware River, just across from Fishtown's shipyards, also made the Beach Street site a logical choice. Therefore, McCall, with the backing of his board of directors, embarked on the construction of a new central station in Fishtown.<sup>11</sup>

Located just north of Penn Treaty Park, where in 1683 William Penn signed a treaty of peace with the native Lenape tribe, the site of the new central station was formerly occupied by the Neafie & Levy Shipyard, one of Philadelphia's largest shipbuilders of the nineteenth century (the site was also located just south of the famous William Cramp & Sons shipyard). Founded in 1844 as the Penn Steam & Boiler Works, the company initially built only steam engines and boilers, but later expanded to become one of the first iron shipbuilders in the United States.<sup>12</sup> In 1859, the company became Neafie & Levy. After decades of success building ships for commercial trade, the company took on numerous contracts to build destroyers for the U.S. Navy around 1900. The Navy was largely dissatisfied with the ships, however, for which Neafie & Levy had significantly underbid. As a result, the company quickly approached bankruptcy and, in 1908, completed their last ship. The shipyard closed shortly after and the site was sold to the Philadelphia Electric Company in 1913.<sup>13</sup> Although unlikely due to extensive ground disturbance over the decades, if future research reveals individually eligible sites within the property boundary, eligible for their association with the shipbuilding industry or other aspects of history

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<sup>9</sup> Wainwright, 130.

<sup>10</sup> Wainwright, 132.

<sup>11</sup> Wainwright, 131.

<sup>12</sup> David B. Tyler. *The American Clyde: A History of Iron and Steel Shipbuilding on the Delaware from 1840 to World War I* (University of Delaware Press, 1958), 7.

<sup>13</sup> Thomas R. Heinrich, *Ships for the Seven Seas: Philadelphia Shipbuilding in the Age of Industrial Capitalism* (Baltimore: Johns Hopkins University Press, 1997), 148-151.

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or Native American culture, those sites will need to be evaluated and nominated individually, as they do not relate to the areas nor periods of significance presented in this nomination.

Like its predecessors, the Schuylkill and Chester stations, the new Delaware Station would be designed by architect John T. Windrim in collaboration with Philadelphia Electric's vice president and chief engineer, William C.L. Eglin. Stone & Webster, a national engineering and construction firm based in Massachusetts, were also hired as the general contractors. Frank N. Kneas, an engineer in Windrim's office, handled the day-to-day supervision of the project. The new station would come at an immense cost of \$24,500,000, the financing of which proved an initially insurmountable hurdle for Philadelphia Electric's President McCall. Although construction of the foundations began in September 1917, work came to a halt within two months due to a lack of funds. Despite Delaware Station's centrality to the war effort and to preventing crippling outages, finding investors during wartime was extremely challenging. Even the federal government declined to provide any financial assistance to Philadelphia Electric for the station's construction.<sup>14</sup>

For the next two years, as the foundations of the new Delaware Station lay unfinished and exposed, electricity demand in Philadelphia continued to soar. Although the new station was initially planned as a means of satisfying electricity loads based on ramped up wartime manufacturing, the war ended sooner than anticipated in November 1918. Despite the unexpected drop off in arms manufacture, the coming "domestic revolution" would continue to strain the system, resulting in frequent power outages. With the proliferation of electrical appliances such as washing machines, refrigerators, irons, and radios, along with rapid housing development and the company's "Wire Your House" campaign, begun in 1916, Philadelphia Electric experienced unprecedented growth in residential service after World War I. By 1918, the company had 103,015 customers, a nearly fivefold increase since 1907. Although the Delaware Station would still be needed to serve the ever-expanding textile district in Kensington, along with expanded Pennsylvania Railroad contracts, its purpose now would be not only to power industry, but also to provide electricity to an ever increasing number of homes.<sup>15</sup>

In order to satisfy the projected peak loads for 1920 based on these new demands, Philadelphia Electric soon realized that it was critical to resume construction of the Delaware Station. In a postwar climate more favorable to investment, McCall had fewer difficulties financing the project this time around. Through the sale of stocks and bonds, the company raised large sums to fund the new station and other work.<sup>16</sup> In September 1919, the Beach Street site was again overtaken by construction workers and cranes in an attempt to get at least half the station, or three turbines, up and running by the end of 1920.<sup>17</sup> Windrim and Eglin designed the station for an ultimate capacity of 180,000kw with six turbine units of 30,000kw each, a capacity 50% greater than its counterpart in Chester. Construction would be split into two roughly equal phases and the six turbines would be added gradually over the next three years. As shown by original plans and several views of the building from 1921, the first phase of construction

<sup>14</sup> Wainwright, 134; 137-140.

<sup>15</sup> Wainwright, 148-150.

<sup>16</sup> Wainwright, 151.

<sup>17</sup> "Delaware Power Station – The Philadelphia Electric Company," *Power* 53.21 (May 24, 1921), 807.

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comprised roughly the south half, including Boiler House No. 1 and half of the planned turbine hall and switch house. The coal tower on Pier 61 and the screen house and pump room were also constructed during the first phase. Although the south half of the turbine hall would ultimately house three turbines, only two were in operation by the end of 1920, one short of the company's goal for that year. Even so, the Delaware Station, at one-third of its planned capacity, provided 25% of Philadelphia's total peak load of 240,000kw for 1921.<sup>18</sup>

Although the Delaware Station kept abreast of demand for 1921, ever expanding industry and housing development meant that the company had no reserves available by 1922, a critically dangerous situation. If a single turbine failed or had to be shut down for maintenance, the remaining generators in the system would not be able to make up the difference, which would result in outages. As a temporary fix, Delaware's third turbine was installed in January of 1922, but more had to be done in order to meet even greater projected peak loads for the following year. The only solution was for Philadelphia Electric to begin construction on the north half of the Delaware Station to get the remaining three generators up and running. Again, the work was financed through the sale of stocks and bonds, and the company resumed work in December of 1922.

By the summer of 1923, all six turbines were in operation and the station employed over 150 engineers, mechanics, and other workers. By this point, the number of Philadelphia Electric's customers had reached an astounding 305,644, nearly three times the figure recorded only five years prior.<sup>19</sup> In 1925, when Philadelphia's peak load reached 387,200kw, the Delaware Station was capable of generating over 46% of the city's electricity when running at its full capacity of 180,000kw, making it the largest power station in the Philadelphia Electric system.<sup>20</sup> The extent to which the station dominated the supply of electricity in the city is shown in a map of Philadelphia Electric's service area published by *Electrical World* in 1924 (Figure 16). In addition to supplying power to over a dozen substations, the map indicates that the plant also had direct connections to large industrial sites such as Cramp's Shipyard, just north of Delaware Station, and the famous Disston Saw Works in the Tacony section of the city. Delaware Station's reach also extended into New Jersey; by 1925, three cables had been placed under the river to connect to a Camden substation of the Public Service Corporation, New Jersey's largest electrical utility.<sup>21</sup>

The Delaware Station reflected an electrical generation process typical of large power plants beginning in the mid-1910s. The first phase of power plants in American cities, appearing between the 1870s and early 1900s, were relatively small and had to be located in downtown areas; because they typically used direct current, their transmission range was very limited. With consolidation and the need to create more uniform electrical grids, however, plants began using alternating current, which had a much greater transmission range. Alternating current allowed larger central plants to be constructed away from the crowded urban core.<sup>22</sup> The Chester and Delaware stations were of the latter type, which began appearing in American

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<sup>18</sup> Wainwright, 151.

<sup>19</sup> Wainwright, 150.

<sup>20</sup> L.W.W. Morrow, *Electric Power Stations* (New York: McGraw-Hill, 1927), 4.

<sup>21</sup> "Third Electric Power Line to Camden Nearly Ready," *Philadelphia Inquirer* (April 2, 1915).

<sup>22</sup> Sneddon and Wunsch, HAER, 26-27.

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cities shortly before World War I. Like its counterpart in Chester, the primary functions of the Delaware Station – boiler houses, turbine hall, and switch house – were physically separated into discrete spaces. The process in which these spaces interacted to generate electricity at the Delaware Station is described below:

Coal, which arrived on barges from Petty’s Island (the site of the company’s primary coal yard), would be lifted by boom hoists on the pier and dropped into the coal tower, where it would be broken down and crushed in preparation for firing. After processing, the coal would be transported on a conveyor (now demolished) to a tower above the storage area between the two boiler houses. Cross conveyors, which extended from both sides of the tower, would deliver the coal to the boiler houses into four bunkers, each of which contained three compartments supplying two boilers each (Figure 14). Once supplied to the boilers, the coal would burn, heating feed water to generate steam. The steam would then be piped in under enormous pressure to power the turbines, which in turn would spin the adjacent generators in order to create electricity. The electricity would then be distributed out through the switch house to substations in the station’s load area. Simultaneously during this process, cooling water would be continually pumped in from the river and filtered through the pump house and screen room, then supplied to the condenser units below each turbine (Figure 15). Within the condensers, the steam would be cooled into condensate, which would then be recycled and used again as feed water for the boilers. Excess condensate would be released back into the river beneath the coal pier.

Although the completion of the Delaware Station in 1923 vastly increased Philadelphia Electric’s capacity, peak loads in the city continued to grow. In fact, even before Delaware Station came online, Philadelphia Electric began planning an even larger station to keep up with demand. In 1923, the company purchased 64 acres of ground on the Delaware River between Lewis Street and Erie Avenue in the Port Richmond neighborhood, approximately three miles northeast of the Delaware Station.<sup>23</sup> When first announced in 1924, the *Philadelphia Inquirer* hailed what was to be “the world’s greatest power station”. Although the Richmond Station would function in much the same way as its predecessors, it would be significantly larger with twelve turbines and a total capacity of 600,000kw, or more than three times the size of Delaware Station (the turbines, initially planned for 50,000kw each, were later upgraded to 60,000kw units, bringing the station’s planned capacity to an astounding 720,000kw).<sup>24</sup> The new station would also be the most efficient in the Philadelphia Electric system, reducing fuel consumption to the lowest that had been attained up to that time. By the end of 1925, however, when the first of the station’s three planned turbine halls had been completed and two of the twelve 50,000kw generators were installed, electricity demand in Philadelphia had finally begun to level off. As a result, construction on the remainder of the station was put on hold, a decision made easier by the fact that Philadelphia Electric’s new Conowingo Station, on the Susquehanna River in northeastern Maryland, the company’s first hydroelectric plant, would come online by 1928.<sup>25</sup> Although two additional turbines were installed at Richmond in 1935 and 1952, the full plan was never realized. The Delaware Station remained the largest in the Philadelphia Electric system, both in footprint and generating capacity, for years to come.

<sup>23</sup> Wainwright, 152.

<sup>24</sup> “Greatest Power Plant in World to be Built Along Delaware River,” *Philadelphia Inquirer* (April 10, 1924).

<sup>25</sup> Wainwright, 190-191.

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In the early 1950s, as Philadelphia's population approached a high of just over 2,000,000, peak loads in Delaware Station's service area began to grow yet again. With a post-war housing boom in Northeast Philadelphia and the nearby suburbs, new capacity was needed. Based on the assumption that population would continue to grow and the demand for electricity would follow, Philadelphia Electric embarked on an ambitious expansion program. The company acquired the former William Cramp & Sons Shipyard just north of Delaware Station, spending \$41,000,000 to build two enormous generator units north of the station, which were capable of 136,000kw each (see Figures 19 & 20). These new generators more than doubled Delaware Station's capacity when they began operating in 1953. Since several of the original turbines and generators had been replaced since 1923, the original building's capacity had increased from 180,000kw to 195,750kw by the early 1950s. With the installation of the new generators, the station's capacity rose to 467,750kw. Philadelphia's peak load for 1953 was 1,873,000kw, meaning that, even with the capacity provided by Conowingo and the upgrades at Richmond Station, the Delaware Station was still capable of supplying 25% of the city's electricity.<sup>26</sup>

Although no expansions occurred after 1953, the Delaware Station continued to power a large portion of Philadelphia over the next several decades. In the 1950s, Boiler House #2 was converted to run on oil rather than less efficient coal. With the development of newer generating technologies such as nuclear power, however, the Delaware Station's dependence on fossil fuels, both coal and oil, meant that it was becoming increasingly inefficient. By 1969, both original Boiler Houses were retired and electricity was no longer generated in the Turbine Hall, leaving only the 1953 expansion in operation. After Philadelphia Electric was acquired by the Exelon company in 2000, the station operated only as needed for periods of increased demand and for load balancing. In 2008, the station ceased to function as a power plant and the large turbines and generators, along with several oil tanks, were demolished soon after (see Figure 21). Although Exelon sold the property to the current owner in 2015, the switch house continues to function as a substation within the Philadelphia Electric system, but will cease operation before the end of 2015.<sup>27</sup>

### *Design and Engineering*

The Delaware Station was designed by the firm of John T. Windrim (1866-1934). Windrim was arguably Philadelphia's preeminent civic architect of the late-nineteenth and early-twentieth centuries. Apart from numerous city commissions for court houses, museums, and other civic buildings, Windrim and his firm designed many large office buildings, banks, hospitals, theaters and private residences for Philadelphia's most prominent companies, institutions, and residents. Some of the firm's most acclaimed Philadelphia work includes the Commonwealth Title & Trust Company Building, a fifteen-story Beaux-Arts style bank and office tower at 1201 Chestnut Street (1901); the Franklin Institute Science Museum, a Classical Revival limestone edifice on Logan Square (1931); and the Lincoln-Liberty Building, an Art Deco high-rise office tower at 1 South Broad Street (1932). "Due to the visibility of his projects," historian Sandra L. Tatman

<sup>26</sup> Philadelphia Electric Company, *Annual Report for the Year 1951*, and Wainwright, 313.

<sup>27</sup> "Programmatic Approach to Retired Power Plants," a presentation prepared by Andrea Danucalov, Exelon Asset Manager, in March 2015.

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writes, "Windrim became the best-known Philadelphia practitioner of the classical revival style often designated as Beaux Arts."<sup>28</sup>

Windrim's first commission from Philadelphia Electric came in 1902 when his firm was hired to design the Schuylkill A-1 station. The firm remained the company's primary architects over the next three decades and, in 1911, Windrim was elected to the company's board of directors. After Schuylkill A-1, Windrim and his associates would design over thirty Philadelphia Electric buildings, including the company's headquarters at 9<sup>th</sup> and Sansom Streets in Center City, the Chester, Delaware and Richmond Stations, and dozens of substations throughout the city and suburbs, many of which remain in service today. The Chester Station was listed individually on the National Register in 2007.<sup>29</sup>

Like most of Windrim's work for Philadelphia Electric, the Delaware Station reflected his expertise in the Beaux Arts style, an architectural language popularized in the United States by the World's Columbian Exposition in Chicago in 1893 and the City Beautiful Movement that followed. After decades of eclectic, revivalist design, Americans around the turn-of-the-century began to display their new economic confidence and with civic, commercial and institutional buildings firmly rooted in the architectural traditions of Ancient Rome.

By applying a highly formal, Classical language to the vast scale of the station, visible for miles up and down the riverfront, Windrim's intent was to create a monument to electricity. The building's impressive scale and formal treatment reflected the essential role that electricity had come to play in the daily lives of Americans, a role that demanded an edifice as grand and noble as any civic or governmental building. But Windrim's design was also meant to shape Philadelphia Electric's public perception, enhancing its corporate identity at a time when the company was coming under increasing scrutiny for overvaluing its assets and overcharging customers, accusations made by Philadelphia's Director of Public Works, Morris Llewellyn Cooke, in 1917. The Beaux Arts style of the building imparted a sense of stability and permanence, however, an image that was meant to overcome these charges and create the impression that Philadelphia Electric's mission, with the public interest in mind, was a noble one.<sup>30</sup>

Compared to Windrim's work on the similarly monumental Chester Station, his application of the Beaux Arts style at the Delaware Station was fairly restrained. The Chester Station is richly articulated with tall pilasters and columns with other Roman motifs found throughout the building. In addition, its more varied palate of materials – limestone features set against a light brown brick wall surface – are more in keeping with the ornate tendencies of the Beaux Arts. While a Classical vocabulary is clearly present at the Delaware Station – its symmetry and tripartite arrangement of rusticated base, shaft, and entablature are hallmarks of the Beaux Arts – its elevations are relatively planar and, beyond the denticulated cornice, lack obvious ornament. Rather, the Delaware Station impresses with its sheer form and massing. That economic and functional considerations took precedent over design suggests that, in a post-war

<sup>28</sup> Sandra L. Tatman and Roger W. Moss, *Biographical Dictionary of Philadelphia Architects: 1700-1930* (Boston: G.K. Hall, 1985), accessed at [www.philadelphiabuildings.org/pab/app/ar\\_display.cfm/21563](http://www.philadelphiabuildings.org/pab/app/ar_display.cfm/21563) on 9/8/15.

<sup>29</sup> Suzanna Barucco, "Chester Waterside Station," National Register of Historic Places Nomination Form, 2007.

<sup>30</sup> Sneddon and Wunsch, HAER, 32.



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climate of exponential growth in electricity demand, the station had to be built as quickly and efficiently as possible. Although a slightly higher level of Classical treatment returned at the Richmond Station in 1925 – that building features a broad pediment over the river-facing switch house, making it appear more like a temple – this later work also employed a concrete structure that demanded a sparer overall appearance.

In its vast size and capacity, the Delaware Station was not unique among electrical power stations in the United States. Other larger stations had come before. Functionally, either, the station operated in the customary way with a three-part arrangement consisting of coal-powered boiler houses, a turbine hall where the electricity was generated, and a switch house from which the electricity was distributed to substations. This process reflected the typical mode of large-scale electrical generation during the early twentieth century. “But in methods of construction, material used and electrical equipment,” *Scientific American* proclaimed in 1921, “the plant marks distinct developments of almost incalculable value.”<sup>31</sup>

The Delaware Station was likely the first large-scale power plant constructed of reinforced concrete in the United States. Although Windrim and Eglin first designed the station to be constructed of structural steel, which was typical of large central stations at the time, a shortage in steel brought on by wartime manufacturing – largely for ships and munitions – necessitated an innovative structural solution. Rather than delay construction until after the war, Windrim and Eglin completely redrew their plans to reflect a reinforced concrete structure, which at the time was highly unusual due to the unique load requirements of vast central power plants.

During the early twentieth century, reinforced concrete was typically not used in the building of large power stations because ground conditions often were insufficient to support such immense loads. Boiler houses and turbines weighed many thousands of tons, meaning that the only practical construction method was much lighter structural steel. Because the material was not available to them, however, Windrim and Eglin had no choice but to resort to a reinforced concrete system, which would require drilling caissons down to bedrock in order to fully support the building that Philadelphia Electric required. As a result, the goal was to make the building as compact and light as possible to limit difficult and expensive caisson drilling work.

Windrim, Eglin and other engineers made economies wherever possible in order to reduce the building’s weight. Although boiler, turbine and crane loads could not be reduced, the pair found success in reducing the size of the coal storage bunkers. Generally, power stations of this size housed between five and six thousand tons of coal in storage bunkers above the boiler houses, but the storage capacity of the Delaware Station would be drastically reduced to only one thousand tons. Philadelphia Electric could afford to make such concessions because of the station’s riverfront location, which allowed coal to be stored instead on barges next to the coal tower on Pier 61, and the proximity of the company’s primary coal yard on Petty’s Island, which ensured a continuous supply of the fuel.<sup>32</sup> Even with the elimination of a huge amount of coal

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<sup>31</sup> William A. McGarry, “The Last Word in Power Houses,” *Scientific American* (August 6, 1921), 98.

<sup>32</sup> “Compact Reinforced-Concrete Generating Station at Philadelphia,” *Electrical World* 77.21 (May 21, 1921), 1145-1146.

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bunker space, however, the Delaware Station still required 28 caissons ranging in diameter from 15 to 18 feet, which were drilled down to bedrock at depths of 40 to 50 feet.<sup>33</sup>

As a result of the limited amount of in-house coal storage, Eglin and his engineers had to design the furnaces in a way that allowed complete economy of fuel consumption. The threat of miners' strikes in Pennsylvania coal country – a particularly disruptive strike occurred in 1919, leading to skyrocketing prices – loomed continually.<sup>34</sup> One way that Eglin sought to reduce the risk of an interruption in the coal supply at Delaware Station was to build the furnaces unusually tall, allowing the coal to burn longer and achieve more thorough combustion than typically achieved. Also of note, Eglin and his engineers designed the furnaces for convertibility from coal to oil or powdered fuel in the event of a coal shortage, ensuring continuity of operation under almost any condition. This feature was particularly important as the quality of coal declined. Convertible furnaces had never before been incorporated into a plant as vast as the Delaware Station. With such innovative features, on the completion of the Delaware Station's first phase in 1921, *Electrical World* hailed the furnaces as the "most interesting mechanical feature inside the plant."<sup>35</sup>

When the second and final phase of construction was completed in 1923, the Delaware Station consisted of two large boiler houses with twelve boilers each, a storage area located between the boiler houses, a turbine hall with six 30,000kw turbines, and a switch house from which electricity would be distributed. Hailed by *Scientific American* as "The Last Word in Power Houses," the Delaware Station proved remarkable in its ability to overcome tremendous construction challenges and operating constraints caused by the shortage of structural steel and the great potential for coal shortages.<sup>36</sup>

#### *The Philadelphia Electric Power Stations Today*

All four of Philadelphia Electric's major Philadelphia-area power stations remain standing. Remarkably, the Schuylkill A-1/A-2 Station is still in operation as a cogeneration plant, providing both steam and electricity to customers in the Center City area of Philadelphia. Although the Schuylkill Station was sold to the Trigen-Philadelphia Energy Corporation in 1987, PECO Energy Company (Philadelphia Electric's successor, which is now owned by Exelon), continues to buy back Trigen's electricity as part of a long-term contractual agreement. The Chester Station, which was listed individually on the National Register in 2007, was rehabilitated using the Federal Historic Tax Credit and serves as a model for how large power stations can be adaptively reused. The Richmond Station was closed in 1984 and, like Delaware Station, remains largely abandoned.

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<sup>33</sup> "Delaware Power Station – Philadelphia Electric Company," *Power*, 1147.

<sup>34</sup> Wainwright, 153.

<sup>35</sup> "Compact Reinforced-Concrete Generating Station at Philadelphia," *Electrical World*, 1147.

<sup>36</sup> McGarry, 98.

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### Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # \_\_\_\_\_
- recorded by Historic American Engineering Record # \_\_\_\_\_
- recorded by Historic American Landscape Survey # \_\_\_\_\_

### Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other/Name of repository: PECO Energy Company Archives, Plymouth Meeting, PA

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**Historic Resources Survey Number (if assigned):** NA

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## 10. Geographical Data

**Acreege of Property** ~5.57 acres

**Latitude/Longitude Coordinates** Datum if other than WGS84: \_\_\_\_\_  
(enter coordinates to 6 decimal places)

1. Latitude: 39.967641 Longitude: -75.129061
2. Latitude: 39.968313 Longitude: -75.127029
3. Latitude: 39.965996 Longitude: -75.125325
4. Latitude: 39.965255 Longitude: -75.127414

**Verbal Boundary Description** (Describe the boundaries of the property.)

The boundary of the property is shown as a dotted line on the accompanying map entitled "Site Plan with National Register Boundary" (Figure 2).

**Boundary Justification** (Explain why the boundaries were selected.)

The nominated property follows the original parcel as shown in a 1942 land use map (Figure 17) and a sketch of the parcel from a 1947 zoning permit (Figure 18). No extant historically associated resources from within the period of significance have been excluded. Later resources on adjacent land purchased c.1950 for the plant's expansion post-date the period, and have been largely demolished and removed from the property. That area of post-period expansion has been excluded from the boundary. The boundary follows the bank of the Delaware River except where it extends to include the entire pier structure, including portions of the Pier or Coal Tower that might overhang or extend into the water.

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## 11. Form Prepared By

name/title: Kevin McMahon, Associate organization: Powers & Company, Inc.  
street & number: 1315 Walnut Street, Suite 1717  
city or town: Philadelphia state: PA zip code: 19107  
e-mail: kevin@powersco.net telephone: (215) 636-0192  
date: November 20, 2015

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## Additional Documentation

Submit the following items with the completed form:

- **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

## Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

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**Photo Log**

Name of Property: The Delaware Station of the Philadelphia Electric Company  
City or Vicinity: Philadelphia County: Philadelphia State: PA  
Photographer: Robert Powers  
Date Photographed: August 2015

Description of Photograph(s) and number, include description of view indicating direction of camera:

<i>Photograph #</i>	<i>Description of Photograph</i>
1.	Switch House, west and south elevations, view NE
2.	Switch House, west elevation, view E
3.	Switch House, north and west elevations, view SE
4.	Boiler House No. 2 and Switch House, north elevations, view S
5.	Boiler House No. 2, east and north elevations, view SW
6.	Boiler Houses and Storage Area, east elevations, view SW
7.	Boiler Houses and Storage Area, east elevations, view W
8.	Boiler Houses and Storage Area, east elevations, view W
9.	Ash Tank, north elevation, view south
10.	Screen House and Pump Room, view SE
11.	Boiler House No. 1, south and east elevations, view NW
12.	Coal Tower and Pier 61, view E
13.	Coal Tower, east elevation, view W
14.	Turbine Hall, basement level, view E
15.	Turbine Hall, basement level, view S
16.	Turbine Hall, basement level, view W to stair
17.	Turbine Hall, basement level, view W
18.	Turbine Hall, basement level, view W to stair
19.	Turbine Hall, basement level, view N
20.	Turbine Hall, operating floor, view S
21.	Turbine Hall, operating floor, view W
22.	Turbine Hall, operating floor, view S in gallery
23.	Turbine Hall, operating floor, view E
24.	Turbine Hall, operating floor, view E
25.	Turbine Hall, operating floor, view SE
26.	Turbine Hall, operating floor, view E
27.	Turbine Hall, operating floor, view NW
28.	Turbine Hall, operating floor, view N in gallery
29.	Boiler House No. 1, view E
30.	Boiler House No. 1, view N in firing aisle
31.	Boiler House No. 1, view N
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**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

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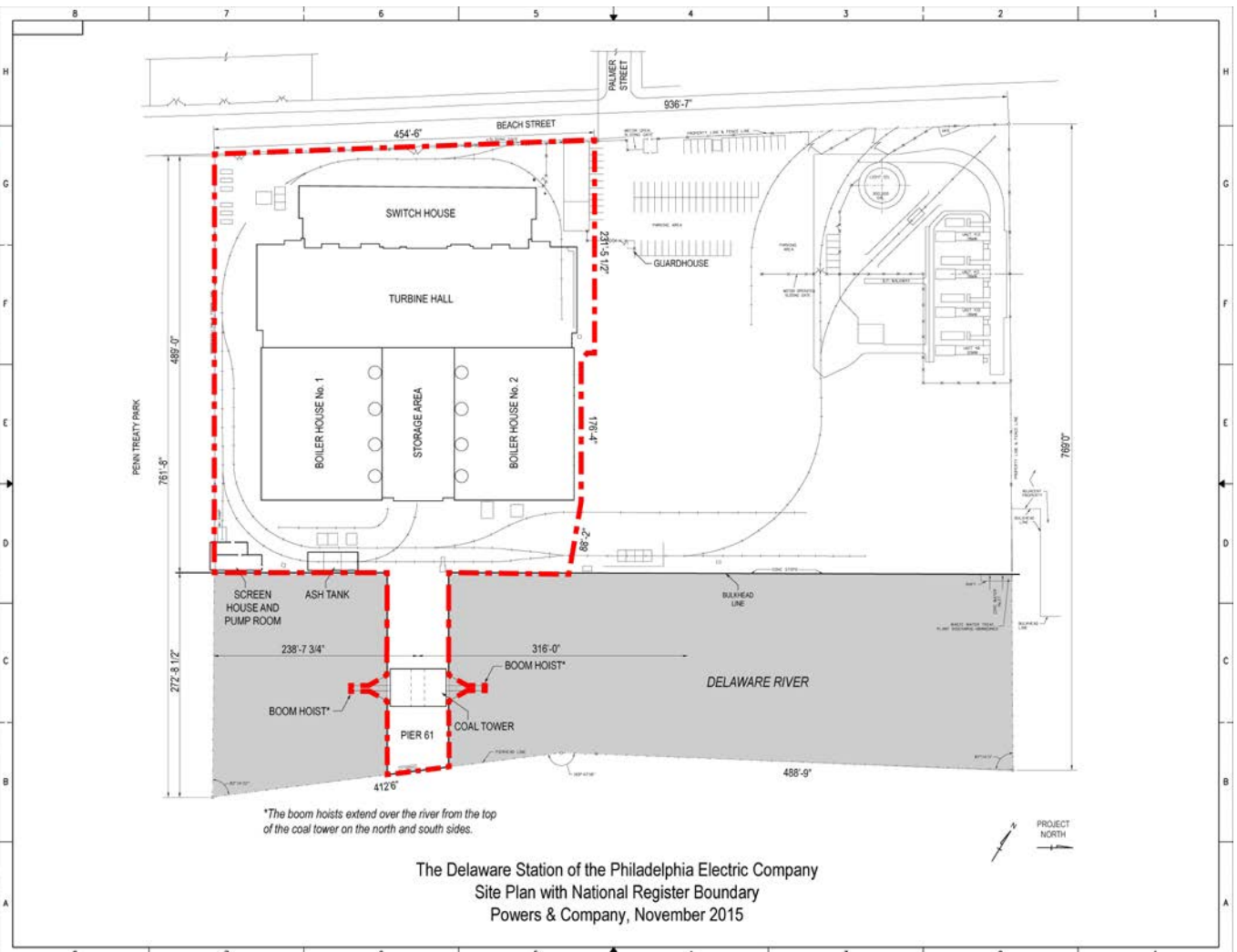


The Delaware Station of the Philadelphia Electric Company  
Aerial View with National Register Boundary (dashed line)  
Powers & Company, November 2015

**Figure 1:** Aerial View (2015) with Nominated Boundary shown as white dashed line. Red line indicates portion purchased for 1950s expansion. The expansion area is excluded from nomination due to integrity loss and limited period of significance. Nominated boundary corresponds to 1942 and 1947 company parcel as shown in Figures 17 and 18.

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



**Figure 2: Site Plan with National Register Boundary**  
Contributing resources include Power Station (consisting of a Switch House, Turbine Hall, Boiler Houses and Storage Area); Coal Tower; Ash Tank; Screen House and Pump Room; and Pier 61. Guardhouse and remaining equipment, objects such as oil tanks, post-date the period of significance and are excluded from the boundary.



The Delaware Station of the Philadelphia Electric Company  
 Name of Property

Philadelphia County, PA  
 County and State

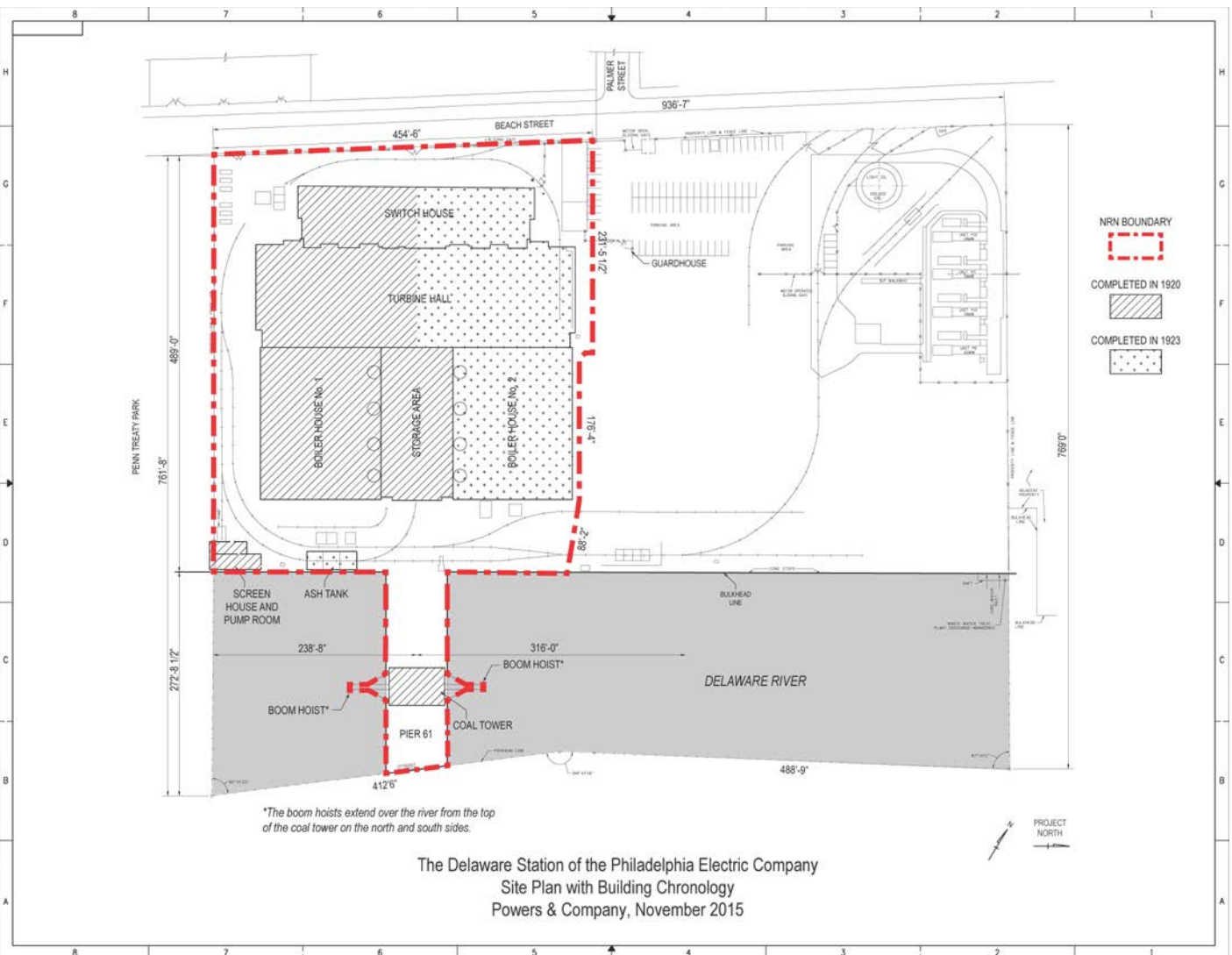


Figure 3: Site Chronology

The Delaware Station of the Philadelphia Electric Company  
 Name of Property

Philadelphia County, PA  
 County and State

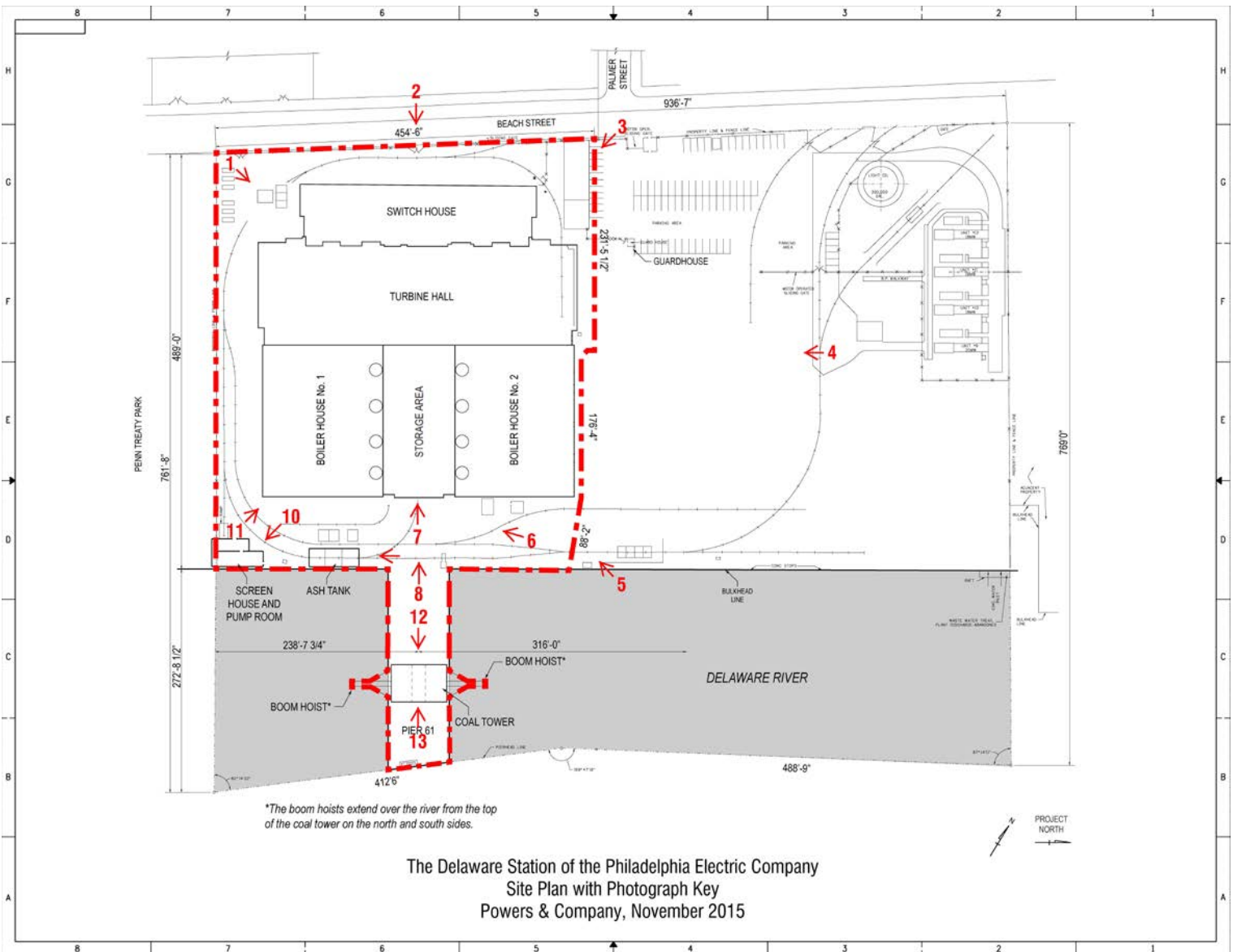
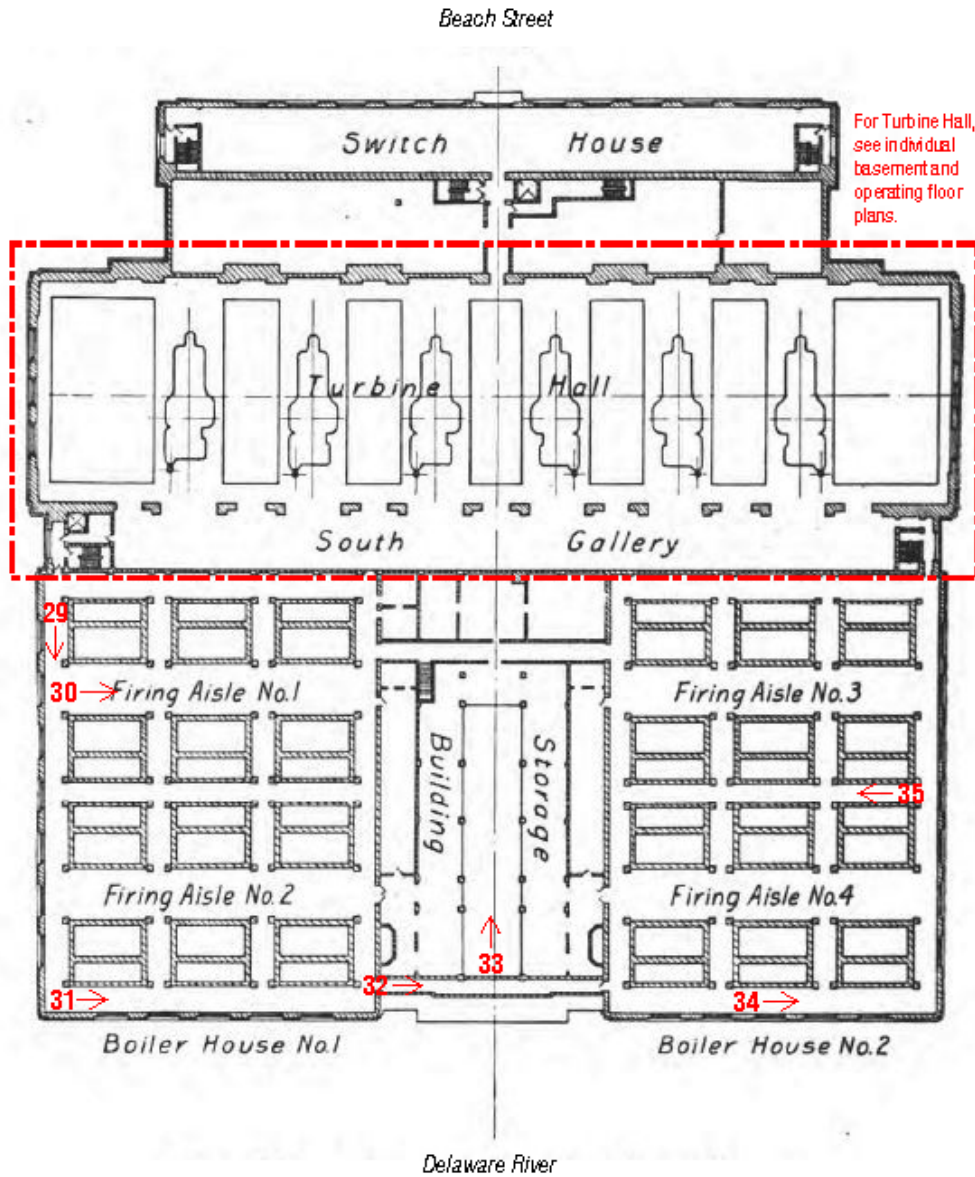


Figure 4: Exterior Photo Key

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



The Delaware Station of the Philadelphia Electric Company  
1st Floor Plan with Photograph Key  
Powers & Company, November 2015

Figure 5: Photo Key, 1<sup>st</sup> Floor

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

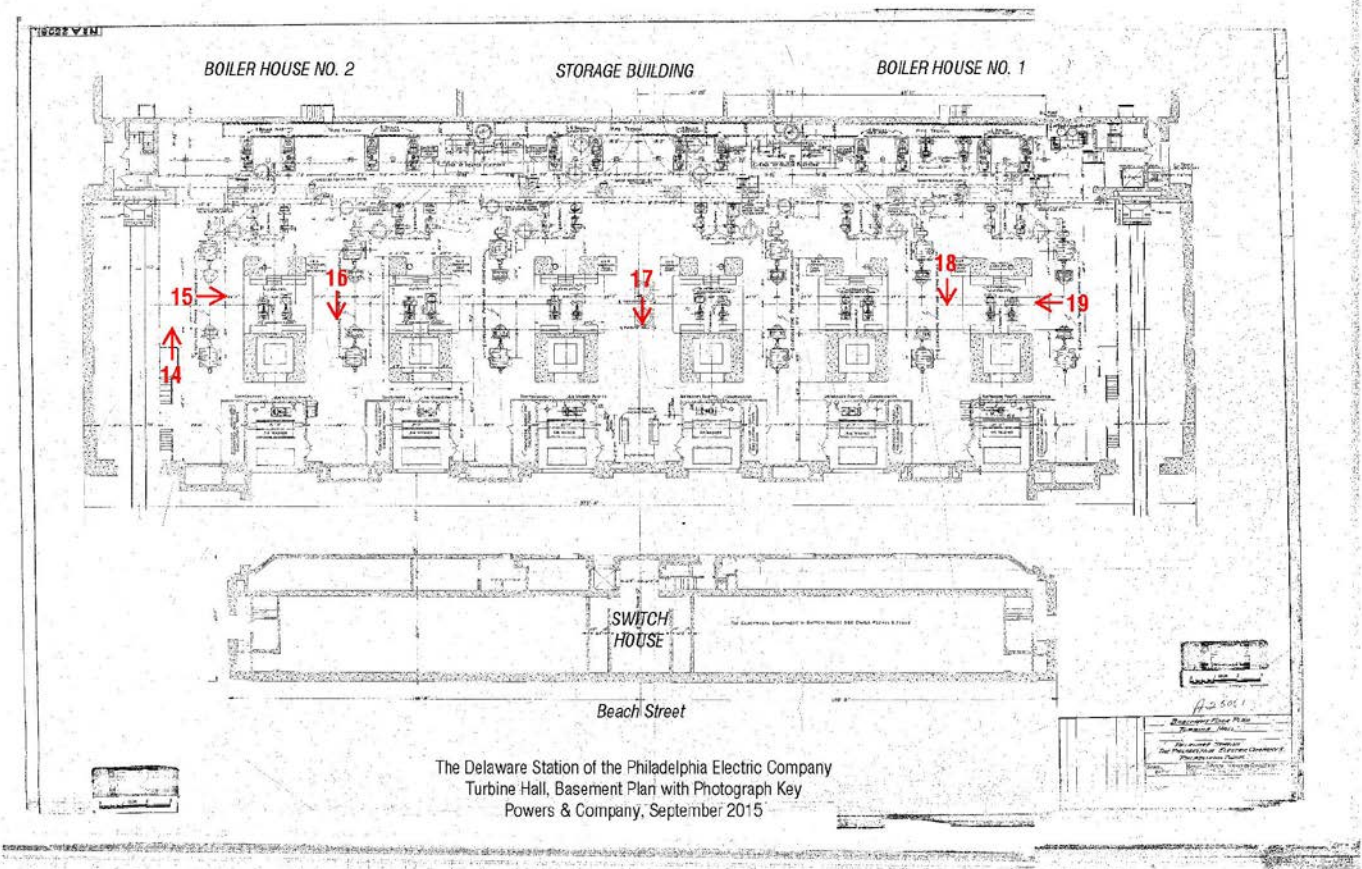


Figure 6: Photo Key, Turbine Hall/Basement Plan

The Delaware Station of the Philadelphia Electric Company  
 Name of Property

Philadelphia County, PA  
 County and State

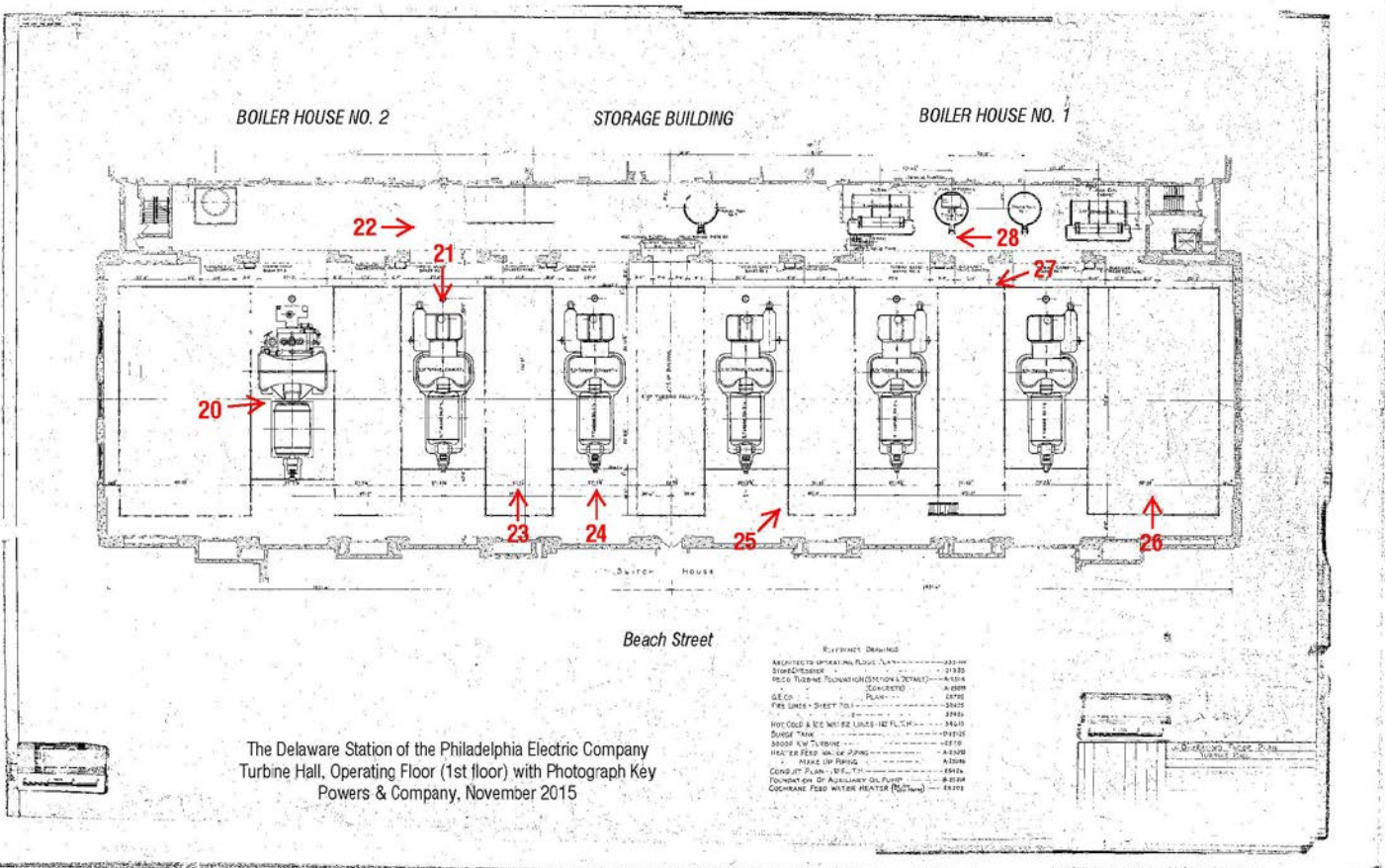


Figure 7: Photo key/Turbine Hall/Operating (1<sup>st</sup>) Floor Plan

The Delaware Station of the Philadelphia Electric Company  
Name of Property

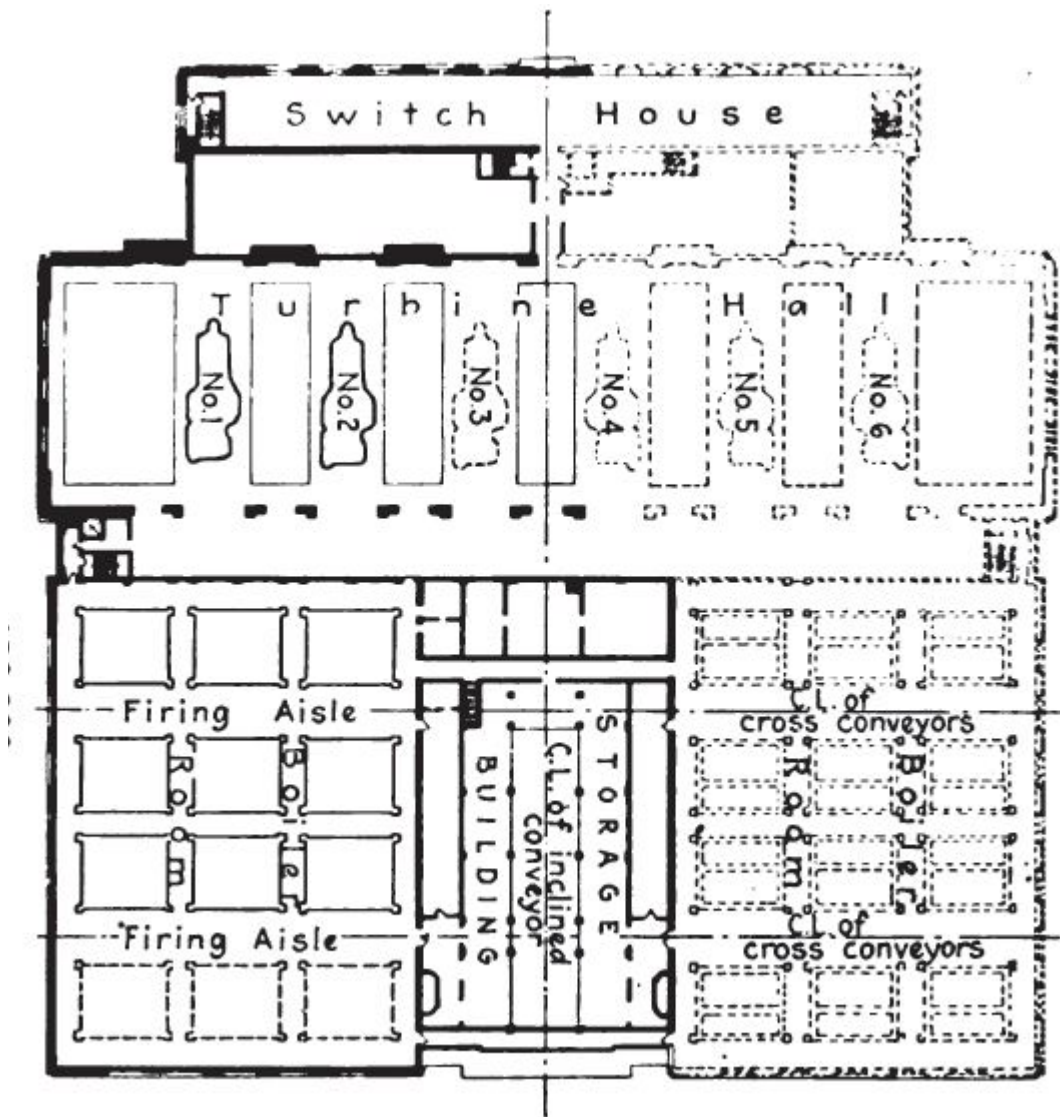
Philadelphia County, PA  
County and State



**Figure 8** – Bromley Atlas of Philadelphia, 1895, showing the Neafie & Levy Shipyard and approximate location of nominated property in white dashed line.

The Delaware Station of the Philadelphia Electric Company  
Name of Property

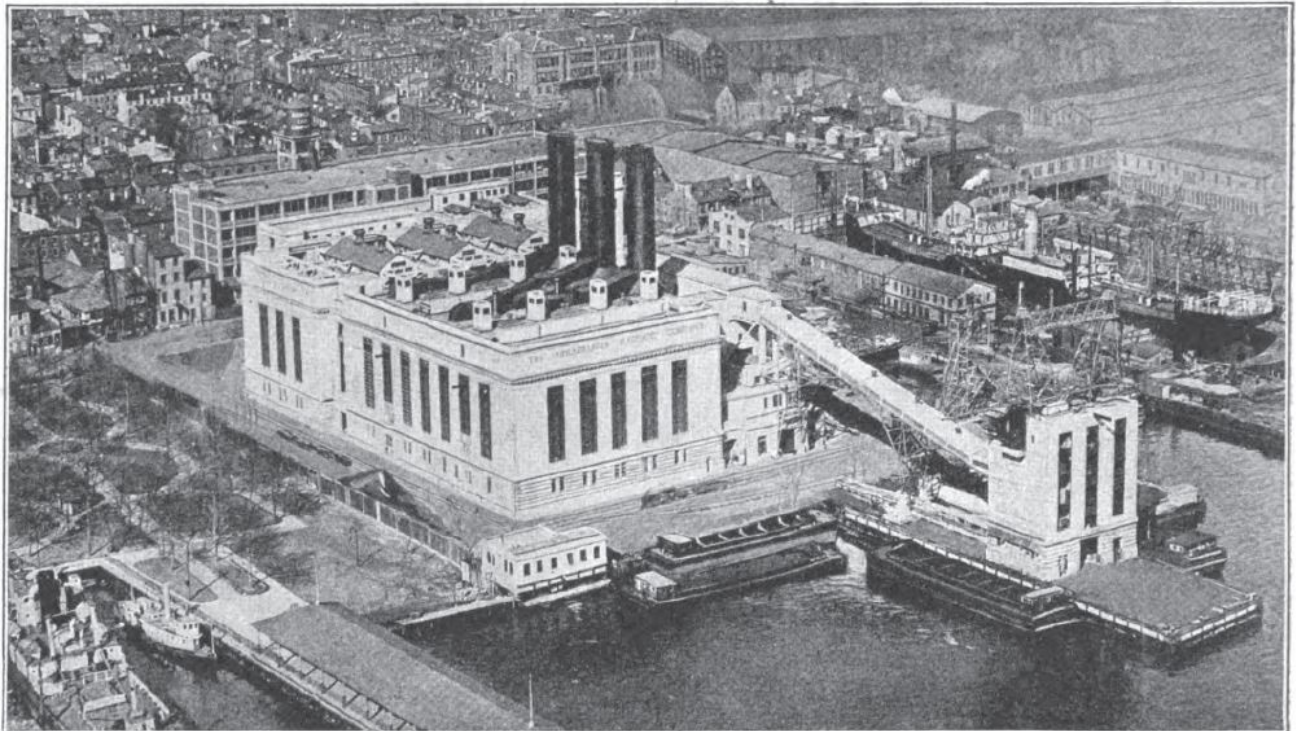
Philadelphia County, PA  
County and State



**Figure 9** – Plan showing the first phase of construction.  
(from *Electrical World*, May 21, 1921)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

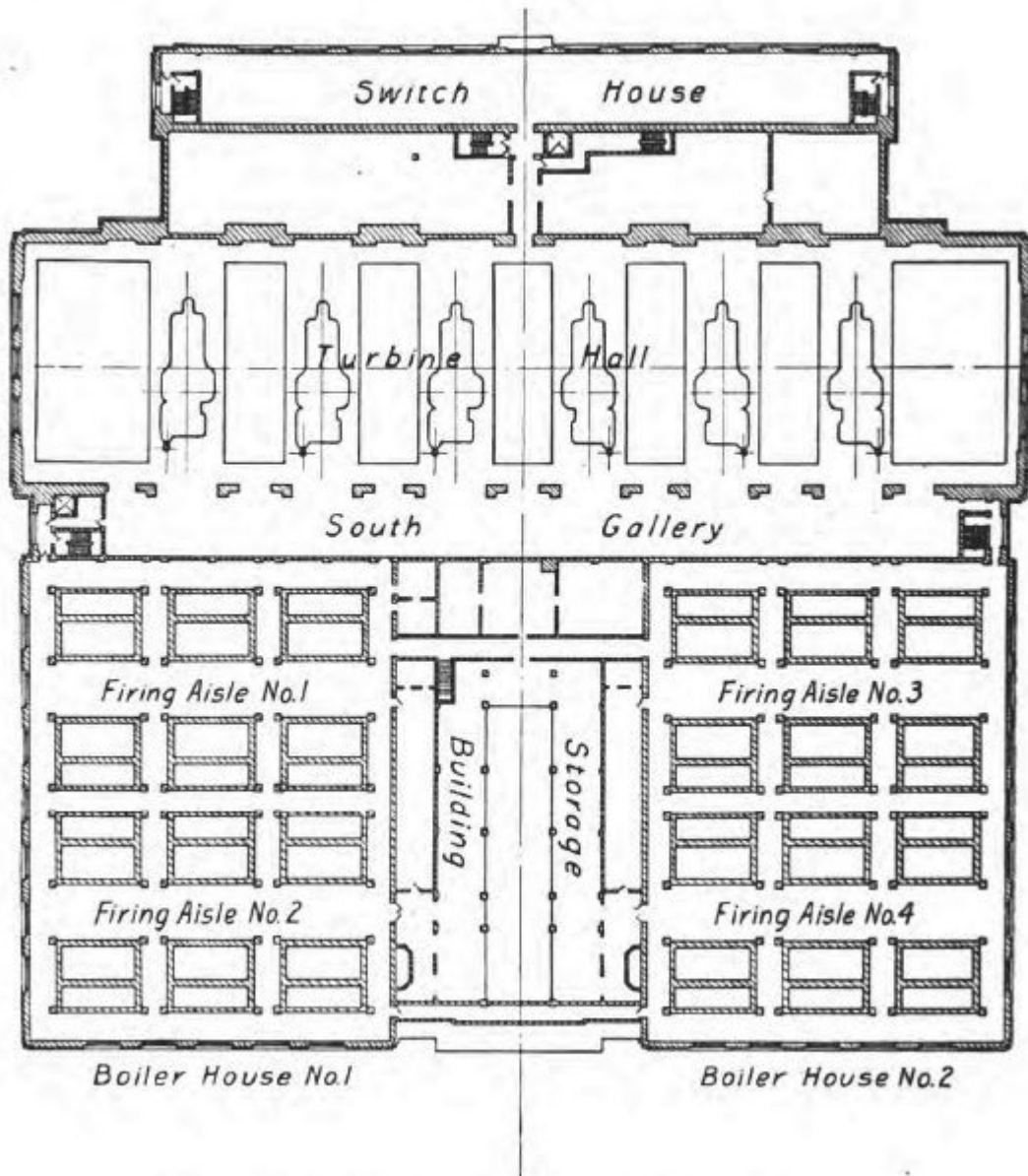


**Figure 10** – Aerial view showing the completion of the first phase in 1921.  
(from *Power*, May 24, 1921)



The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



**Figure 11** – Plan of the completed building in 1923.  
(from *Modern Steam Power Station Design*, 1921)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

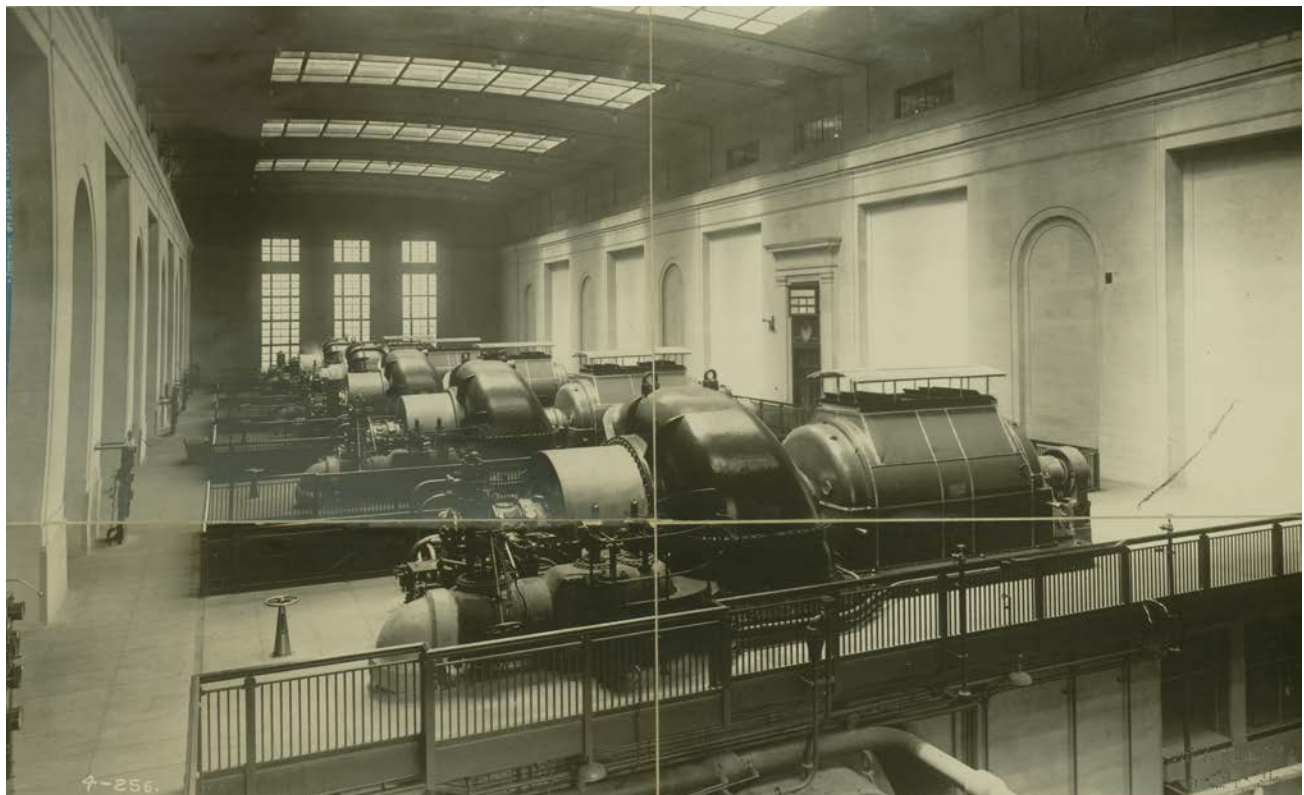
Philadelphia County, PA  
County and State



**Figure 12** – View of the completed building in 1923, looking west.  
(from “Final Report of Construction Work”, Stone and Webster, 1923)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



**Figure 13** – View of Turbine Hall in 1923, looking southwest.  
(from “Final Report of Construction Work”, Stone and Webster, 1923)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

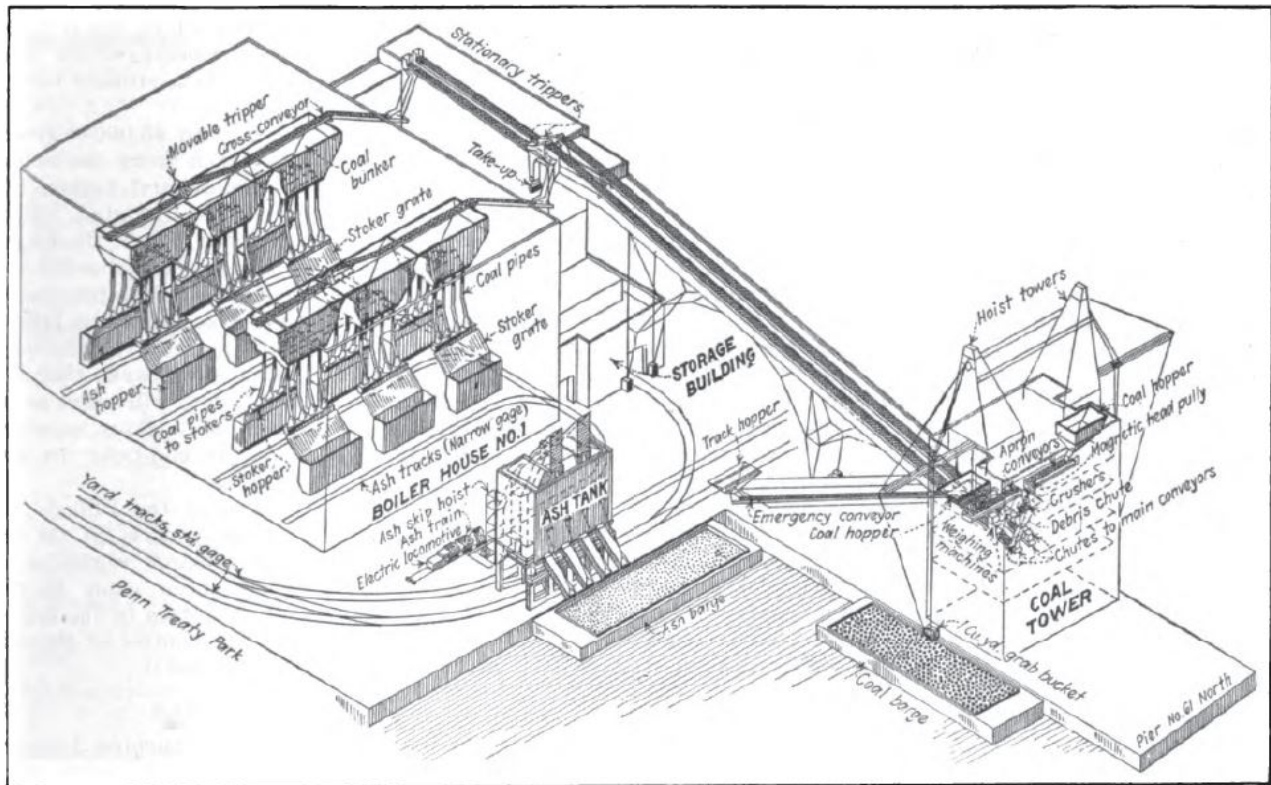


Figure 14 – Diagram of the coal handling process.  
(from *Power*, May 24, 1921)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

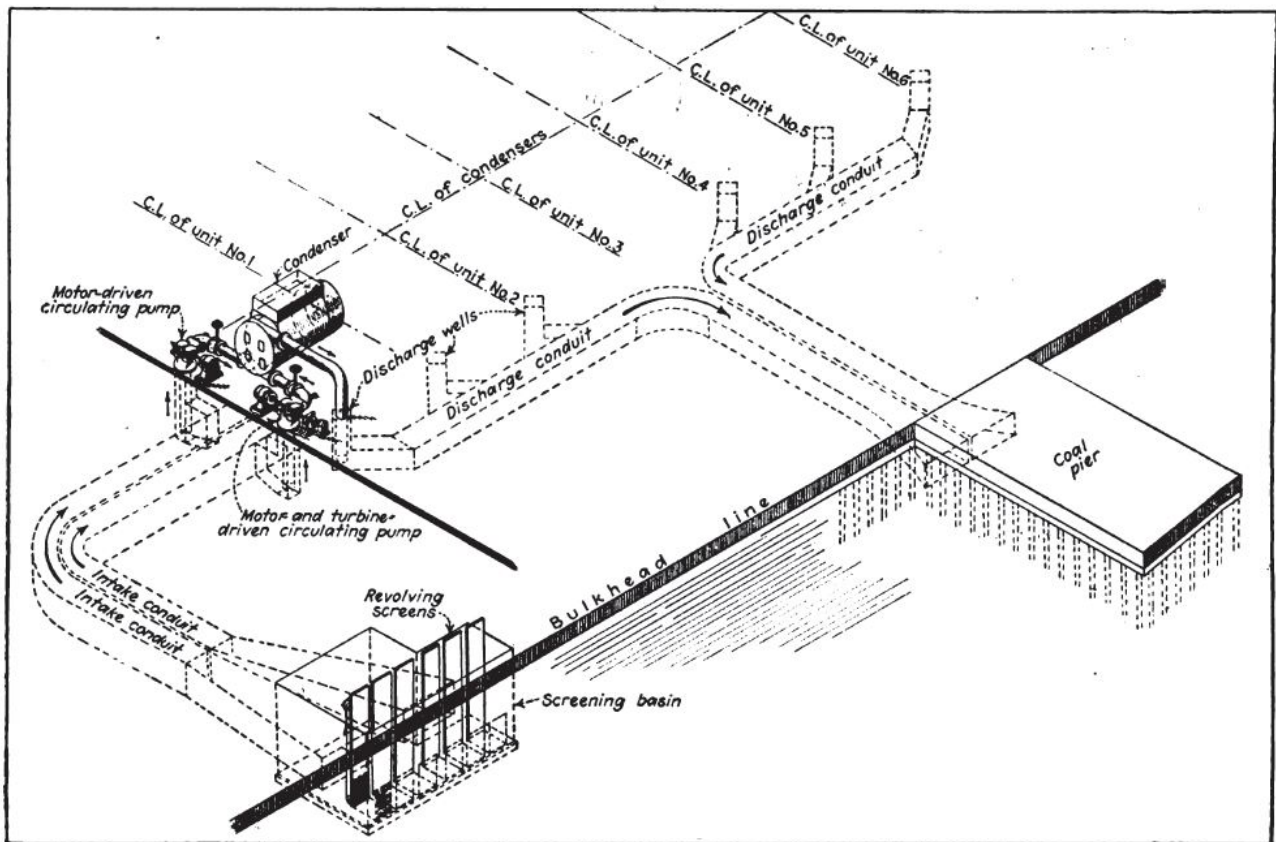


Figure 15 – Diagram of the condenser circulating water system.  
(from *Power*, May 24, 1921)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

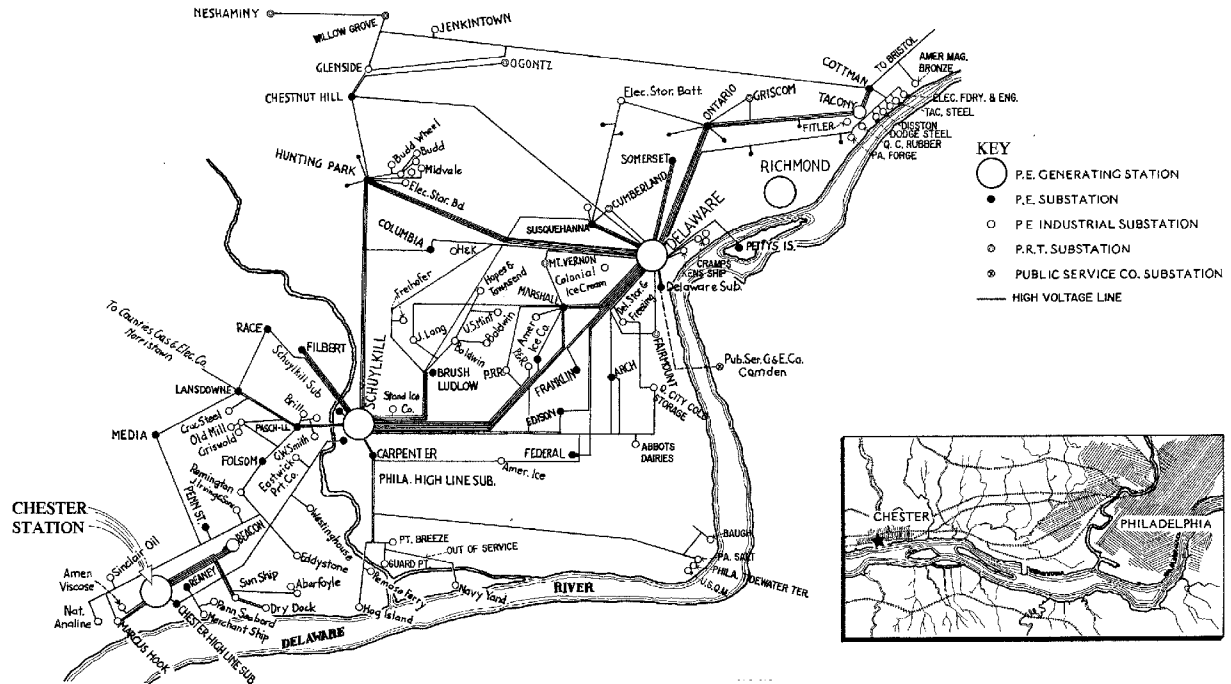
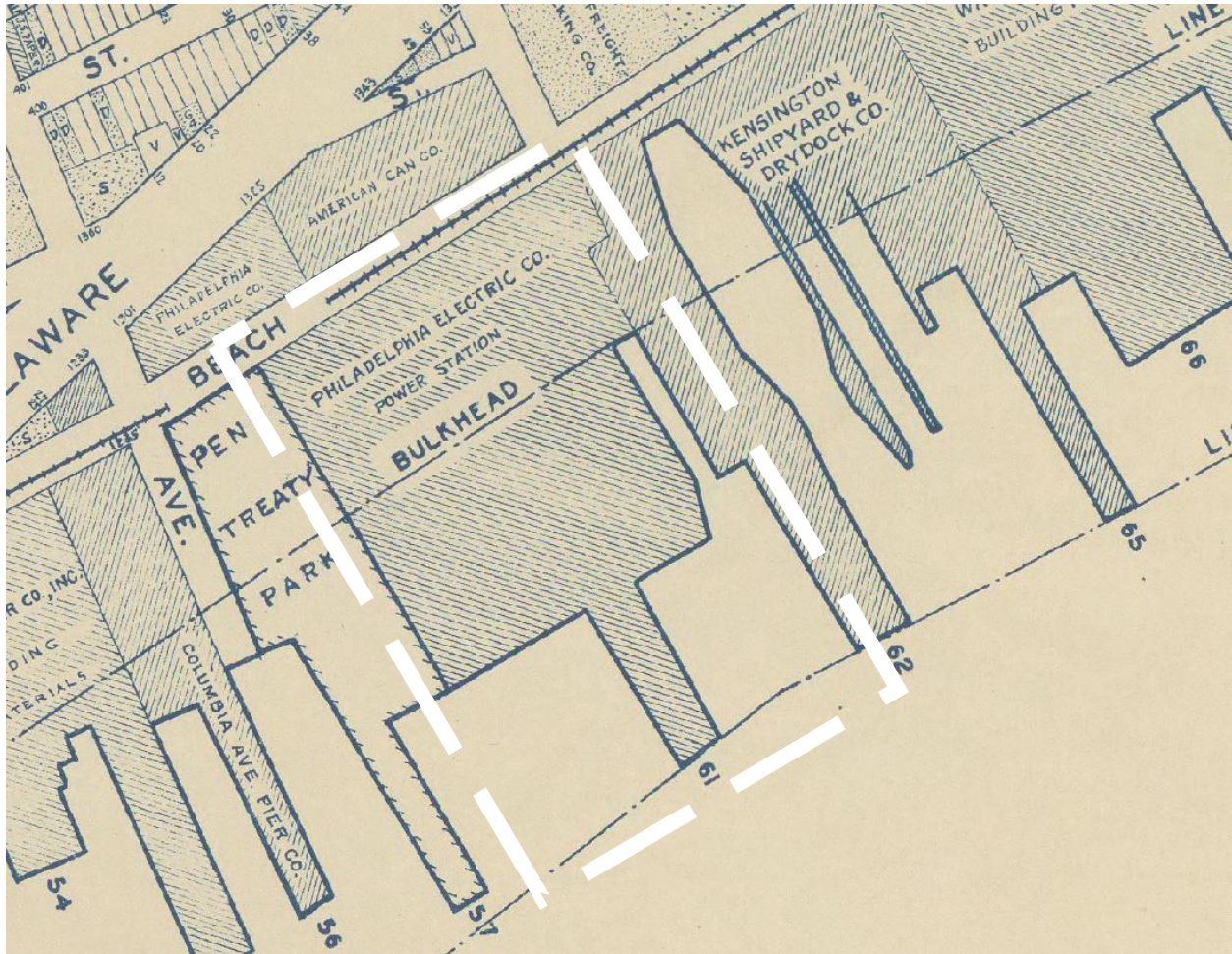


Figure 16 – Map showing Delaware Station's substation connections.  
(from *Electrical World* 83, no. 19, May 10, 1924)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

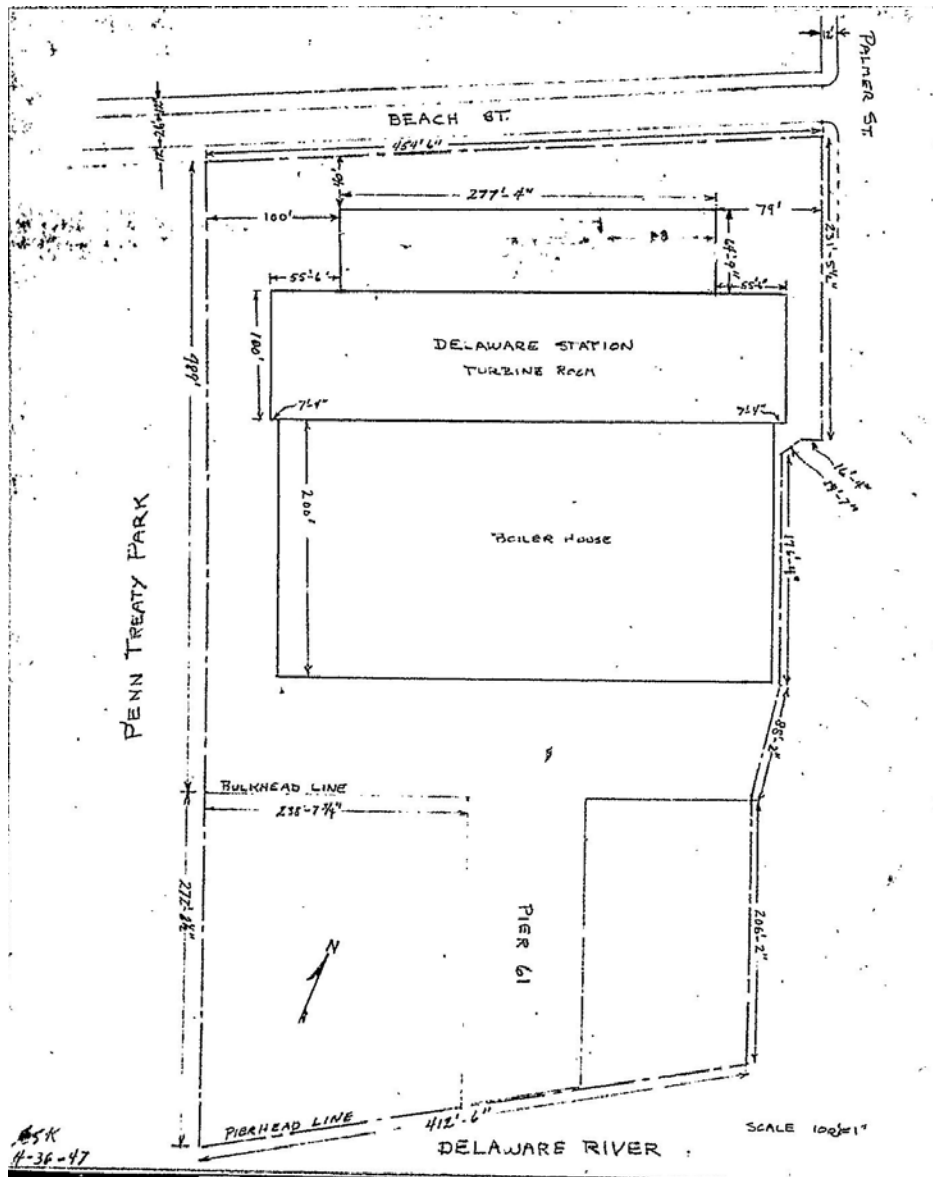
Philadelphia County, PA  
County and State



**Figure 17** – Excerpt of 1942 Philadelphia Land Use Map, produced by the Philadelphia Department of Public works with funding from the Works Progress Administration. This map shows the parcel before the 1950s expansion.  
(Atheanaeum of Philadelphia)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



**Figure 18** – Sketch of the parcel in 1947 from Philadelphia zoning permit #12858B (12/9/1948). The NRN Boundary matches the parcel as shown in this image. (From Zoning Archive Online: <http://www.phila.gov/zoningarchive>)



The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



**Figure 19** – Aerial view, 1954.

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



**Figure 20** – Aerial view, 1957  
(From Wainwright, *History of the Philadelphia Electric Company*)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

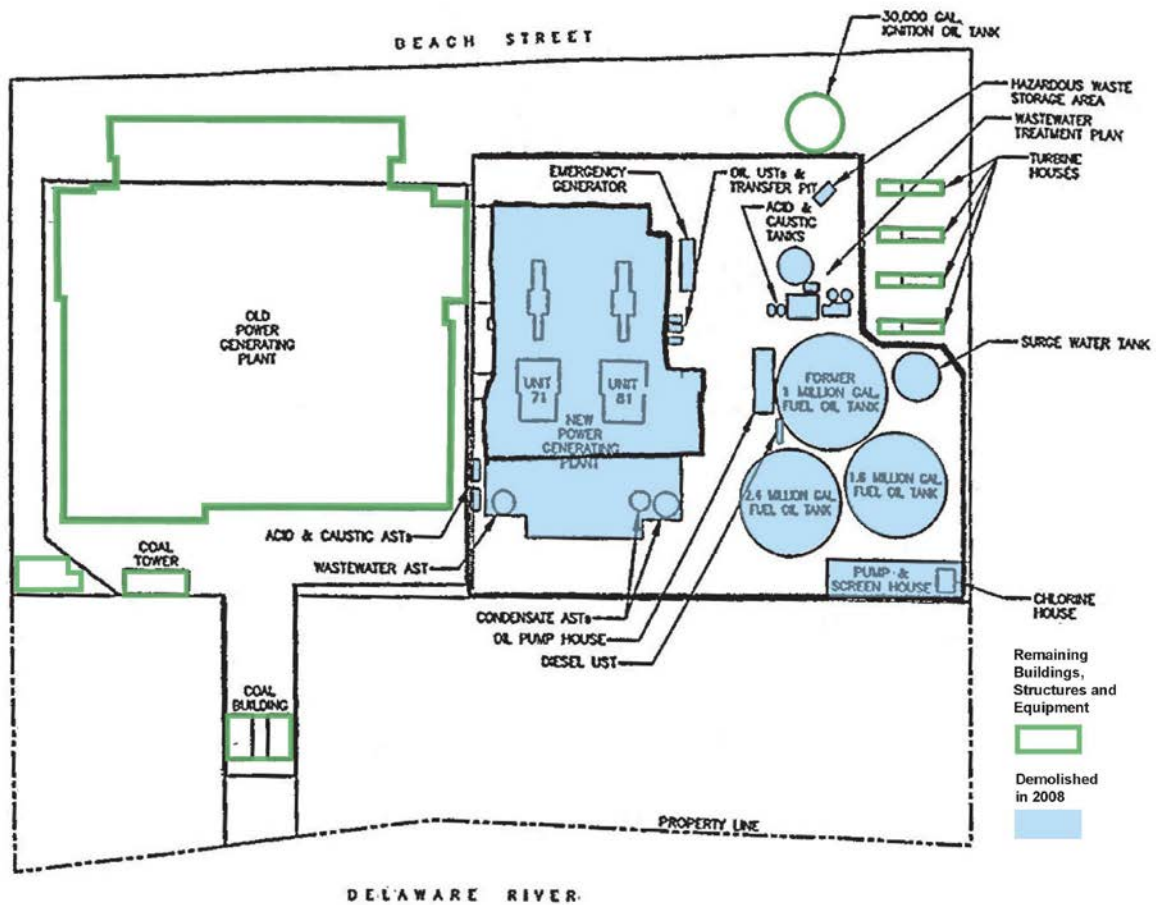
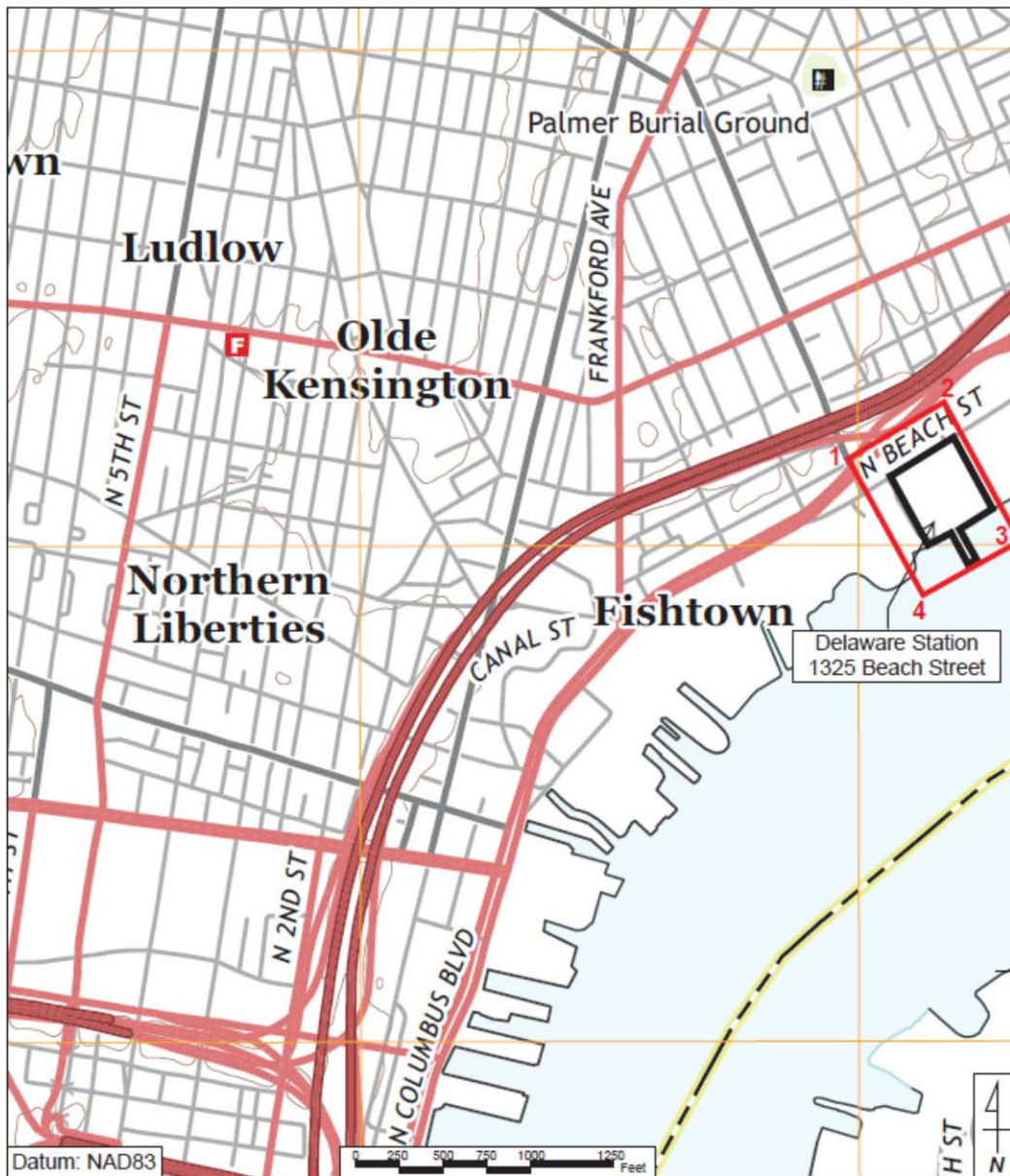


Figure 21 – Site Plan showing extent of demolition in 2008 (URS Corporation)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



USGS Map - Philadelphia Quadrangle, Pennsylvania-New Jersey (2013)

Delaware Station of the Philadelphia Electric Company  
1325 Beach Street, Philadelphia, PA

Latitude, Longitude	
1.	39.967641, -75.129061
2.	39.968313, -75.127029
3.	39.965996, -75.125325
4.	39.965255, -75.127414

Figure 22: USGS Map, Philadelphia quadrangle.



DELAWARE SUBSTATION  
11111 Delaware Street  
Wilmington, DE 19804

BBB







H-IRHE

DEAR

TOBER

ASERT

BRIE

ENDER

WESTINGHOUSE COMPANY  
STEEL MILL

STREET









DELAWARE STATION

STREET LIGHTS

KIT



DELAWARE

DELAWARE ELECTRIC COMPANY

DELAWARE STATION  
MAINTENANCE SHOP

Shudden TINK

KALC

BANKERS

GRABBLE

GRABBLE



















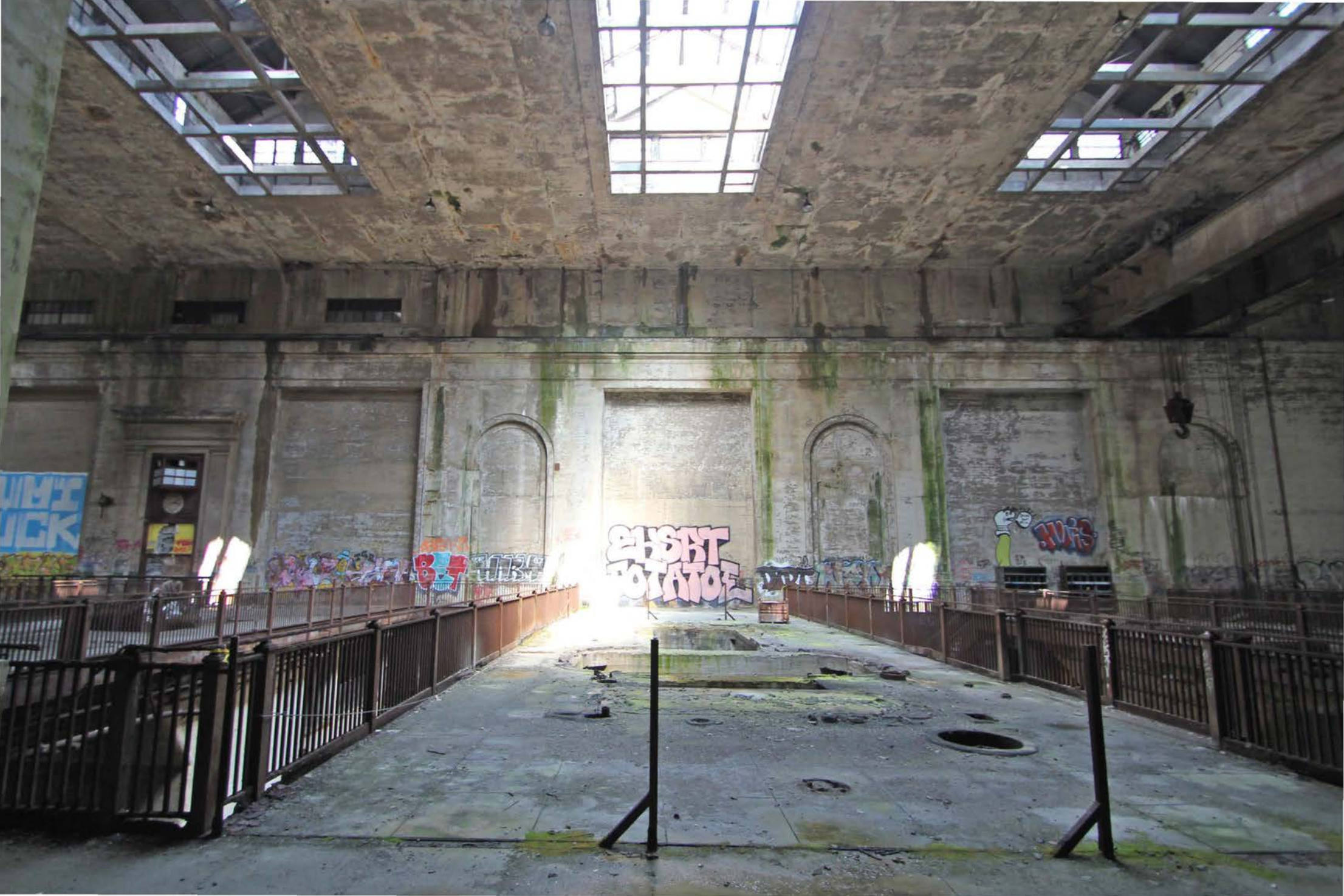








































HOLLISTER  
500

Handwritten graffiti on a concrete pillar, including a stylized figure and other markings.

Handwritten graffiti on a concrete pillar, including a stylized figure and other markings.



National Register of Historic Places  
Memo to File

# Correspondence

The Correspondence consists of communications from (and possibly to) the nominating authority, notes from the staff of the National Register of Historic Places, and/or other material the National Register of Historic Places received associated with the property.

Correspondence may also include information from other sources, drafts of the nomination, letters of support or objection, memorandums, and ephemera which document the efforts to recognize the property.



UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES  
EVALUATION/RETURN SHEET

REQUESTED ACTION: RESUBMISSION

PROPERTY NAME: Delaware Station of the Philadelphia Electric Company, The

MULTIPLE  
NAME:

STATE & COUNTY: PENNSYLVANIA, Philadelphia

DATE RECEIVED: 7/15/16                      DATE OF PENDING LIST:  
DATE OF 16TH DAY:                              DATE OF 45TH DAY: 8/30/16  
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 16000427

DETAILED EVALUATION:

ACCEPT       RETURN       REJECT      \_\_\_\_\_ DATE

ABSTRACT/SUMMARY COMMENTS:

On resubmission the State has addressed all issues noted in our National Register Return Sheet dated 7/5/2016. The boundary has been redrawn as we suggested and Pier 61 is now considered contributing.

RECOM./CRITERIA Accept A&C  
REVIEWER Patricia Anderson      DISCIPLINE Historian  
TELEPHONE \_\_\_\_\_      DATE 8/10/2016

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

NPS

COMMITTEES

- COMMITTEES
- DEMOCRATIC CHAIRMAN
- APPROPRIATIONS,
- DEMOCRATIC VICE-CHAIRMAN
- STATE GOVERNMENT
- DEMOCRATIC VICE-CHAIRMAN
- CONSUMER AFFAIRS
- EDUCATION
- ETHICS
- HEALTH
- DEMOCRATIC POLICY



House of Representatives  
 COMMONWEALTH OF PENNSYLVANIA  
 HARRISBURG

January 6, 2016



MICHAEL H. O'BRIEN, MEMBER  
 107 EAST WING  
 P.O. BOX 202175  
 HARRISBURG, PENNSYLVANIA 17120-2175  
 PHONE: (717) 783-8098  
 FAX: (717) 780-4787

610 N. 2ND STREET  
 PHILADELPHIA, PENNSYLVANIA 19123  
 PHONE: (215) 503-3245  
 FAX: (215) 503-7850

EMAIL: MOBRIEN@PAHOUSE.NET  
 WEB: WWW.PAHOUSE.COM/OBRIEN

Pennsylvania State Historic Preservation Office  
 Attention: Andrea MacDonald, Acting Director  
 400 North Street  
 Harrisburg, PA 17120

Letter of Support: Delaware Station of the Philadelphia Electric Company

Dear Acting Director MacDonald:

This letter is in support of the Nomination of the Delaware Station of the Philadelphia Electric Company, located at 1325 Beach Street, Philadelphia, Pennsylvania, for inclusion in the National Register of Historic Places at your February 2, 2016 meeting.

According to information on the website, the "Delaware Power Station was built by the Philadelphia Electric Company in 1920 to avert a predicted power shortage. It labored steadily from then on, with an expansion in 1954, until closing in 2004. It was designed by Philadelphia architects John T. Windrim and W.C.L. Eglin. Windrim was a prominent Philadelphia architect in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, designing notable Philadelphia buildings like Founders Hall at Girard College and the Franklin Institute."

This site has been recognized by the City of Philadelphia and the Electric Company with a plaque designating it as an historic property.

It is with a great sense of pride in the heritage of the location that I write with my strongest recommendation for the inclusion of this location in the National Register of Historic Places.

Sincerely,

*Michael O'Brien*  
 MICHAEL O'BRIEN  
 Member 175<sup>th</sup> District



## CITY OF PHILADELPHIA

PHILADELPHIA HISTORICAL  
COMMISSION

Room 578, City Hall  
Philadelphia, Pennsylvania 19107  
Tel: 215.686.7860  
Fax: 215.686.7674

Jonathan E. Farnham, Ph.D.  
Executive Director

23 February 2016

April E. Frantz  
Preservation Specialist  
Commonwealth of Pennsylvania  
Pennsylvania Historical & Museum Commission  
Bureau for Historic Preservation  
Commonwealth Keystone Building, 2<sup>nd</sup> Floor  
400 North Street  
Harrisburg, PA 17120-0093

Re: The Delaware Station of the Philadelphia Electric Company, 1325 Beach Street,  
Philadelphia

Dear Ms. Frantz:

I am writing in response to your request that the Philadelphia Historical Commission provide its official Certified Local Government recommendation on the nomination proposing to add the Delaware Station of the Philadelphia Electric Company in Philadelphia to the National Register of Historic Places. At a staff meeting on 22 February 2016, the staff of the Philadelphia Historical Commission reviewed and discussed the nomination. The staff agreed that the building at 1325 Beach Street satisfies National Register Criterion A for engineering, as Philadelphia's largest power station in the post-World War I period, and Criterion C for architecture, as the first major reinforced concrete power station and as a major work by John T. Windrim. The building is not listed on the Philadelphia Register of Historic Places; however, in August 2015, the Historical Commission received a nomination proposing to add the Delaware Station of the Philadelphia Electric Company, 1325 Beach Street, to the Philadelphia Register of Historic Places. The nomination was determined it to be incorrect and incomplete, and returned with suggested edits to the nominators. As of the date of this letter, a revised nomination has not been received. The staff contends that the resource retains sufficient integrity to be added to the National Register.

The staff of the Philadelphia Historical Commission unanimously supports the listing of 1325 Beach Street in Philadelphia on the National Register of Historic Places. Thank you for providing the Philadelphia Historical Commission staff with the opportunity to comment on this nomination.

Yours truly,

A handwritten signature in black ink, appearing to read "Jon Farnham".

Jonathan E. Farnham, Ph.D.  
Executive Director



Pennsylvania  
Historical & Museum  
Commission

RECEIVED 2280

MAY 20 2016

Nat. Register of Historic Places  
National Park Service

May 16, 2016

Stephanie Toothman, Keeper  
National Register of Historic Places  
National Park Service, US Department of Interior  
1201 "I" (Eye) Street, NW, 8th Floor  
Washington D.C. 20005

Re: Delaware Station of Philadelphia Electric Company and Times Finishing Works National  
Register nominations

Dear Ms Toothman:

Enclosed please find two National Register nominations for your review. Included are signed first pages, CDs containing the true and correct copy of the nominations, and CDs with tif images. Copies of correspondence are enclosed with both nominations.

The proposed action for each nomination is listing in the National Register, and the recommended level of significance is "local." Our staff and Historic Preservation Board members support this nomination. If you have any questions regarding either nomination please contact April Frantz at 717-783-9922 or [afrantz@pa.gov](mailto:afrantz@pa.gov). Thank you for your consideration of these properties.

Sincerely,

Andrea L. MacDonald, Director  
State Historic Preservation Office

enc.

Historic Preservation Services  
Commonwealth Keystone Building  
400 North Street  
Harrisburg, PA 17120-0093  
[www.phmc.state.pa.us](http://www.phmc.state.pa.us)  
*The Commonwealth's Official History Agency*

United States Department of the Interior  
National Park Service

# National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

## 1. Name of Property

Historic name: The Delaware Station of the Philadelphia Electric Company

Other names/site number: NA

Name of related multiple property listing: NA

---

## 2. Location

Street & number: 1325 Beach Street

City or town: Philadelphia State: PA County: Philadelphia

Not For Publication: NA Vicinity: NA

---

## 3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this X nomination \_\_\_ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets \_\_\_ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

\_\_\_national \_\_\_statewide Xlocal Applicable National Register Criteria: XA \_\_\_B XC \_\_\_D

Returned
<p>Signature of certifying official/Title: _____ Date _____</p> <p><b><u>Pennsylvania Historical &amp; Museum Commission</u></b></p> <p>State or Federal agency/bureau or Tribal Government</p>
<p>In my opinion, the property ___ meets ___ does not meet the National Register criteria.</p> <p>Signature of commenting official/Title: _____ Date _____</p> <p>State or Federal agency/bureau or Tribal Government</p>

## 4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- determined not eligible for the National Register
- removed from the National Register
- other (explain:) \_\_\_\_\_

---

Signature of the Keeper

Date of Action

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

### 5. Classification

#### Ownership of Property (Check as many boxes as apply.)

- Private:
- Public – Local
- Public – State
- Public – Federal

#### Category of Property (Check only one box.)

- Building(s)
- District
- Site
- Structure
- Object

Returned

#### Number of Resources within Property (Do not include previously listed resources in the count)

Contributing	Noncontributing	
<u>3</u>	<u>0</u>	buildings
<u>0</u>	<u>0</u>	sites
<u>2</u>	<u>0</u>	structures
<u>0</u>	<u>0</u>	objects
<u>5</u>	<u>0</u>	Total

Number of contributing resources previously listed in the National Register: 0

---

### 6. Function or Use

#### Historic Functions (Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION – Energy Facility

#### Current Functions (Enter categories from instructions.)

VACANT/NOT IN USE

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

## 7. Description

**Architectural Classification** (Enter categories from instructions.)

LATE 19TH AND EARLY 20<sup>TH</sup> CENTURY REVIVALS: Beaux Arts

**Materials:** (enter categories from instructions.)

Principal exterior materials of the property: Concrete

### Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

---

### Summary Paragraph

The Delaware Station of the Philadelphia Electric Company is situated on the west bank of the Delaware River in the Fishtown neighborhood of Philadelphia, along the east side of N. Beach Street. The nominated property's approximately 5.5 acre site is located to the immediate north of Penn Treaty Park. Begun in 1917 and completed in 1923, the monumental power station building occupies a ground area of approximately three acres. Constructed largely of reinforced concrete, the main building is five stories tall and consists of three major components: the boiler houses, a turbine hall, and a switch house. Several smaller ancillary resources, including an ash tank and a screening house and pump room, are located east of the main power plant. Additionally, a large pier measuring roughly 75' x 250', known as Pier 61, extends from the river bank just east of the power station and contains a five-story coal tower. Along Beach Street and Penn Treaty Park, there is a simple cast iron fence while a modern chain-link metal fence surrounds most of the remainder of the site. All existing resources are considered to be "contributing." The proposed National Register Boundary follows the original parcel (as shown in Figures 17 & 18) and includes all existing resources that were historically and functionally related to the Delaware Station within the period of significance.<sup>1</sup> The property retains integrity to reflect the period 1917-1923. Due to demolition of important later and substantial resources, the period was limited to the earlier phases of construction and operation. Accordingly, the parking lots and other land north of the building, although part of the *current* tax parcel, have been excluded from the boundary due to the fact that no resources remain from the post-1923 period, and this area was acquired later as part of an expansion that no longer exists.

---

### Narrative Description

The Boiler Houses, Storage Area, Turbine Hall, and Switch House represent component functions in the electrical generation process. They are interconnected and together comprise a single counted resource: the Power Station. Pier 61, the Coal Tower, the Ash Tank, and the Screen House and Pump Room comprise the remaining counted resources. (The Screen House and Pump Room are also counted together as a single resource.)

---

<sup>1</sup> The five-story reinforced concrete and brick building across Beach Street from the Delaware Station was not associated with the power plant. This building was home to the American Can Company as indicated by both the 1917 and 1950 Sanborn fire insurance maps. The building is currently used as a multi-tenant office building.

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

*Power Station: Boiler Houses*

The arrangement of the Delaware Station reflects the coal-fired electrical generation process typical of large power plants in the early twentieth century. Closest to the river, there are two large, five-story Boiler Houses – Boiler House No. 1 and No. 2 – which are separated by a central Storage Area. Together, these three sections, which are constructed fully of reinforced concrete, form the south elevation of the power plant (see photos #7 & 8). The boiler houses are identical with seven bays on the east and west elevations, respectively, and five bays on each of the south elevations. Both boiler houses feature rusticated bases on the first floor, above which are tall, multi-light industrial steel windows in each bay and a large entablature with a denticulated cornice. Facing the river, the entablature of Boiler House No. 1 is inscribed with "THE PHILADELPHIA ELECTRIC COMPANY" in teal-colored ceramic tiles while the entablature of Boiler House No. 2 is inscribed with "DELAWARE STATION," also in teal ceramic tiles. The roofs of the boiler houses are flat but contain extensive mechanical equipment and eight large, cylindrical metal steam stacks, four of which are located along the eastern roof perimeter of Boiler House No. 1 and four of which are located along the western roof perimeter of Boiler House No. 2.

On the interior, the boiler houses feature concrete floors, walls and ceilings and are identical in layout with twelve boilers each. The boilers, which consist of large rectangular concrete and brick structures, rise nearly to the top of the 60' high space. Near the north and south ends of each boiler house, there are "firing aisles" where the boilers were controlled with a system of valves and levers (see photo #30). Along the perimeter of each boiler house, there is a network of concrete stairs and catwalks that provide maintenance access to the upper reaches of the boiler equipment.

*Power Station: Storage Area*

Between the two boiler houses, the Storage Area is two-stories tall with a narrow central coal storage tower rising to five stories. There is a gap on either side of the tower between the adjacent boiler houses. Projecting from the fifth story on the east and west elevations, there are cross conveyor "wings" on each side of the tower, which connect to the coal bunkers above the boilers. On the interior, the Storage Area is a narrow, double-height space with an open plan (see photo#33). There are concrete floors and exposed concrete structure on the walls and ceilings. (*Historic Plans for the Station refer to the Storage Area as Storage "Building."*)

*Power Station: Turbine Hall*

To the west of the boiler houses and Storage Area is the Turbine Hall, the next largest component of the power plant. The Turbine Hall, as its name suggests, was the main operating space where turbines, powered by steam created in the boiler houses, generated electricity. On the exterior, the Turbine Hall is visible only on the north and south elevations and part of the west elevation. The north and south elevations are similar in appearance to the boiler houses with rusticated bases, tall, multi-light industrial steel windows in each bay above the base, and large entablatures with denticulated cornices. On both the north and south elevations, the entablature is inscribed with "THE PHILADELPHIA ELECTRIC COMPANY DELAWARE STATION" in teal-colored ceramic tiles. The roof features six gabled skylights, a concrete stair tower toward the center (adjacent to the boiler houses), and scattered mechanical equipment.



The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

On the basement level (ground floor), the Turbine Hall features six groupings of massive rectangular and square concrete piers arranged transversely along the building's north-south axis. The piers support large platforms on the main operating floor above where the power plant's six turbines and generators once stood. The immense size of the six turbine-supporting piers has the effect of creating seven distinct rectangular spaces on the basement level, which are fully open to the Turbine Hall's main ceiling over eighty feet above. These seven spaces are linked on the east and west sides by galleries which span the full length of the hall. The piers also feature center openings forming a "tunnel" along the hall's north-south axis (see photos #15 & 19).

The floor surfaces within the Turbine Hall are a combination of concrete and steel plates. There are numerous below-grade basins in the floor throughout the basement level, many of which still contain water. These basins were primarily used for water intake for the circulating pumps, which provided cooling water from the river to the turbines. Along the east wall of the Turbine Hall in the basement level, there are six small square rooms with concrete walls. These rooms, which correspond to the six turbines, contain air washer equipment. At the north and south ends of the basement level, there are elevated concrete platforms with metal pipe guardrails. Toward the east end of each platform, there are concrete stairs leading from the main basement floor to the platforms.

Between the basement level and the main operating floor, there is an intermediate mezzanine level. Accessed by various metal stairs on the east and west sides of the Turbine Hall, the mezzanine was constructed primarily to allow access to the upper reaches of the large tanks and pump equipment for maintenance and repair.

The main operating floor above the basement level is a monumental Classical space measuring approximately 88'-wide by 367'-long with an adjacent "gallery" space measuring roughly 28'-wide. The ceiling of the Turbine Hall, which is vaulted and contains six large gabled steel skylights, rises nearly 60' above the operating floor. All of the floor, wall and ceiling surfaces within the space are reinforced concrete. Along the west wall, adjacent to the Switch House, there is a series of alternating arched and rectangular blind openings. In the center bay on the west wall there is a door opening leading to the Switch House with decorative cast iron surround and a concrete entablature surround (see photo #21, left). Opposite, on the east wall, there are corresponding arched and rectangular openings which open into the east gallery.

There are seven large rectangular openings in the floor on this level, which provide visibility down to the basement level (see photos #23 & 26). The center five openings measure approximately 22' by 75' feet while the openings at the east and west ends measure 45' by 75'. The openings are surrounded by simple, painted steel railings. The floor spaces between each of the openings – where the turbines once stood, are concrete and currently contain some remnants of the turbine and generator equipment. Within the gallery east of the main operating space, there are several large cylindrical metal surge tanks and other equipment located on top of steel platforms.

#### *Power Station: Switch House*

The Switch House fronts on N. Beach Street and is five-stories tall and eleven bays wide on the primary or west elevation (see photos #1-3). Like the boiler houses and Turbine Hall, the Switch

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House features a rusticated base on the first floor with a plain concrete wall surface above. Between the 4<sup>th</sup> and 5<sup>th</sup> floors there is a denticulated cornice. On the 1<sup>st</sup> floor there is a tall double-leaf metal door with concrete pedimented surround in the center bay and two multi-light steel windows in the remaining bays. On the 2<sup>nd</sup> through 4<sup>th</sup> floors there are multi-light steel windows in all bays with spandrel panels between each floor. On the 5<sup>th</sup> floor, above the cornice, each bay contains a nine-light steel window. On the north and south elevations, which are treated much the same as the west elevation, there are recessed openings on each floor, which open to the fire stairs. Along the east side of the Switch House, the full first and second floors are connected to the Turbine Hall, however only a narrow center wing of the Switch House extends up the full five stories, meaning that there are long, narrow light wells on the north and south sides. Because the Switch House continues to function as an electrical substation for Exelon Energy, the interior was inaccessible at the time of survey. It is believed the Switch House interior remains largely intact, as it continues to serve its original purpose.

#### *Pier 61*

Centered on the power plant's east elevation, Pier 61 is a structure measuring roughly 75' wide and extending about 250' from the river bank into the Delaware River (see photos #12 and 13). The pier is built of concrete and has a flat surface. At its east end, there is a five-story Coal Tower, which is a separately counted resource (described below). The pier is surrounded on all sides by a chain-link metal fence with barbed wire.

#### *Coal Tower*

Located near the east end of Pier 61 is a separately counted contributing resource, the Coal Tower, a five-story building of reinforced concrete (see photos #12 and 13). Like the power plant, the tower features a rusticated 1<sup>st</sup> floor base with multi-light steel industrial windows on the east and west sides, which are both three bays-wide. Above the rusticated base, there is a simple concrete cornice. On the 1<sup>st</sup> floor there is a center opening that continues through the east-west axis of the building. On the north and south sides of the building there are multi-light steel industrial windows similar to those found on the main power plant. On the roof, there are large steel boom hoists extending above and out from the building on the north and south sides. The hoists were once used to lift coal delivered from barges on the river.

#### *Ash Tank*

The Ash Tank is located along the bulkhead just east of Boiler House No. 1 (see photo #9). Elevated on a concrete platform supported by arcaded supporting piers, the ash tank is a largely windowless reinforced concrete box. On the west side, facing the main power plant, there are several large steel conveyors that begin underground and travel up the side of the tank structure to the roof. On the north elevation there is one small multi-light steel window and on the south elevation there is a single-leaf glazed metal door leading to a steel balcony. There is also a steel ladder with cage on the west elevation.

#### *Screen House and Pump Room*

The water screening or filtering and pumping functions are combined in a single one-story building, the Screen House and Pump Room, which stands to the south of the Ash Tank along the bulkhead (see photo #10). Constructed of reinforced concrete, the building features a rusticated base and plainly treated walls with a simple cornice. There are several window and door openings currently covered by metal panels. The building has a flat roof.

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### *Adjacent Resources*

Although excluded from the National Register Boundary (see Boundary Justification), a large area north of the Power Plant is part of the current tax parcel but largely contains asphalt parking lots and other open areas with flat surfaces of gravel or dirt. This area was not part of the plant during the period of significance. There is a small, one-story brick Gatehouse located near the northwest corner of the power plant in the parking lot that fronts on Beach Street. This utilitarian building dates to the c.1950 expansion of the plant, and post-dates the period of significance.

At the northwest corner of the property there are four rectangular transformers and a cylindrical metal oil tank. These objects were added to the expanded site around 1970 and post-date the period of significance. Because the Gatehouse and the c.1970 transformers and tank post-date the period, are located on land acquired for later expansions, and were associated with extensive resources that are no longer extant, they are excluded from the boundary and not included in the resource count.

### *Integrity*

The Delaware Station of the Philadelphia Electric Company retains integrity in the aspects of design, materials, location, and setting. In terms of design and materials, both the overall form and the defining characteristics of the power station remain, including its reinforced concrete structure, tall smoke stacks, and Beaux Arts style features including a consistent fenestration pattern, rusticated base, and cornice detailing. The quality, placement and condition of the construction materials, as well as the building's Beaux Arts style are both highly characteristic of public utility buildings in Philadelphia during the early twentieth century. In regard to location and setting, the building maintains its highly prominent river front position and is a major landmark for miles up and down the Delaware River. Although many of the industrial buildings and shipyards that once surrounded the station have long since disappeared, the Delaware Station continues to convey the highly prominent role that the Delaware River played in the history of Fishtown, Philadelphia, and the surrounding Southeastern Pennsylvania region.

Of thirteen resources counted in a survey of the site conducted in 1989, five remain.<sup>2</sup> The remaining resources include the original Power Station, Coal Tower, Ash Tank, and the Screen House and Pump Room. Additional surviving resources, such as the Guardhouse and an oil tank, have been excluded from the National Register Boundary because they post-date the period of significance. The resources that no longer exist include a large generating plant built to the east of the original building in 1954, a pump house built as part of the 1954 expansion, one gatehouse, a storage area, and three of four oil tanks (see site plan in Figure 21). Despite the loss of some resources – most of which consist of later and/or minor ancillary structures and objects – the site's primary, character-defining original resources, which include the monumental power station itself, are largely intact. As a result, the remaining resources can fully convey the industrial and architectural significance of the Delaware Station and the major role it played in powering the growth of Philadelphia into an industrial and urban giant in the early-mid 20<sup>th</sup> century.

<sup>2</sup> Pennsylvania Industrial Resource Survey Form for the Delaware Station, Philadelphia Electric Company. Prepared by Stuart P. Dixon for the Philadelphia Historical Commission in 1989. This documentation is located at the Pennsylvania Historical and Museum Commission, State Historic Preservation Office in Harrisburg, PA.

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## 8. Statement of Significance

### Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Property is associated with the lives of persons significant in our past.
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- C. Property has yielded, or is likely to yield, information important in prehistory or history.

### Criteria Considerations

(Mark "x" in all the boxes that apply.)

- A. Owned by a religious institution or used for religious purposes
- B. Removed from its original location
- C. A birthplace or grave
- D. A cemetery
- E. A reconstructed building, object, or structure
- F. A commemorative property
- G. Less than 50 years old or achieving significance within the past 50 years

### Areas of Significance

Engineering;  
Architecture

### Period of Significance

1917-1923

### Significant Dates

1917, 1920, 1923, 1953

### Significant Person

N/A

### Cultural Affiliation

N/A

### Architect/Builder

John T. Windrim, Architect  
William C.L. Eglin, Engineer  
Frank N. Kneas, Engineer

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**Statement of Significance Summary Paragraph** (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

Built in two phases between 1917 and 1923, the Delaware Station is significant under Criteria A and C for its association with the Philadelphia Electric Company and as a major work of architecture and engineering by architect John T. Windrim and others. As Philadelphia's largest power station in the post-World War I period, the Delaware Station satisfied exponential growth in the demand for electricity from industrial and domestic consumers. The building's outside role in the city's electrical system was emphasized by architect Windrim who, by applying the formal Beaux Arts style to the Delaware Station's vast scale, created an ennobling monument to electricity and to the industrial and social progress that Philadelphia Electric's expansion had enabled. Less visible to the public but nonetheless significant as a work of engineering, the building was the first major power station to be constructed of reinforced concrete rather than steel and, was the first to use certain innovative technologies in the generation of electricity. The Delaware Station's period of significance begins in 1917, with the first phase of construction, and ends in 1923, when the station as it exists today was complete and fully operational. With an expansion in 1953, the station continued to play a major role in the generation and distribution of electricity into the latter 20<sup>th</sup> century, however no resources beyond a small guardhouse remain from this period. Therefore, while the Delaware Station maintained a significant position in Philadelphia's electrical system beyond 1923, the period of significance has been limited by the existing integrity. The main power station and related 1917-1923 resources capably reflect the early phase of the property's history, when the Delaware Station achieved significance for architecture and engineering and played a critical role in the expansion of electricity throughout Philadelphia.

**Narrative Statement of Significance** (Provide at least one paragraph for each area of significance.)

*Philadelphia Electric: The Early Years*

Founded in 1899 and incorporated in 1902, Philadelphia Electric first formed as a corporation by consolidating many small electric utilities under a single large holding company. Since 1881, when the Brush Electric Light Company began supplying the first electric service in Philadelphia, 26 such utilities had emerged in neighborhoods across the city, usually to generate power for a particular product or building and not as general service providers. Brush, for example, was founded primarily to install and supply power for new electric street lamps along Chestnut Street in Center City. The Edison Electric Light Company of Philadelphia, on the other hand, supplied electricity primarily to consumers who desired to replace gas lighting in their homes or businesses with Edison's patented incandescent lamps.

The consolidation of Brush, Edison, and the other companies in 1899 was meant to eliminate wasteful competition and to create a standardized, citywide electrical grid. Philadelphia Electric faced enormous challenges in accomplishing this task. At the time of consolidation, the city's many small plants were "equipped with machinery of all sorts," as company historian Nicholas B. Wainwright describes, some of which "supplied direct current and some alternating current, those furnishing alternating current having different voltages and frequencies from their neighbors."<sup>3</sup> Much of this equipment was also soon to be obsolete and insufficient to provide

<sup>3</sup> Wainwright, 70.

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service to an ever expanding customer base, numbering 8,145 by 1900. In order for the Philadelphia Electric to succeed as the city's sole electric utility, therefore, it was imperative to create a more efficient system supplying a uniform current throughout the load area.

Led by Joseph B. McCall, who was elected president of the company in 1899 at the age of 29, Philadelphia Electric quickly adopted a new engineering plan and made great strides at standardizing service, particularly between 1902 and 1907.<sup>4</sup> McCall had apprenticed with entrepreneur Martin Maloney, the primary figure behind an earlier effort at consolidation, and knew intimately the ins and outs of operating a public utility in Philadelphia. One of McCall's most critical efforts toward the goal of standardization after 1899 was the creation of a large centralized plant that would theoretically be able provide all of the electricity that the city needed at a lower cost than the many smaller, less efficient plants. Around 1900, therefore, McCall purchased a large tract of land on Christian Street at the Schuylkill River, and in 1902 began construction on what was planned to be the largest coal-powered central power plant in the world, known as Schuylkill A-1.<sup>5</sup>

Designed under the direction of architect John T. Windrim, the station was capable of generating 81,000 kilowatts, a capacity that few in Philadelphia believed would ever be reached. Within only a few years, however, unrelenting growth in the city's electrical load demanded that the station be expanded with a new section, known as A-2.<sup>6</sup> The enlarged plant would serve a growing number of customers, which had reached 22,973 by 1907, and would satisfy enlarged contracts with the Pennsylvania Railroad. Construction on A-2 began in September of 1913 and was complete by 1915. At this point, the Schuylkill site, now capable of generating 130,000 kilowatts, was developed to its maximum capacity.<sup>7</sup> To satisfy projected growth over the next few years, therefore, an even larger station would be needed.

By 1916, much of the increasing demand on the system came from the area just south of Philadelphia, where the first World War had stimulated the rapid development of industries such as shipbuilding, steel plants, and munitions factories. On Hog Island, in particular, now the site of Philadelphia International Airport, the Emergency Fleet Corporation built a massive shipyard that required a tremendous amount of electricity. The shipyard employed 32,000 people, a number that resulted in a huge expansion in worker housing that further increased demand. As a result, McCall and his chief engineer, William C.L. Eglin, agreed that a major new power station would be required in the city of Chester, Delaware County, to forestall the power shortages that would inevitably occur if nothing were done.<sup>8</sup> Major shortages had already occurred in the load area supplied by Schuylkill A-1 and A-2. Acknowledging the critical need to expand its capacity, the Philadelphia Electric board in September of 1916 authorized the purchase of land and the construction of a new 120,000kw station on the Delaware River in Chester, at a cost of \$5,500,000. Known as the Chester Waterside Station, the plant's first turbine began operating in October of 1918 and the building was largely complete by the

<sup>4</sup> Wainwright, 70; 79.

<sup>5</sup> Wainwright, 73.

<sup>6</sup> Wainwright, 92; 113.

<sup>7</sup> Wainwright, 110.

<sup>8</sup> Matthew Sneddon and Aaron Wunsch, "Chester Waterside Station," Historic American Engineering Record (HAER), No. PA-505, 1998, p. 20.

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following year. Due to its vast size and generating capacity, the company believed that it would satisfy all existing and future demand through 1919.<sup>9</sup>

#### *The Development of the Delaware Station*

After the United States entered the World War I in April 1917, Philadelphia experienced even greater industrial expansion, particularly in the areas of shipbuilding, locomotive manufacture, textiles, and the production of rifles, munitions, and other provisions for combat. So great was Philadelphia's contribution to the war effort, in fact, that the city became known as the "Arsenal of America."<sup>10</sup> This extraordinary growth demanded enormous amounts of electricity, so much, in fact, that the load threatened to overwhelm the Philadelphia Electric system. While the company initially believed that the new Chester station would satisfy all demand through 1919, growth was increasing so rapidly that McCall and Eglin insisted on the construction of yet another large central station to ensure that demand would be satisfied.

Due to the incredible concentration of textile-related industries in the Kensington area of Philadelphia, along with the shipyards and other factories in adjacent Fishtown, a site northeast of Center City along the Delaware River was thought most suitable for expansion. It was there that demand was most acute and there that McCall had already planned on building a central station, as evidenced by his prior purchase of the Beach Street site in 1913. The opening in 1917 of the company's primary coal yard on Petty's Island in the Delaware River, just across from Fishtown's shipyards, also made the Beach Street site a logical choice. Therefore, McCall, with the backing of his board of directors, embarked on the construction of a new central station in Fishtown.<sup>11</sup>

Located just north of Penn Treaty Park, where in 1683 William Penn signed a treaty of peace with the native Lenape tribe, the site of the new central station was formerly occupied by the Neafie & Levy Shipyard, one of Philadelphia's largest shipbuilders of the nineteenth century (the site was also located just south of the famous William Cramp & Sons shipyard). Founded in 1844 as the Penn Steam & Boiler Works, the company initially built only steam engines and boilers, but later expanded to become one of the first iron shipbuilders in the United States.<sup>12</sup> In 1859, the company became Neafie & Levy. After decades of success building ships for commercial trade, the company took on numerous contracts to build destroyers for the U.S. Navy around 1900. The Navy was largely dissatisfied with the ships, however, for which Neafie & Levy had significantly underbid. As a result, the company quickly approached bankruptcy and, in 1908, completed their last ship. The shipyard closed shortly after and the site was sold to the Philadelphia Electric Company in 1913.<sup>13</sup> Although unlikely due to extensive ground disturbance over the decades, if future research reveals individually eligible sites within the property boundary, eligible for their association with the shipbuilding industry or other aspects of history

<sup>9</sup> Wainwright, 130.

<sup>10</sup> Wainwright, 132.

<sup>11</sup> Wainwright, 131.

<sup>12</sup> David B. Tyler. *The American Clyde: A History of Iron and Steel Shipbuilding on the Delaware from 1840 to World War I* (University of Delaware Press, 1958), 7.

<sup>13</sup> Thomas R. Heinrich, *Ships for the Seven Seas: Philadelphia Shipbuilding in the Age of Industrial Capitalism* (Baltimore: Johns Hopkins University Press, 1997), 148-151.

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or Native American culture, those sites will need to be evaluated and nominated individually, as they do not relate to the areas nor periods of significance presented in this nomination.

Like its predecessors, the Schuylkill and Chester stations, the new Delaware Station would be designed by architect John T. Windrim in collaboration with Philadelphia Electric's vice president and chief engineer, William C.L. Eglin. Stone & Webster, a national engineering and construction firm based in Massachusetts, were also hired as the general contractors. Frank N. Kneas, an engineer in Windrim's office, handled the day-to-day supervision of the project. The new station would come at an immense cost of \$24,500,000, the financing of which proved an initially insurmountable hurdle for Philadelphia Electric's President McCall. Although construction of the foundations began in September 1917, work came to a halt within two months due to a lack of funds. Despite Delaware Station's centrality to the war effort and to preventing crippling outages, finding investors during wartime was extremely challenging. Even the federal government declined to provide any financial assistance to Philadelphia Electric for the station's construction.<sup>14</sup>

For the next two years, as the foundations of the new Delaware Station lay unfinished and exposed, electricity demand in Philadelphia continued to soar. Although the new station was initially planned as a means of satisfying electricity loads based on ramped up wartime manufacturing, the war ended sooner than anticipated in November 1918. Despite the unexpected drop off in arms manufacture, the coming "domestic revolution" would continue to strain the system, resulting in frequent power outages. With the proliferation of electrical appliances such as washing machines, refrigerators, irons, and radios, along with rapid housing development and the company's "Wire Your House" campaign, begun in 1916, Philadelphia Electric experienced unprecedented growth in residential service after World War I. By 1918, the company had 103,015 customers, a nearly fivefold increase since 1907. Although the Delaware Station would still be needed to serve the ever-expanding textile district in Kensington, along with expanded Pennsylvania Railroad contracts, its purpose now would be not only to power industry, but also to provide electricity to an ever increasing number of homes.<sup>15</sup>

In order to satisfy the projected peak loads for 1920 based on these new demands, Philadelphia Electric soon realized that it was critical to resume construction of the Delaware Station. In a postwar climate more favorable to investment, McCall had fewer difficulties financing the project this time around. Through the sale of stocks and bonds, the company raised large sums to fund the new station and other work.<sup>16</sup> In September 1919, the Beach Street site was again overtaken by construction workers and cranes in an attempt to get at least half the station, or three turbines, up and running by the end of 1920.<sup>17</sup> Windrim and Eglin designed the station for an ultimate capacity of 180,000kw with six turbine units of 30,000kw each, a capacity 50% greater than its counterpart in Chester. Construction would be split into two roughly equal phases and the six turbines would be added gradually over the next three years. As shown by original plans and several views of the building from 1921, the first phase of construction

<sup>14</sup> Wainwright, 134; 137-140.

<sup>15</sup> Wainwright, 148-150.

<sup>16</sup> Wainwright, 151.

<sup>17</sup> "Delaware Power Station – The Philadelphia Electric Company," *Power* 53.21 (May 24, 1921), 807.



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comprised roughly the south half, including Boiler House No. 1 and half of the planned turbine hall and switch house. The coal tower on Pier 61 and the screen house and pump room were also constructed during the first phase. Although the south half of the turbine hall would ultimately house three turbines, only two were in operation by the end of 1920, one short of the company's goal for that year. Even so, the Delaware Station, at one-third of its planned capacity, provided 25% of Philadelphia's total peak load of 240,000kw for 1921.<sup>18</sup>

Although the Delaware Station kept abreast of demand for 1921, ever expanding industry and housing development meant that the company had no reserves available by 1922, a critically dangerous situation. If a single turbine failed or had to be shut down for maintenance, the remaining generators in the system would not be able to make up the difference, which would result in outages. As a temporary fix, Delaware's third turbine was installed in January of 1922, but more had to be done in order to meet even greater projected peak loads for the following year. The only solution was for Philadelphia Electric to begin construction on the north half of the Delaware Station to get the remaining three generators up and running. Again, the work was financed through the sale of stocks and bonds, and the company resumed work in December of 1922.

By the summer of 1923, all six turbines were in operation and the station employed over 150 engineers, mechanics, and other workers. By this point, the number of Philadelphia Electric's customers had reached an astounding 305,674, nearly three times the figure recorded only five years prior.<sup>19</sup> In 1925, when Philadelphia's peak load reached 387,200kw, the Delaware Station was capable of generating over 46% of the city's electricity when running at its full capacity of 180,000kw, making it the largest power station in the Philadelphia Electric system.<sup>20</sup> The extent to which the station dominated the supply of electricity in the city is shown in a map of Philadelphia Electric's service area published by *Electrical World* in 1924 (Figure 16). In addition to supplying power to over a dozen substations, the map indicates that the plant also had direct connections to large industrial sites such as Cramp's Shipyard, just north of Delaware Station, and the famous Disston Saw Works in the Tacony section of the city. Delaware Station's reach also extended into New Jersey; by 1925, three cables had been placed under the river to connect to a Camden substation of the Public Service Corporation, New Jersey's largest electrical utility.<sup>21</sup>

The Delaware Station reflected an electrical generation process typical of large power plants beginning in the mid-1910s. The first phase of power plants in American cities, appearing between the 1870s and early 1900s, were relatively small and had to be located in downtown areas; because they typically used direct current, their transmission range was very limited. With consolidation and the need to create more uniform electrical grids, however, plants began using alternating current, which had a much greater transmission range. Alternating current allowed larger central plants to be constructed away from the crowded urban core.<sup>22</sup> The Chester and Delaware stations were of the latter type, which began appearing in American

<sup>18</sup> Wainwright, 151.

<sup>19</sup> Wainwright, 150.

<sup>20</sup> L.W.W. Morrow, *Electric Power Stations* (New York: McGraw-Hill, 1927), 4.

<sup>21</sup> "Third Electric Power Line to Camden Nearly Ready," *Philadelphia Inquirer* (April 2, 1915).

<sup>22</sup> Sneddon and Wunsch, HAER, 26-27.

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cities shortly before World War I. Like its counterpart in Chester, the primary functions of the Delaware Station – boiler houses, turbine hall, and switch house – were physically separated into discrete spaces. The process in which these spaces interacted to generate electricity at the Delaware Station is described below:

Coal, which arrived on barges from Petty's Island (the site of the company's primary coal yard), would be lifted by boom hoists on the pier and dropped into the coal tower, where it would be broken down and crushed in preparation for firing. After processing, the coal would be transported on a conveyor (now demolished) to a tower above the storage area between the two boiler houses. Cross conveyors, which extended from both sides of the tower, would deliver the coal to the boiler houses into four bunkers, each of which contained three compartments supplying two boilers each (Figure 14). Once supplied to the boilers, the coal would burn, heating feed water to generate steam. The steam would then be piped in under enormous pressure to power the turbines, which in turn would spin the adjacent generators in order to create electricity. The electricity would then be distributed out through the switch house to substations in the station's load area. Simultaneously during this process, cooling water would be continually pumped in from the river and filtered through the pump house and screen room, then supplied to the condenser units below each turbine (Figure 15). Within the condensers, the steam would be cooled into condensate, which would then be recycled and used again as feed water for the boilers. Excess condensate would be released back into the river beneath the coal pier.

Although the completion of the Delaware Station in 1923 vastly increased Philadelphia Electric's capacity, peak loads in the city continued to grow. In fact, even before Delaware Station came online, Philadelphia Electric began planning an even larger station to keep up with demand. In 1923, the company purchased 64 acres of ground on the Delaware River between Lewis Street and Erie Avenue in the Port Richmond neighborhood, approximately three miles northeast of the Delaware Station.<sup>23</sup> When first announced in 1924, the *Philadelphia Inquirer* hailed what was to be "the world's greatest power station". Although the Richmond Station would function in much the same way as its predecessors, it would be significantly larger with twelve turbines and a total capacity of 600,000kw, or more than three times the size of Delaware Station (the turbines, initially planned for 50,000kw each, were later upgraded to 60,000kw units, bringing the station's planned capacity to an astounding 720,000kw).<sup>24</sup> The new station would also be the most efficient in the Philadelphia Electric system, reducing fuel consumption to the lowest that had been attained up to that time. By the end of 1925, however, when the first of the station's three planned turbine halls had been completed and two of the twelve 50,000kw generators were installed, electricity demand in Philadelphia had finally begun to level off. As a result, construction on the remainder of the station was put on hold, a decision made easier by the fact that Philadelphia Electric's new Conowingo Station, on the Susquehanna River in northeastern Maryland, the company's first hydroelectric plant, would come online by 1928.<sup>25</sup> Although two additional turbines were installed at Richmond in 1935 and 1952, the full plan was never realized. The Delaware Station remained the largest in the Philadelphia Electric system, both in footprint and generating capacity, for years to come.

<sup>23</sup> Wainwright, 152.

<sup>24</sup> "Greatest Power Plant in World to be Built Along Delaware River," *Philadelphia Inquirer* (April 10, 1924).

<sup>25</sup> Wainwright, 190-191.

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In the early 1950s, as Philadelphia's population approached a high of just over 2,000,000, peak loads in Delaware Station's service area began to grow yet again. With a post-war housing boom in Northeast Philadelphia and the nearby suburbs, new capacity was needed. Based on the assumption that population would continue to grow and the demand for electricity would follow, Philadelphia Electric embarked on an ambitious expansion program. The company acquired the former William Cramp & Sons Shipyard just north of Delaware Station, spending \$41,000,000 to build two enormous generator units north of the station, which were capable of 136,000kw each (see Figures 19 & 20). These new generators more than doubled Delaware Station's capacity when they began operating in 1953. Since several of the original turbines and generators had been replaced since 1923, the original building's capacity had increased from 180,000kw to 195,750kw by the early 1950s. With the installation of the new generators, the station's capacity rose to 467,750kw. Philadelphia's peak load for 1953 was 1,873,000kw, meaning that, even with the capacity provided by Conowingo and the upgrades at Richmond Station, the Delaware Station was still capable of supplying 25% of the city's electricity.<sup>26</sup>

Although no expansions occurred after 1953, the Delaware Station continued to power a large portion of Philadelphia over the next several decades. In the 1950s, Boiler House #2 was converted to run on oil rather than less efficient coal. With the development of newer generating technologies such as nuclear power, however, the Delaware Station's dependence on fossil fuels, both coal and oil, meant that it was becoming increasingly inefficient. By 1969, both original Boiler Houses were retired and electricity was no longer generated in the Turbine Hall, leaving only the 1953 expansion in operation. After Philadelphia Electric was acquired by the Exelon company in 2000, the station operated only as needed for periods of increased demand and for load balancing. In 2008, the station ceased to function as a power plant and the large turbines and generators, along with several oil tanks, were demolished soon after (see Figure 21). Although Exelon sold the property to the current owner in 2015, the switch house continues to function as a substation within the Philadelphia Electric system, but will cease operation before the end of 2015.<sup>27</sup>

### *Design and Engineering*

The Delaware Station was designed by the firm of John T. Windrim (1866-1934). Windrim was arguably Philadelphia's preeminent civic architect of the late-nineteenth and early-twentieth centuries. Apart from numerous city commissions for court houses, museums, and other civic buildings, Windrim and his firm designed many large office buildings, banks, hospitals, theaters and private residences for Philadelphia's most prominent companies, institutions, and residents. Some of the firm's most acclaimed Philadelphia work includes the Commonwealth Title & Trust Company Building, a fifteen-story Beaux-Arts style bank and office tower at 1201 Chestnut Street (1901); the Franklin Institute Science Museum, a Classical Revival limestone edifice on Logan Square (1931); and the Lincoln-Liberty Building, an Art Deco high-rise office tower at 1 South Broad Street (1932). "Due to the visibility of his projects," historian Sandra L. Tatman

<sup>26</sup> Philadelphia Electric Company, *Annual Report for the Year 1951*, and Wainwright, 313.

<sup>27</sup> "Programmatic Approach to Retired Power Plants," a presentation prepared by Andrea Danucalov, Exelon Asset Manager, in March 2015.

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writes, "Windrim became the best-known Philadelphia practitioner of the classical revival style often designated as Beaux Arts."<sup>28</sup>

Windrim's first commission from Philadelphia Electric came in 1902 when his firm was hired to design the Schuylkill A-1 station. The firm remained the company's primary architects over the next three decades and, in 1911, Windrim was elected to the company's board of directors. After Schuylkill A-1, Windrim and his associates would design over thirty Philadelphia Electric buildings, including the company's headquarters at 9<sup>th</sup> and Sansom Streets in Center City, the Chester, Delaware and Richmond Stations, and dozens of substations throughout the city and suburbs, many of which remain in service today. The Chester Station was listed individually on the National Register in 2007.<sup>29</sup>

Like most of Windrim's work for Philadelphia Electric, the Delaware Station reflected his expertise in the Beaux Arts style, an architectural language popularized in the United States by the World's Columbian Exposition in Chicago in 1893 and the City Beautiful Movement that followed. After decades of eclectic, revivalist design, Americans around the turn-of-the-century began to display their new economic confidence and with civic, commercial and institutional buildings firmly rooted in the architectural traditions of Ancient Rome.

By applying a highly formal, Classical language to the vast scale of the station, visible for miles up and down the riverfront, Windrim's intent was to create a monument to electricity. The building's impressive scale and formal treatment reflected the essential role that electricity had come to play in the daily lives of Americans, a role that demanded an edifice as grand and noble as any civic or governmental building. But Windrim's design was also meant to shape Philadelphia Electric's public perception, enhancing its corporate identity at a time when the company was coming under increasing scrutiny for overvaluing its assets and overcharging customers, accusations made by Philadelphia's Director of Public Works, Morris Llewellyn Cooke, in 1917. The Beaux Arts style of the building imparted a sense of stability and permanence, however, an image that was meant to overcome these charges and create the impression that Philadelphia Electric's mission, with the public interest in mind, was a noble one.<sup>30</sup>

Compared to Windrim's work on the similarly monumental Chester Station, his application of the Beaux Arts style at the Delaware Station was fairly restrained. The Chester Station is richly articulated with tall pilasters and columns with other Roman motifs found throughout the building. In addition, its more varied palate of materials – limestone features set against a light brown brick wall surface – are more in keeping with the ornate tendencies of the Beaux Arts. While a Classical vocabulary is clearly present at the Delaware Station – its symmetry and tripartite arrangement of rusticated base, shaft, and entablature are hallmarks of the Beaux Arts – its elevations are relatively planar and, beyond the denticulated cornice, lack obvious ornament. Rather, the Delaware Station impresses with its sheer form and massing. That economic and functional considerations took precedent over design suggests that, in a post-war

<sup>28</sup> Sandra L. Tatman and Roger W. Moss, *Biographical Dictionary of Philadelphia Architects: 1700-1930* (Boston: G.K. Hall, 1985), accessed at [www.philadelphiabuildings.org/pab/app/ar\\_display.cfm/21563](http://www.philadelphiabuildings.org/pab/app/ar_display.cfm/21563) on 9/8/15.

<sup>29</sup> Suzanna Barucco, "Chester Waterside Station," National Register of Historic Places Nomination Form, 2007.

<sup>30</sup> Sneddon and Wunsch, HAER, 32.

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climate of exponential growth in electricity demand, the station had to be built as quickly and efficiently as possible. Although a slightly higher level of Classical treatment returned at the Richmond Station in 1925 – that building features a broad pediment over the river-facing switch house, making it appear more like a temple – this later work also employed a concrete structure that demanded a sparer overall appearance.

In its vast size and capacity, the Delaware Station was not unique among electrical power stations in the United States. Other larger stations had come before. Functionally, either, the station operated in the customary way with a three-part arrangement consisting of coal-powered boiler houses, a turbine hall where the electricity was generated, and a switch house from which the electricity was distributed to substations. This process reflected the typical mode of large-scale electrical generation during the early twentieth century. "But in methods of construction, material used and electrical equipment," *Scientific American* proclaimed in 1921, "the plant marks distinct developments of almost incalculable value."<sup>31</sup>

The Delaware Station was likely the first large-scale power plant constructed of reinforced concrete in the United States. Although Windrim and Eglin first designed the station to be constructed of structural steel, which was typical of large central stations at the time, a shortage in steel brought on by wartime manufacturing – largely for ships and munitions – necessitated an innovative structural solution. Rather than delay construction until after the war, Windrim and Eglin completely redrew their plans to reflect a reinforced concrete structure, which at the time was highly unusual due to the unique load requirements of vast central power plants.

During the early twentieth century, reinforced concrete was typically not used in the building of large power stations because ground conditions often were insufficient to support such immense loads. Boiler houses and turbines weighed many thousands of tons, meaning that the only practical construction method was much lighter structural steel. Because the material was not available to them, however, Windrim and Eglin had no choice but to resort to a reinforced concrete system, which would require drilling caissons down to bedrock in order to fully support the building that Philadelphia Electric required. As a result, the goal was to make the building as compact and light as possible to limit difficult and expensive caisson drilling work.

Windrim, Eglin and other engineers made economies wherever possible in order to reduce the building's weight. Although boiler, turbine and crane loads could not be reduced, the pair found success in reducing the size of the coal storage bunkers. Generally, power stations of this size housed between five and six thousand tons of coal in storage bunkers above the boiler houses, but the storage capacity of the Delaware Station would be drastically reduced to only one thousand tons. Philadelphia Electric could afford to make such concessions because of the station's riverfront location, which allowed coal to be stored instead on barges next to the coal tower on Pier 61, and the proximity of the company's primary coal yard on Petty's Island, which ensured a continuous supply of the fuel.<sup>32</sup> Even with the elimination of a huge amount of coal

<sup>31</sup> William A. McGarry, "The Last Word in Power Houses," *Scientific American* (August 6, 1921), 98.

<sup>32</sup> "Compact Reinforced-Concrete Generating Station at Philadelphia," *Electrical World* 77.21 (May 21, 1921), 1145-1146.

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bunker space, however, the Delaware Station still required 28 caissons ranging in diameter from 15 to 18 feet, which were drilled down to bedrock at depths of 40 to 50 feet.<sup>33</sup>

As a result of the limited amount of in-house coal storage, Eglin and his engineers had to design the furnaces in a way that allowed complete economy of fuel consumption. The threat of miners' strikes in Pennsylvania coal country – a particularly disruptive strike occurred in 1919, leading to skyrocketing prices – loomed continually.<sup>34</sup> One way that Eglin sought to reduce the risk of an interruption in the coal supply at Delaware Station was to build the furnaces unusually tall, allowing the coal to burn longer and achieve more thorough combustion than typically achieved. Also of note, Eglin and his engineers designed the furnaces for convertibility from coal to oil or powdered fuel in the event of a coal shortage, ensuring continuity of operation under almost any condition. This feature was particularly important as the quality of coal declined. Convertible furnaces had never before been incorporated into a plant as vast the Delaware Station. With such innovative features, on the completion of the Delaware Station's first phase in 1921, *Electrical World* hailed the furnaces as the "most interesting mechanical feature inside the plant."<sup>35</sup>

When the second and final phase of construction was completed in 1923, the Delaware Station consisted of two large boiler houses with twelve boilers each, a storage area located between the boiler houses, a turbine hall with six 30,000kw turbines, and a switch house from which electricity would be distributed. Hailed by *Scientific American* as "The Last Word in Power Houses," the Delaware Station proved remarkable in its ability to overcome tremendous construction challenges and operating constraints caused by the shortage of structural steel and the great potential for coal shortages.<sup>36</sup>

#### *The Philadelphia Electric Power Stations Today*

All four of Philadelphia Electric's major Philadelphia-area power stations remain standing. Remarkably, the Schuylkill A-1/A-2 Station is still in operation as a cogeneration plant, providing both steam and electricity to customers in the Center City area of Philadelphia. Although the Schuylkill Station was sold to the Trigen-Philadelphia Energy Corporation in 1987, PECO Energy Company (Philadelphia Electric's successor, which is now owned by Exelon), continues to buy back Trigen's electricity as part of a long-term contractual agreement. The Chester Station, which was listed individually on the National Register in 2007, was rehabilitated using the Federal Historic Tax Credit and serves as a model for how large power stations can be adaptively reused. The Richmond Station was closed in 1984 and, like Delaware Station, remains largely abandoned.

<sup>33</sup> "Delaware Power Station – Philadelphia Electric Company," *Power*, 1147.

<sup>34</sup> Wainwright, 153.

<sup>35</sup> "Compact Reinforced-Concrete Generating Station at Philadelphia," *Electrical World*, 1147.

<sup>36</sup> McGarry, 98.

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## 9. Major Bibliographical References

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*Philadelphia Inquirer* (periodical; see footnotes for individual citations)

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### Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested  
 previously listed in the National Register  
 previously determined eligible by the National Register  
 designated a National Historic Landmark  
 recorded by Historic American Buildings Survey # \_\_\_\_\_  
 recorded by Historic American Engineering Record # \_\_\_\_\_  
 recorded by Historic American Landscape Survey # \_\_\_\_\_

### Primary location of additional data:

- State Historic Preservation Office  
 Other State agency  
 Federal agency  
 Local government  
 University  
 Other/Name of repository: PECO Energy Company Archives, Plymouth Meeting, PA

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Historic Resources Survey Number (if assigned): NA

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## 10. Geographical Data

Acreeage of Property ~5.57 acres

Latitude/Longitude Coordinates Datum if other than WGS84: \_\_\_\_\_  
(enter coordinates to 6 decimal places)

- |                               |                              |
|-------------------------------|------------------------------|
| 1. Latitude: <u>39.967641</u> | Longitude: <u>-75.129061</u> |
| 2. Latitude: <u>39.968313</u> | Longitude: <u>-75.127029</u> |
| 3. Latitude: <u>39.965996</u> | Longitude: <u>-75.125325</u> |
| 4. Latitude: <u>39.965255</u> | Longitude: <u>-75.127414</u> |

**Verbal Boundary Description** (Describe the boundaries of the property.)

The boundary of the property is shown as a dotted line on the accompanying map entitled "Site Plan with National Register Boundary" (Figure 2).

**Boundary Justification** (Explain why the boundaries were selected.)

The nominated property follows the original parcel as shown in a 1942 land use map (Figure 17) and a sketch of the parcel from a 1947 zoning permit (Figure 18). No extant historically associated resources from within the period of significance have been excluded. Later resources on adjacent land purchased c.1950 for the plant's expansion post-date the period, and have been largely demolished and removed from the property. That area of post-period expansion has been excluded from the boundary. The boundary follows the bank of the Delaware River except where it extends to include the entire pier structure, including portions of the Pier or Coal Tower that might overhang or extend into the water.

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## 11. Form Prepared By

name/title: Kevin McMahon, Associate organization: Powers & Company, Inc.  
street & number: 1315 Walnut Street, Suite 1717  
city or town: Philadelphia state: PA zip code: 19107  
e-mail: kevin@powersco.net telephone: (215) 636-0192  
date: November 20, 2015

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### Additional Documentation

Submit the following items with the completed form:

- **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

### Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.



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**Photo Log**

Name of Property: The Delaware Station of the Philadelphia Electric Company  
 City or Vicinity: Philadelphia County: Philadelphia State: PA  
 Photographer: Robert Powers  
 Date Photographed: August 2015

Description of Photograph(s) and number, include description of view indicating direction of camera:

<i>Photograph #</i>	<i>Description of Photograph</i>
1.	Switch House, west and south elevations, view NE
2.	Switch House, west elevation, view E
3.	Switch House, north and west elevations, view SE
4.	Boiler House No. 2 and Switch House, north elevations, view S
5.	Boiler House No. 2, east and north elevations, view SW
6.	Boiler Houses and Storage Area, east elevations, view SW
7.	Boiler Houses and Storage Area, east elevations, view W
8.	Boiler Houses and Storage Area, east elevations, view W
9.	Ash Tank, north elevation, view south
10.	Screen House and Pump Room, view SE
11.	Boiler House No. 1, south and east elevations, view NW
12.	Coal Tower and Pier 6, view E
13.	Coal Tower, east elevation, view W
14.	Turbine Hall, basement level, view E
15.	Turbine Hall, basement level, view S
16.	Turbine Hall, basement level, view W to stair
17.	Turbine Hall, basement level, view W
18.	Turbine Hall, basement level, view W to stair
19.	Turbine Hall, basement level, view N
20.	Turbine Hall, operating floor, view S
21.	Turbine Hall, operating floor, view W
22.	Turbine Hall, operating floor, view S in gallery
23.	Turbine Hall, operating floor, view E
24.	Turbine Hall, operating floor, view E
25.	Turbine Hall, operating floor, view SE
26.	Turbine Hall, operating floor, view E
27.	Turbine Hall, operating floor, view NW
28.	Turbine Hall, operating floor, view N in gallery
29.	Boiler House No. 1, view E
30.	Boiler House No. 1, view N in firing aisle
31.	Boiler House No. 1, view N
32.	Storage Area, view N in east corridor
33.	Storage Area, view W into main space from east corridor
34.	Boiler House No. 2, view N
35.	Boiler House No. 2, view S

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<i>Figure #</i>	<i>Description of Figure</i>
1.	Current aerial view with National Register Boundary.
2.	Site Plan with National Register Boundary.
3.	Site Plan with Building Chronology.
4.	Photograph Key – Site.
5.	Photograph Key – 1 <sup>st</sup> Floor (overall).
6.	Photograph Key – Turbine Hall, Basement Level.
7.	Photograph Key – Turbine Hall, Operating Floor (1 <sup>st</sup> Floor).
8.	Bromley Atlas of 1895 showing the Neafie and Levy Shipyard.
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10.	Aerial view showing the first phase of construction, 1921.
11.	Plan showing the completed building, 1923.
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14.	Diagram of the coal handling process.
15.	Diagram of the condensor circulating system.
16.	Map showing Delaware Station connections, 1924.
17.	1942 Philadelphia Land Use Map (shows original parcel).
18.	1947 Sketch of Original Parcel.
19.	Aerial view, 1954.
20.	Aerial view, 1957.
21.	Site plan showing the extent of 2006 demolition.
22.	USGS Map, Philadelphia Quadrangle showing boundary.

**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

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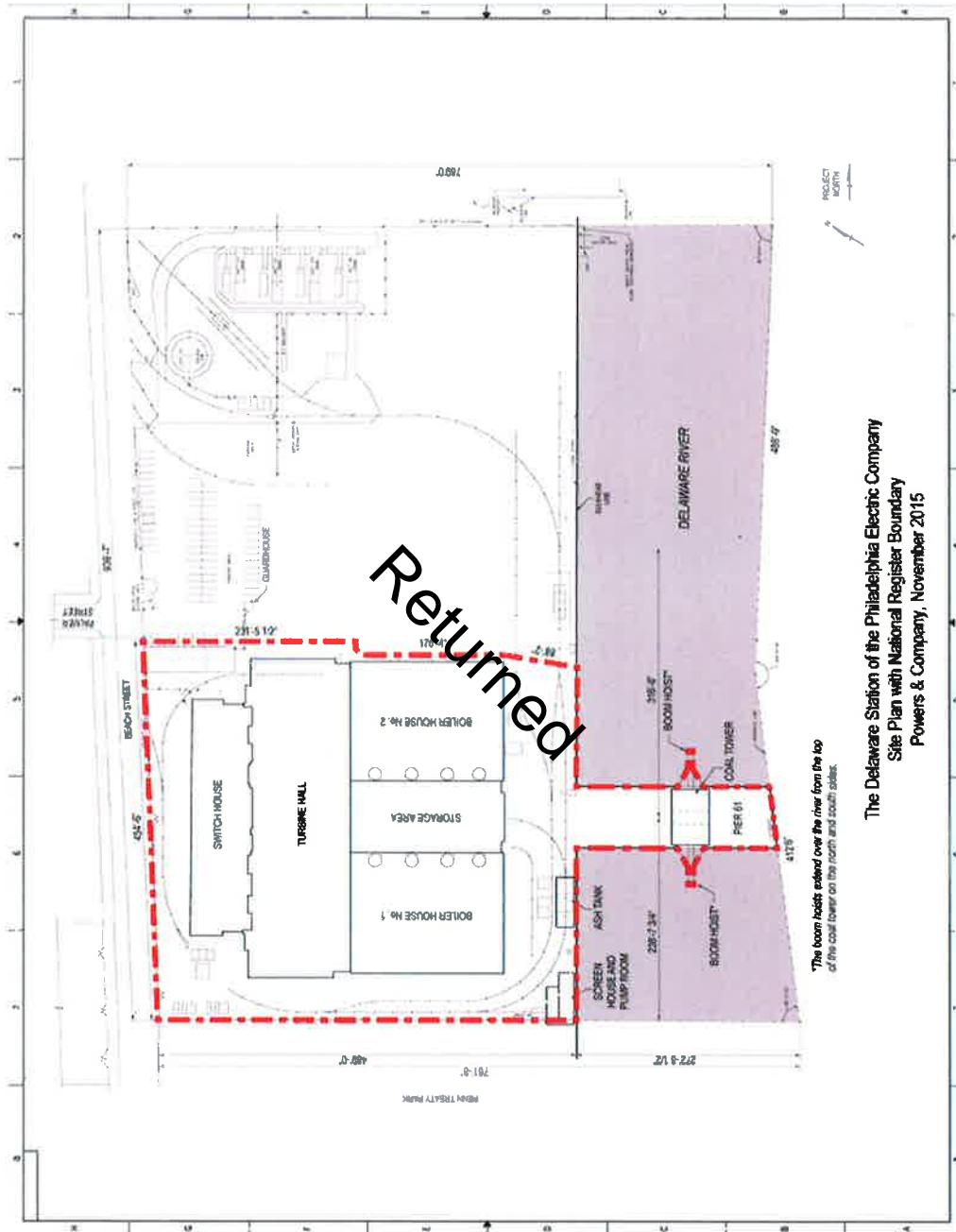
The Delaware Station of the Philadelphia Electric Company  
Aerial View with National Register Boundary (dashed line)  
Powers & Company, November 2015

**Figure 1:** Aerial View (2015) with Nominated Boundary shown as white dashed line. Red line indicates portion purchased for 1950s expansion. The expansion area is excluded from nomination due to integrity loss and limited period of significance. Nominated boundary corresponds to 1942 and 1947 company parcel as shown in Figures 17 and 18.

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**Figure 2: Site Plan with National Register Boundary**

Contributing resources include Power Station (consisting of a Switch House, Turbine Hall, Boiler Houses and Storage Area); Coal Tower; Ash Tank; Screen House and Pump Room; and Pier 61. Guardhouse and remaining equipment, objects such as oil tanks, post-date the period of significance and are excluded from the boundary.

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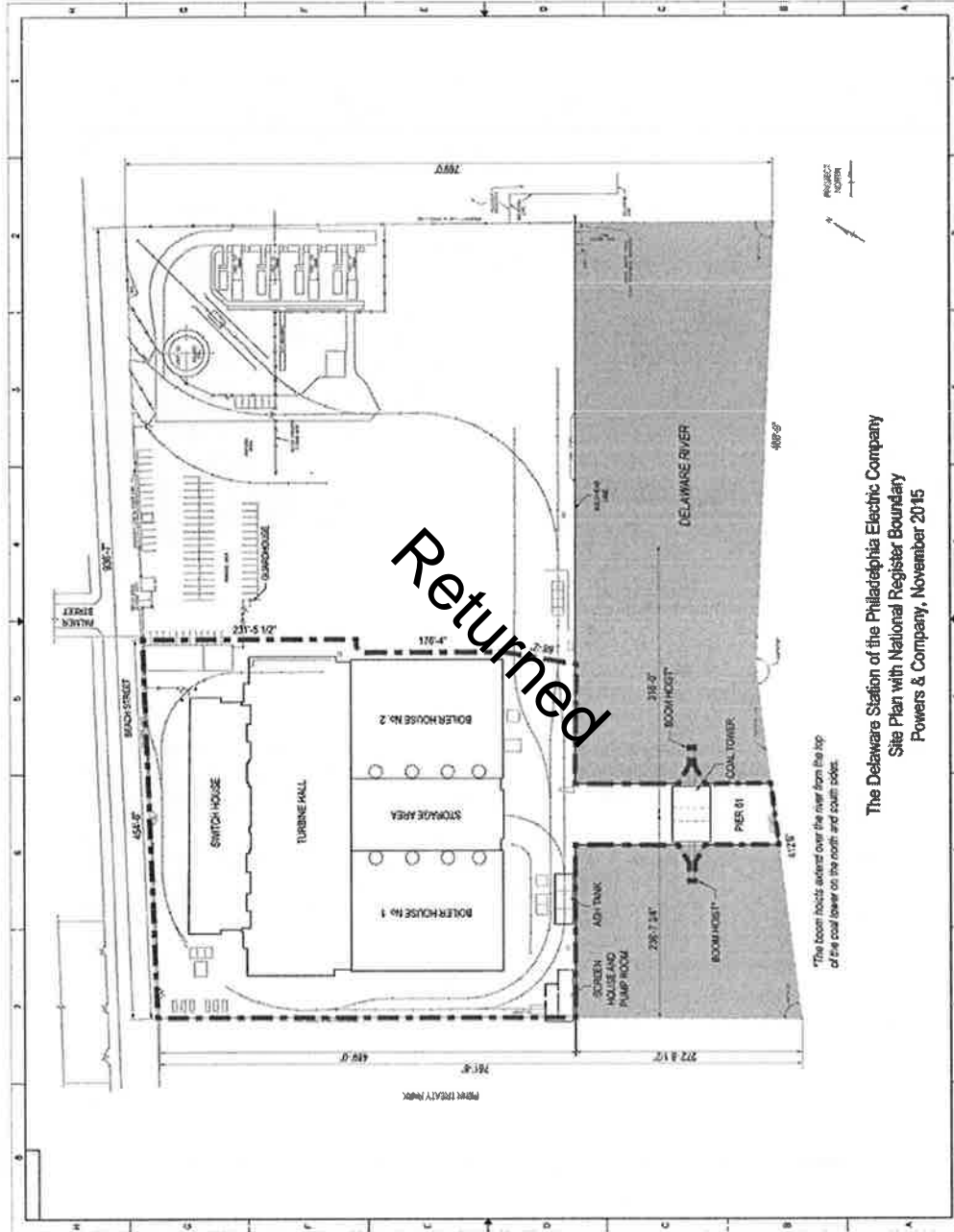


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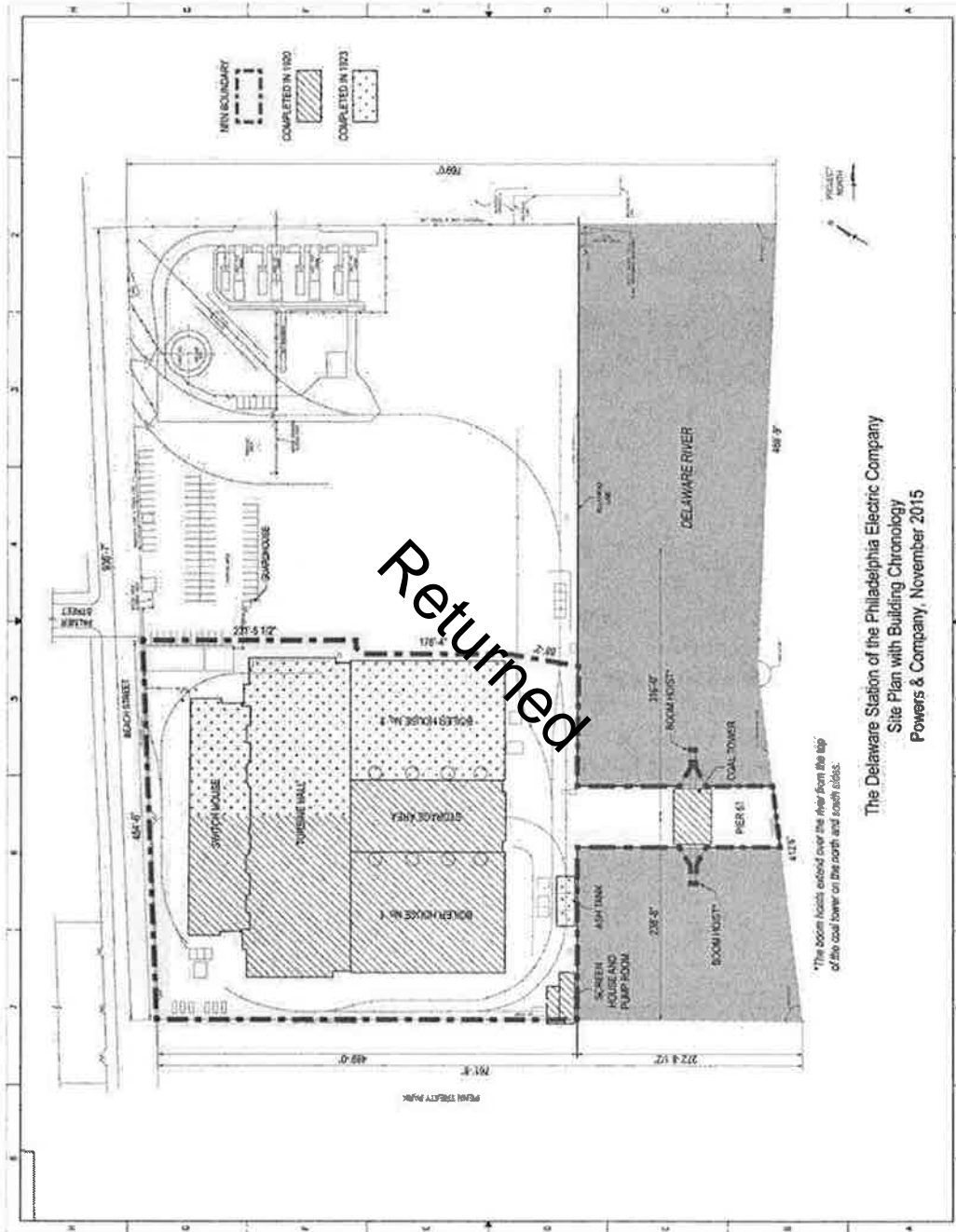


Figure 3: Site Chronology

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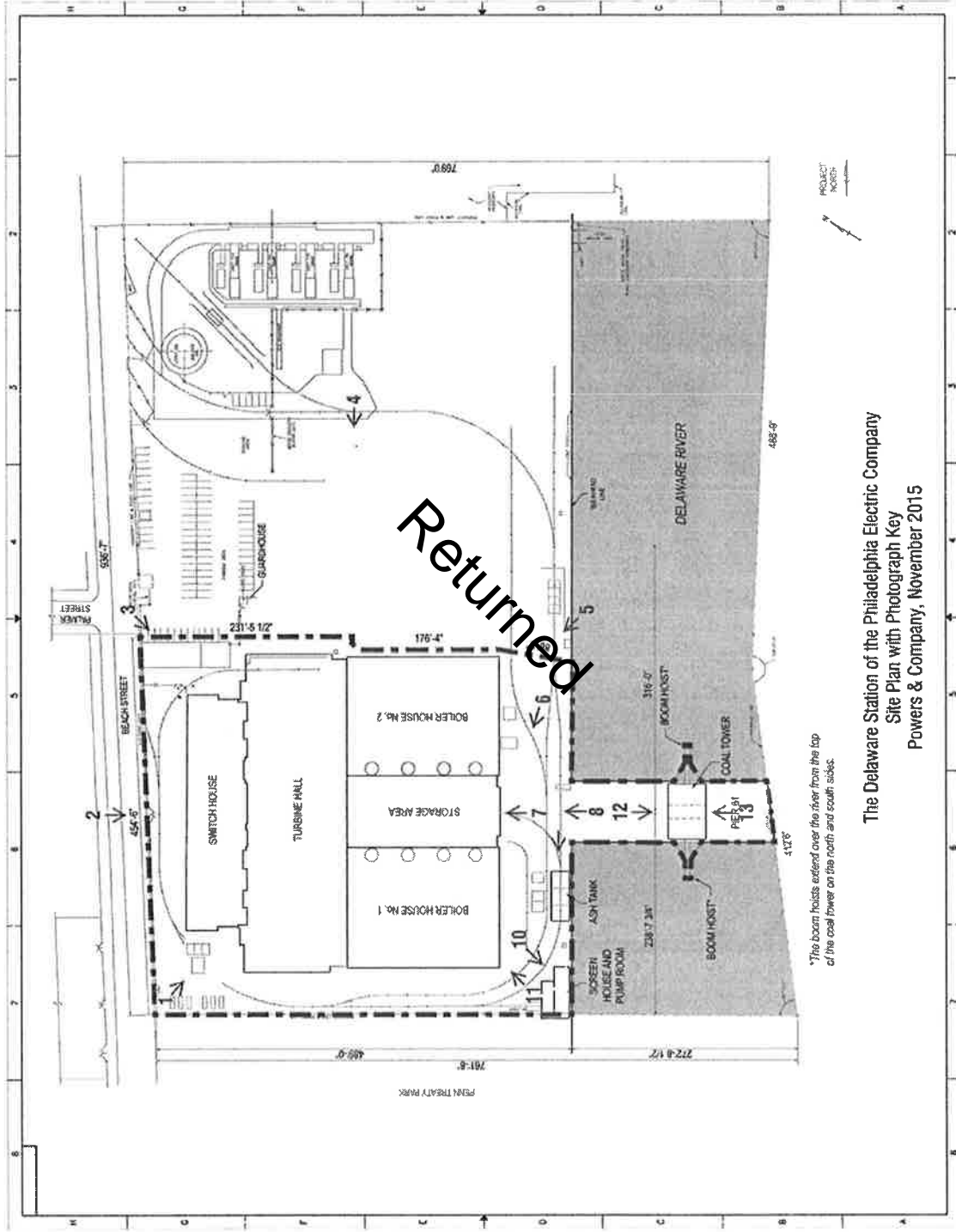
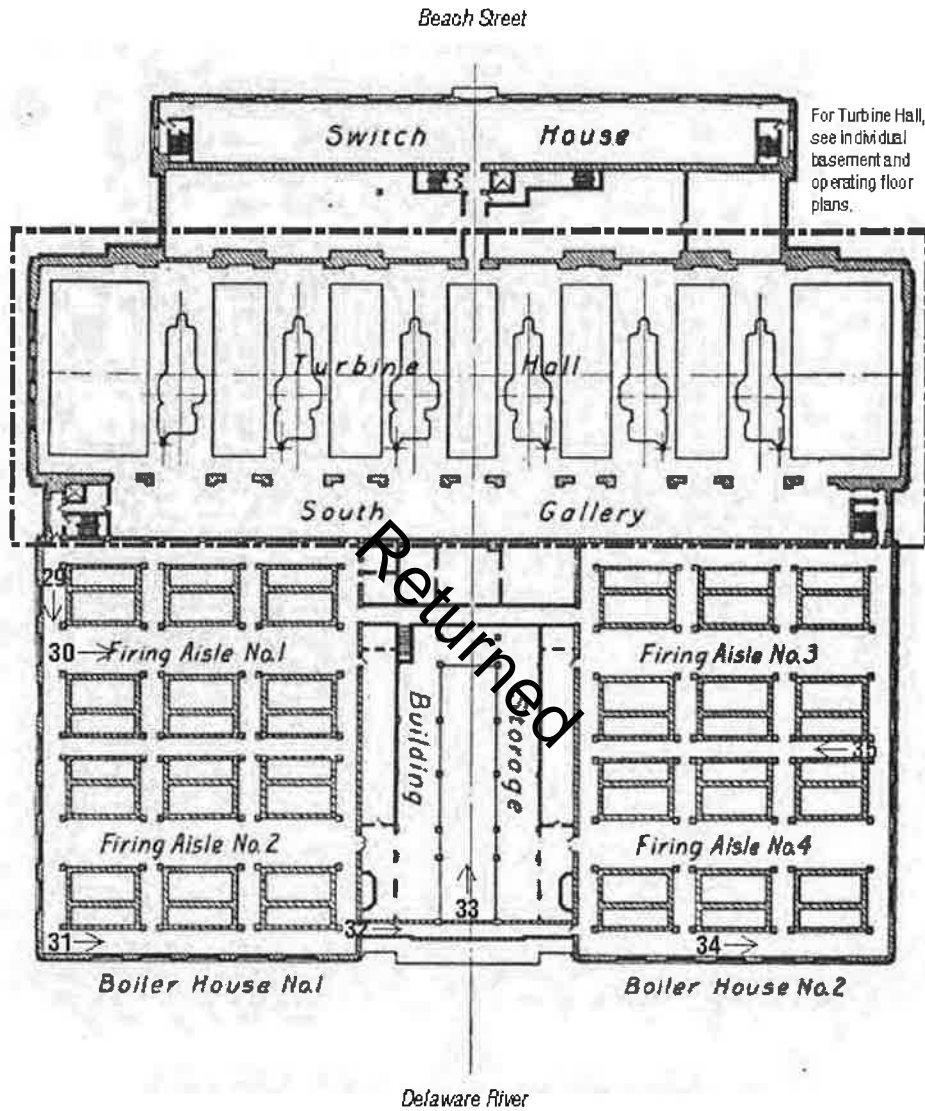


Figure 4: Exterior Photo Key

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The Delaware Station of the Philadelphia Electric Company  
1st Floor Plan with Photograph Key  
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Figure 5: Photo Key, 1<sup>st</sup> Floor

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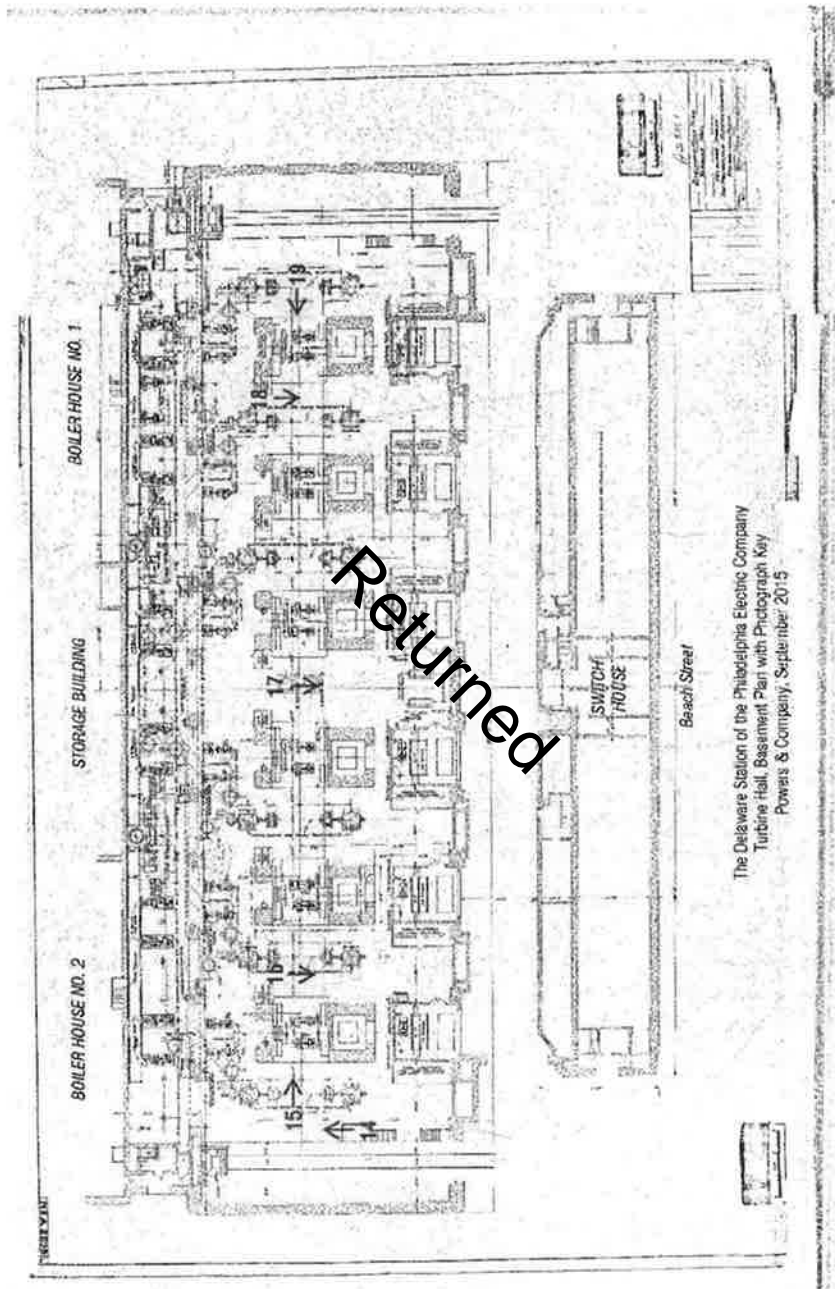


Figure 6: Photo Key, Turbine Hall/Basement Plan

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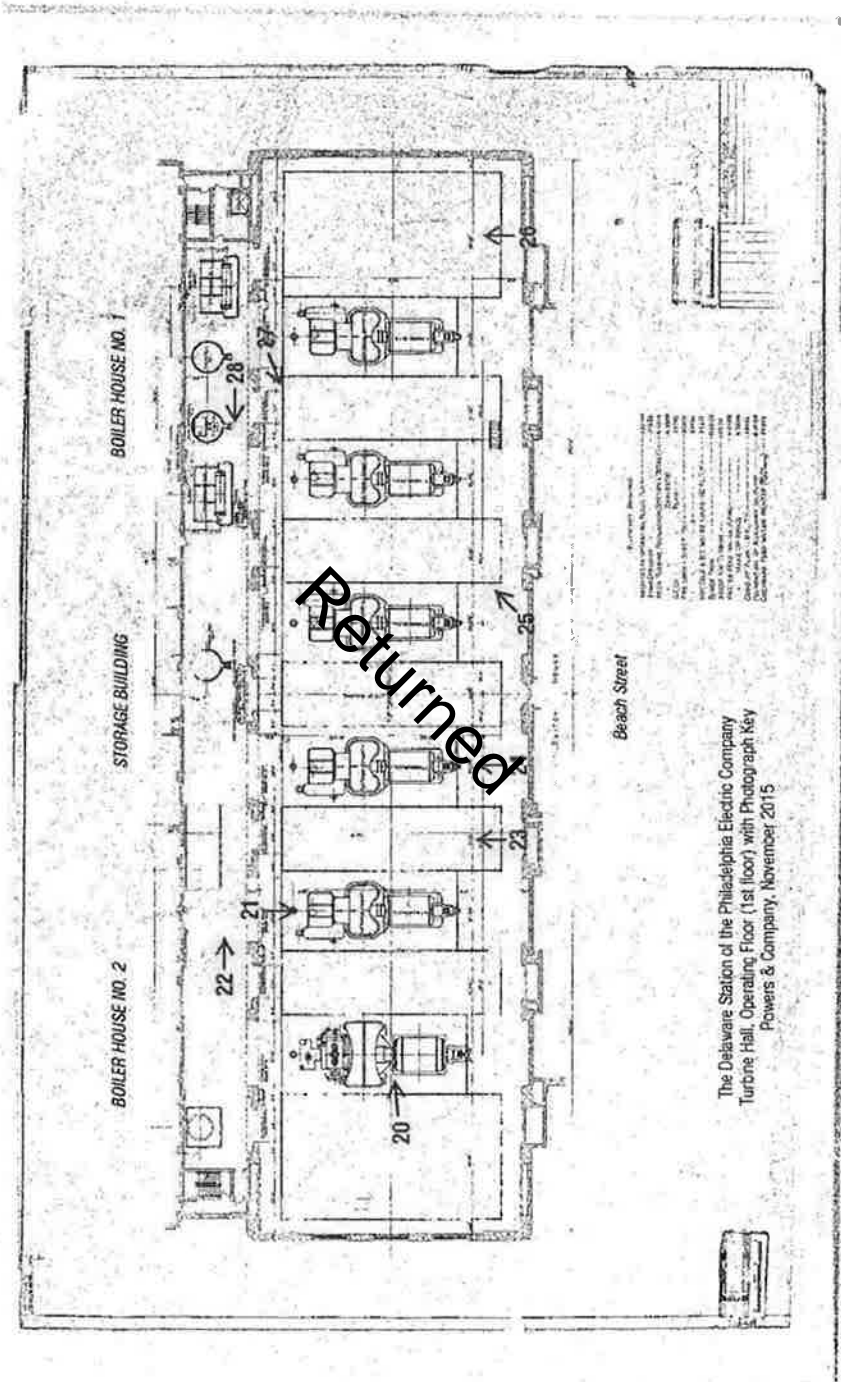


Figure 7: Photo key/Turbine Hall/Operating (1<sup>st</sup>) Floor Plan

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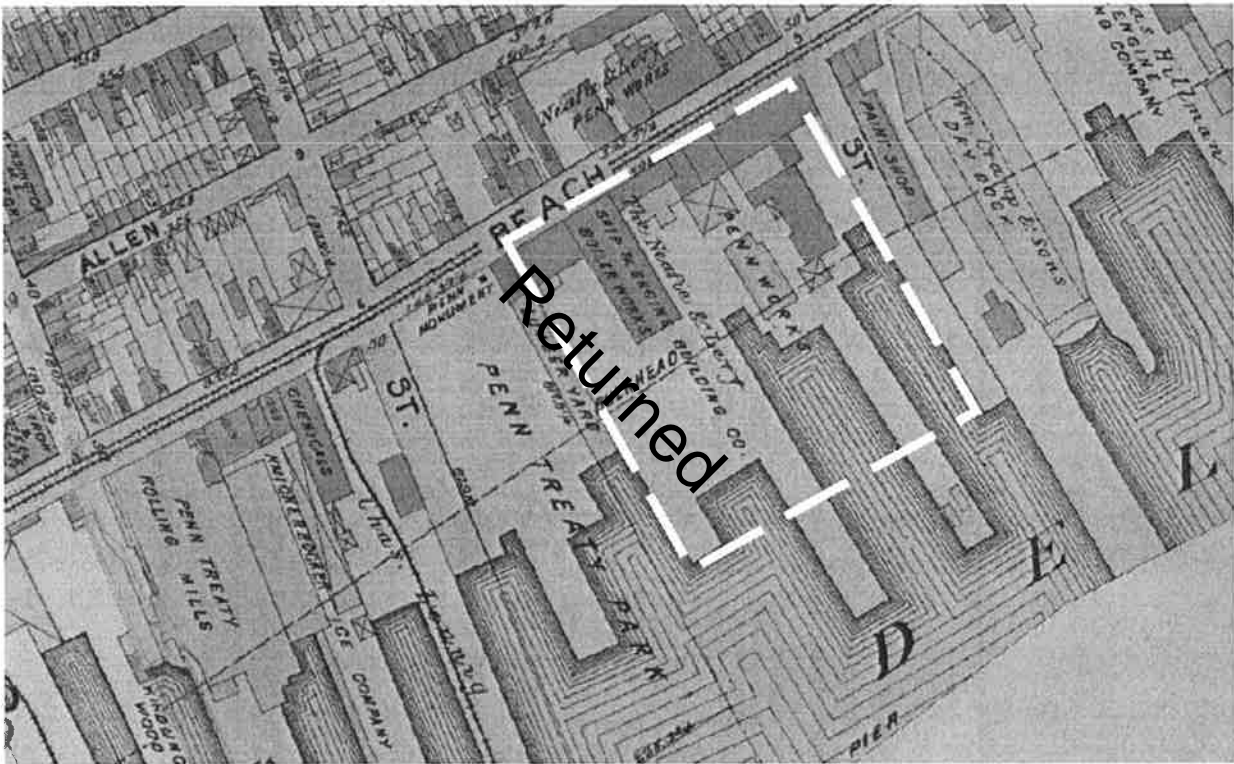


Figure 8 – Bromley Atlas of Philadelphia, 1895, showing the Neafie & Levy Shipyard and approximate location of nominated property in white dashed line.

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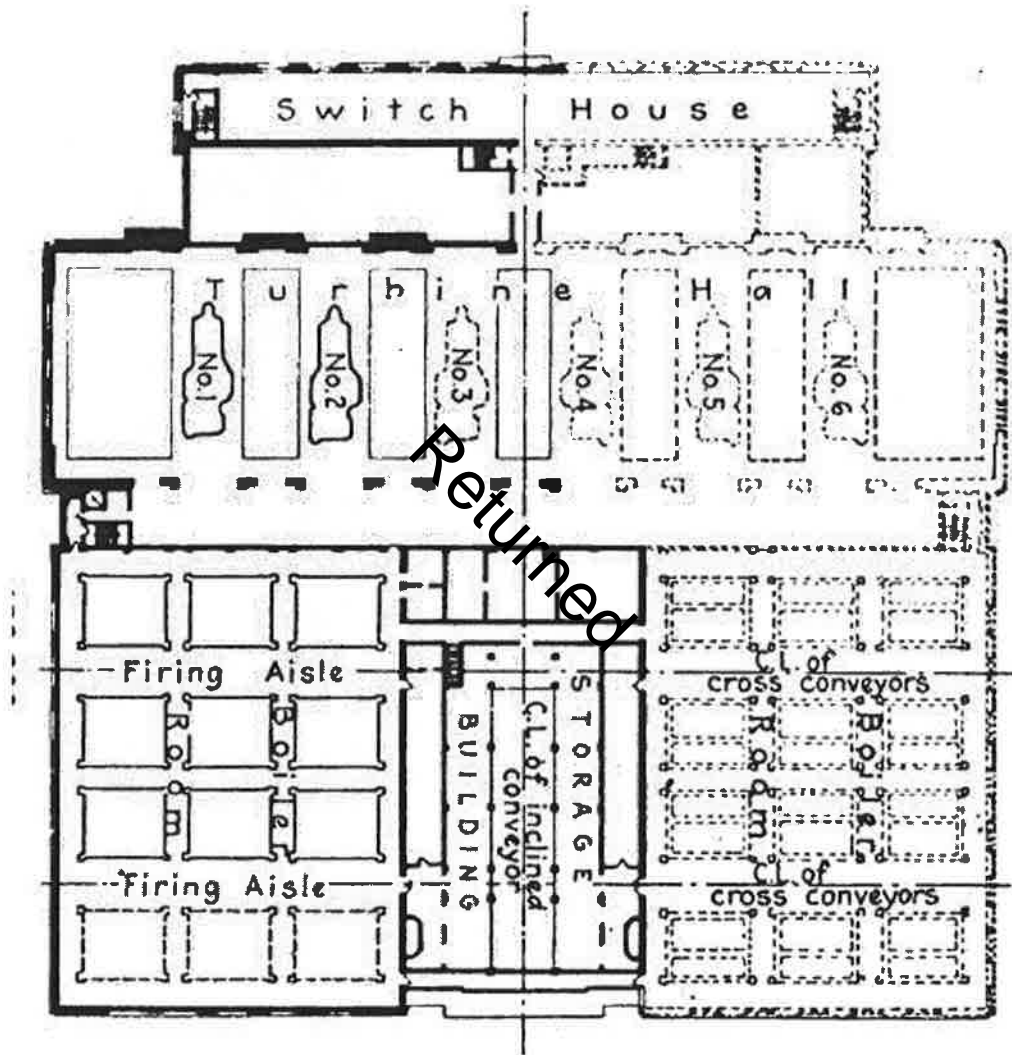
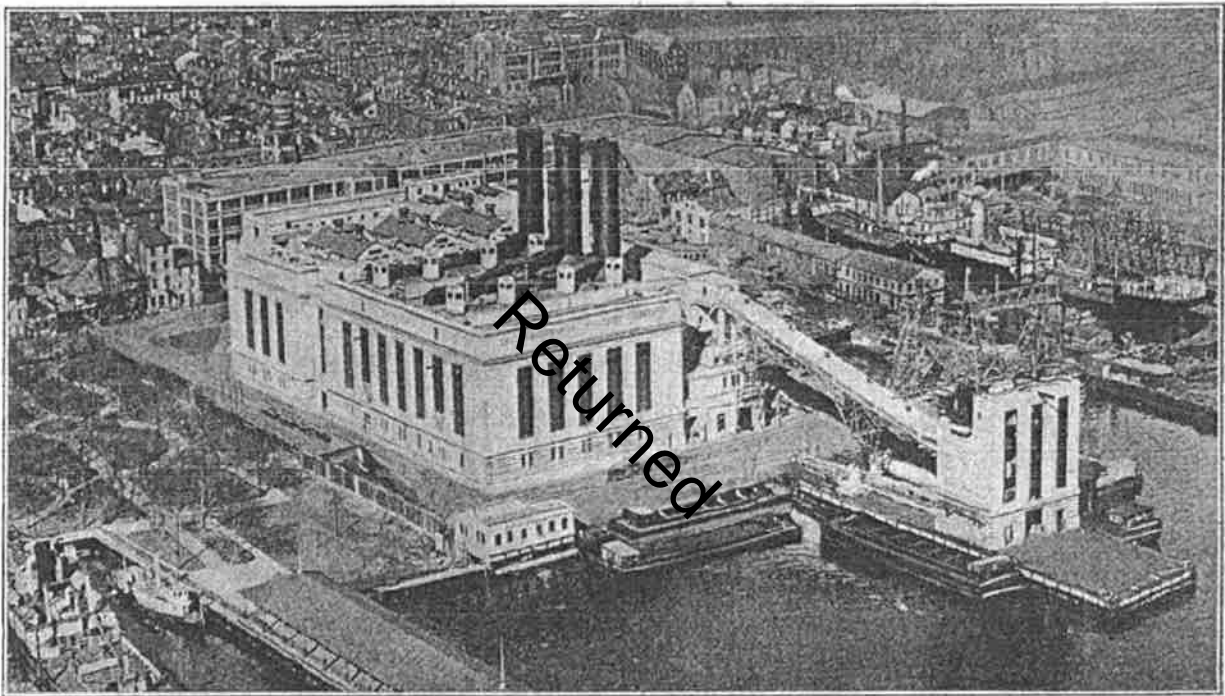


Figure 9 – Plan showing the first phase of construction.  
(from *Electrical World*, May 21, 1921)

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**Figure 10** – Aerial view showing the completion of the first phase in 1921.  
(from *Power*, May 24, 1921)



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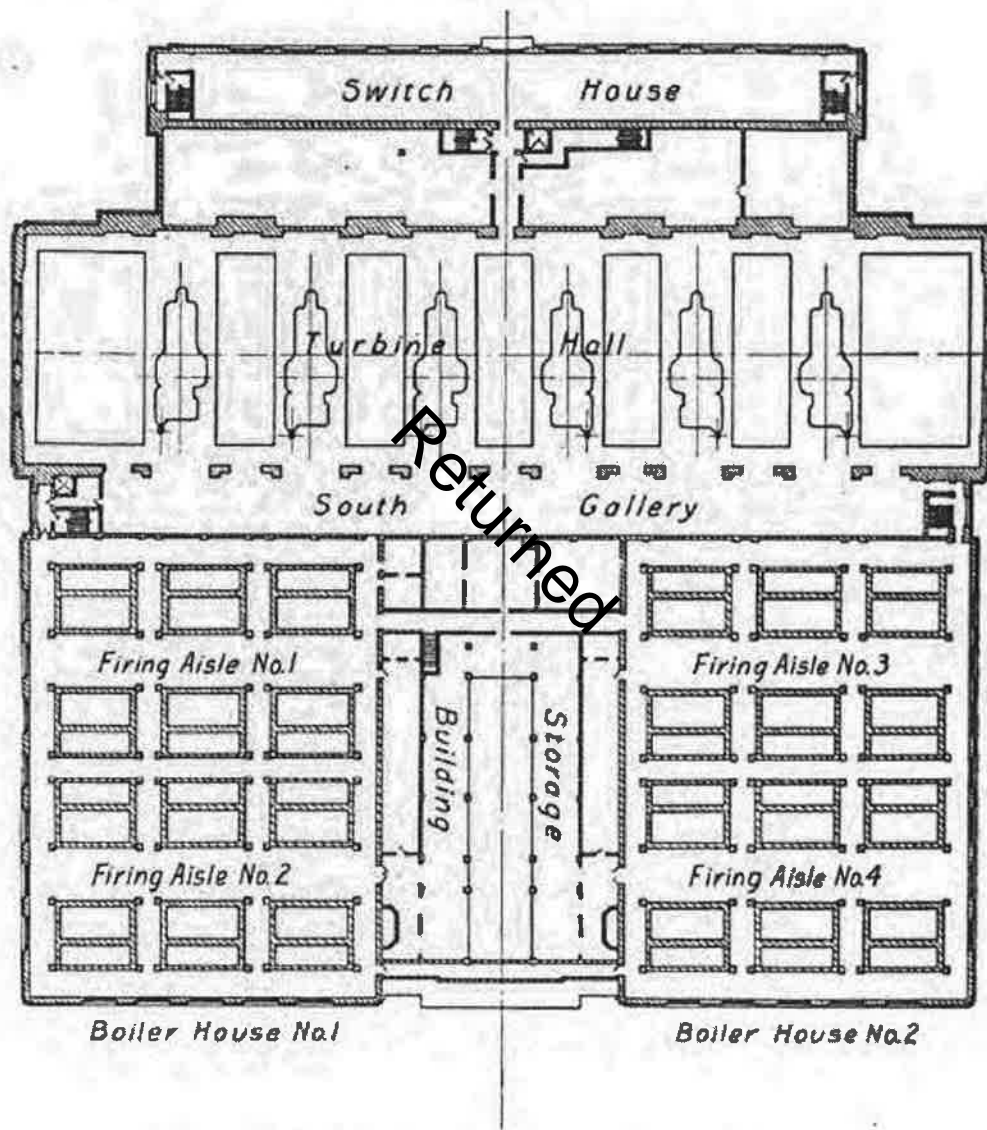
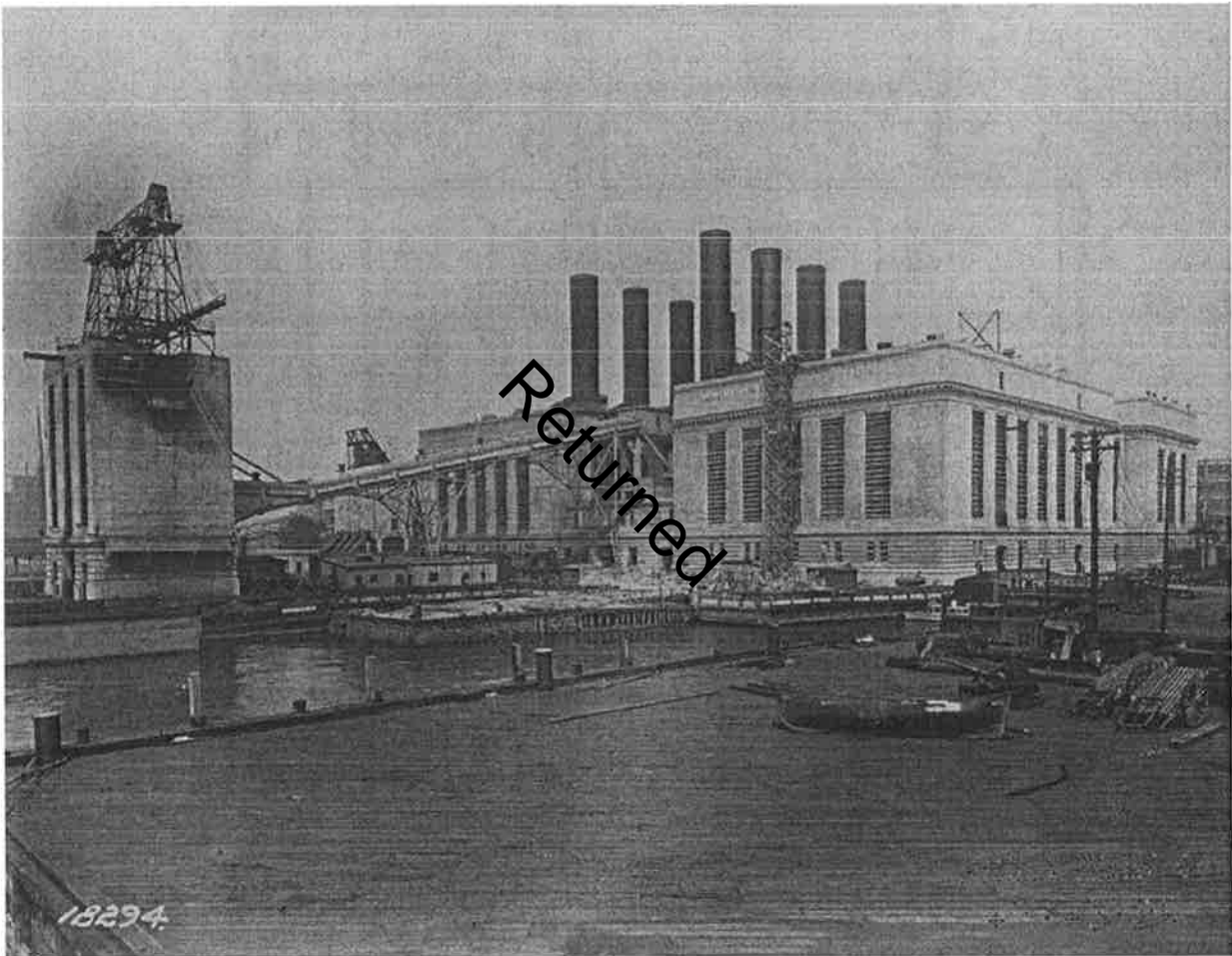


Figure 11 – Plan of the completed building in 1923.  
(from *Modern Steam Power Station Design*, 1921)

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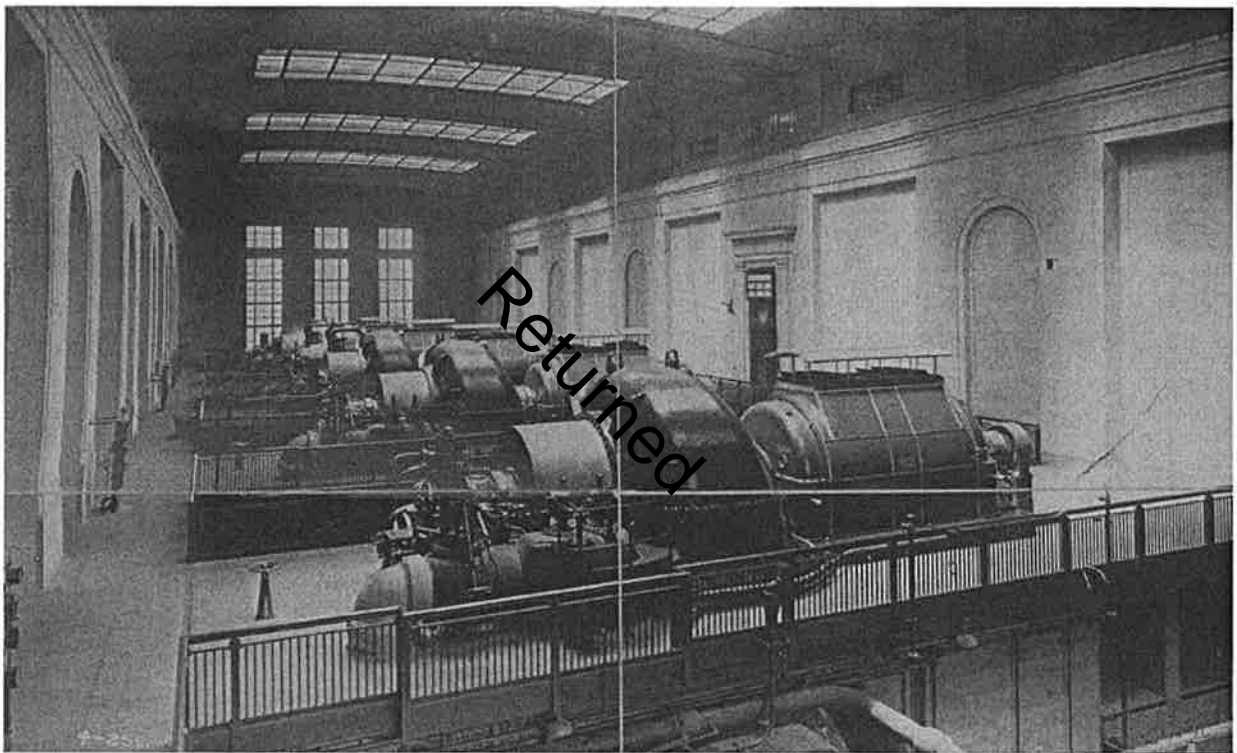
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**Figure 12** – View of the completed building in 1923, looking west.  
(from “Final Report of Construction Work”, Stone and Webster, 1923)

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**Figure 13** – View of Turbine Hall in 1923, looking southwest.  
(from “Final Report of Construction Work”, Stone and Webster, 1923)

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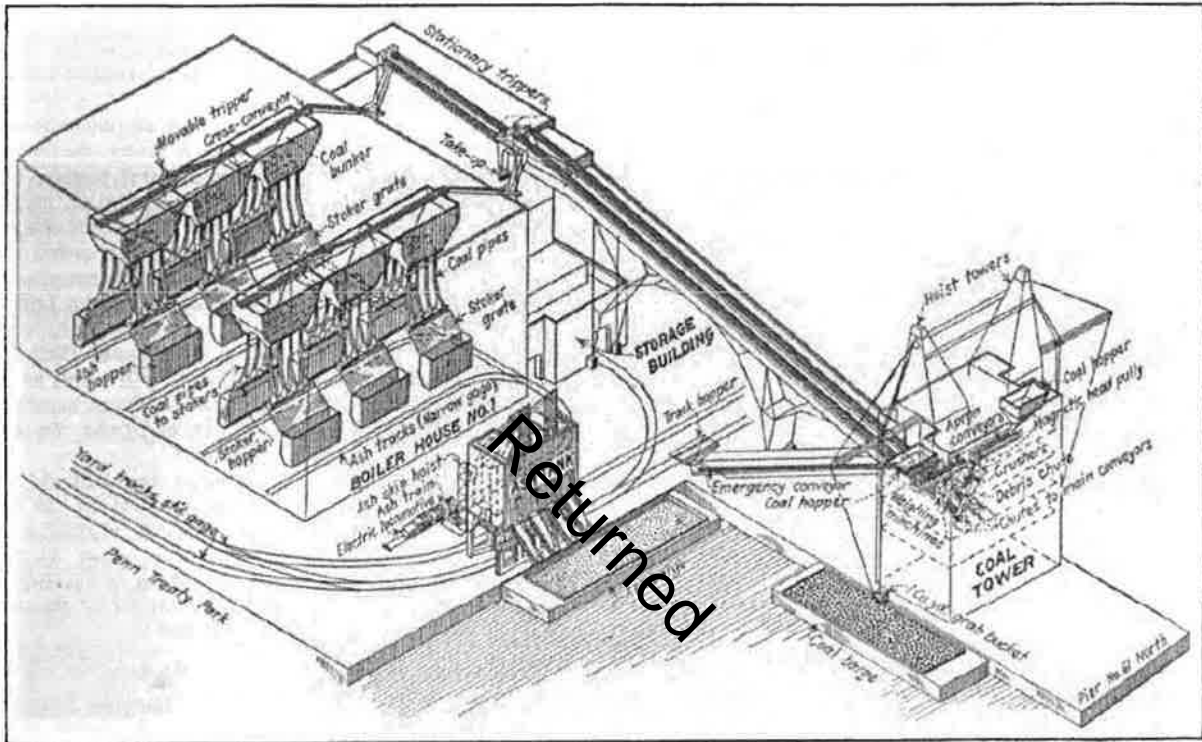


Figure 14 – Diagram of the coal handling process.  
(from *Power*, May 24, 1921)

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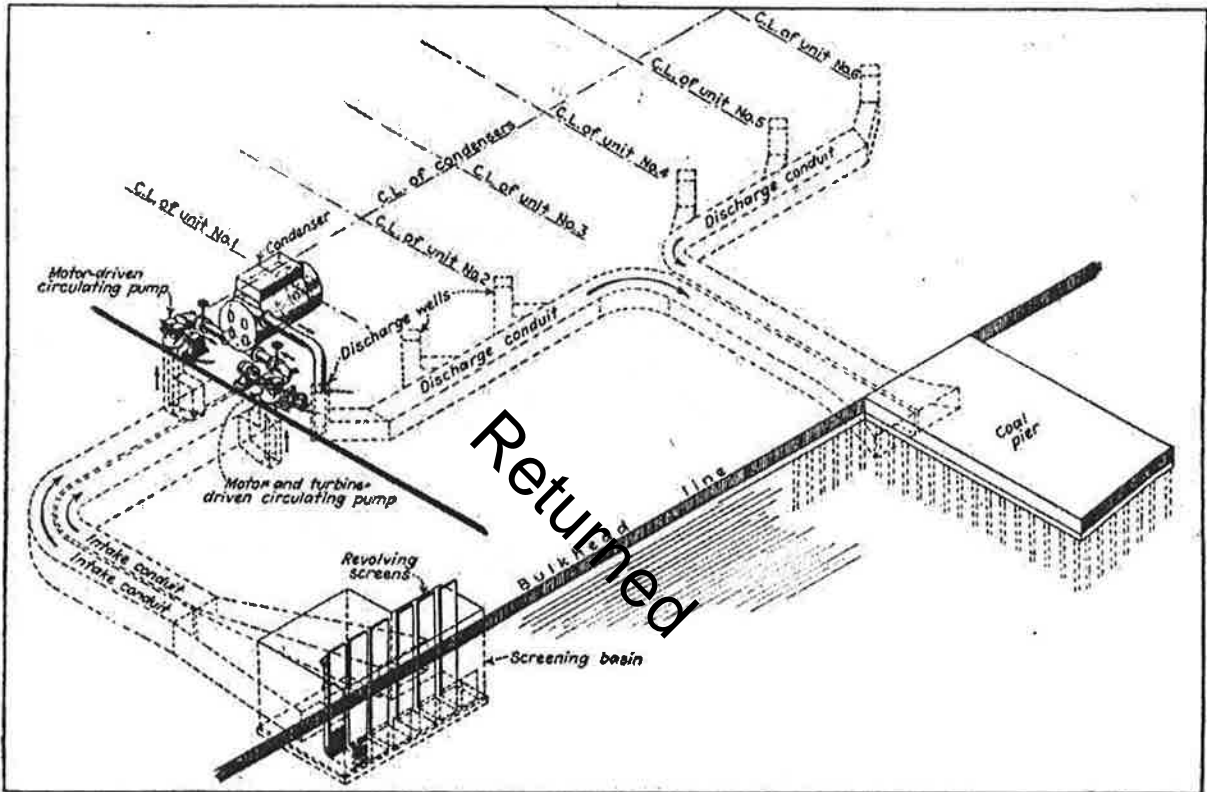


Figure 15 – Diagram of the condenser circulating water system.  
(from *Power*, May 24, 1921)

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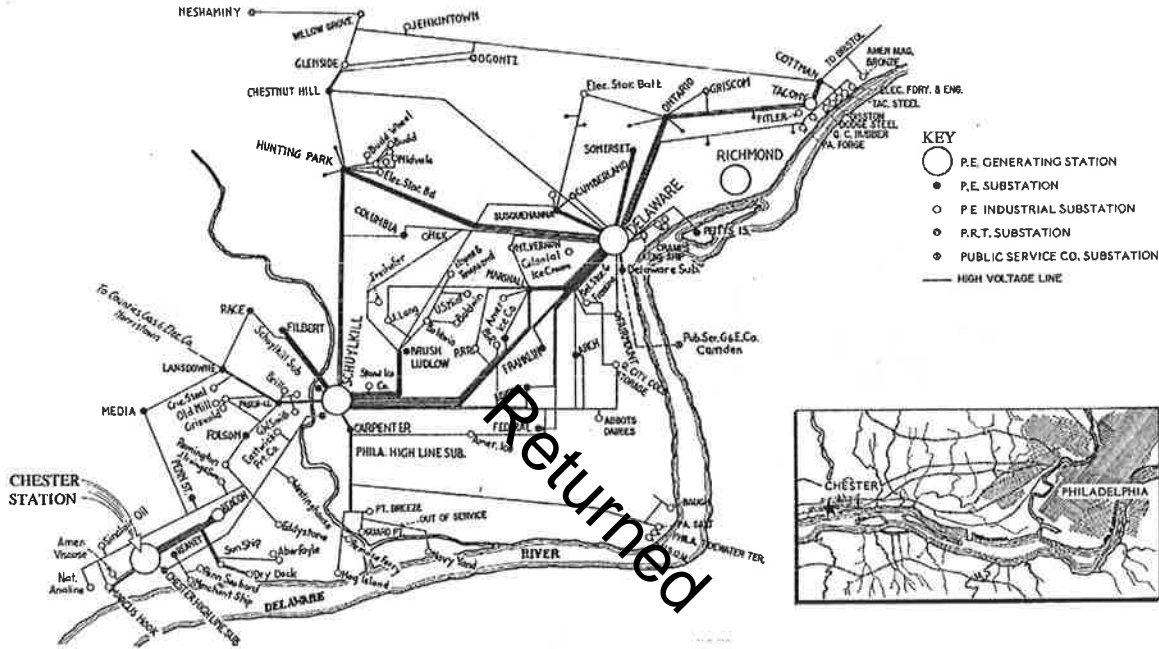
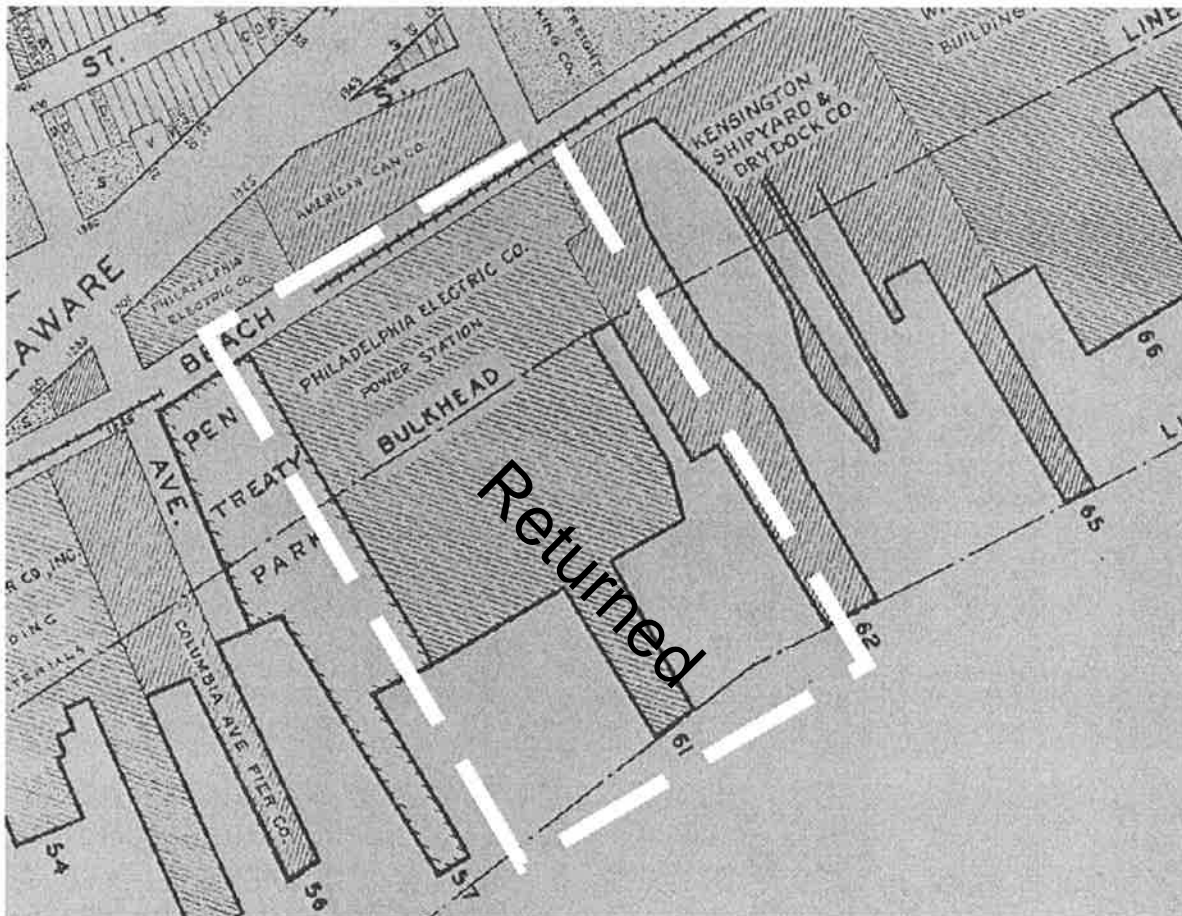


Figure 16 – Map showing Delaware Station’s substation connections.  
(from *Electrical World* 83, no. 19, May 10, 1924)

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Philadelphia County, PA  
County and State



**Figure 17** – Excerpt of 1942 Philadelphia Land Use Map, produced by the Philadelphia Department of Public works with funding from the Works Progress Administration. This map shows the parcel before the 1950s expansion.  
(Atheanaeum of Philadelphia)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

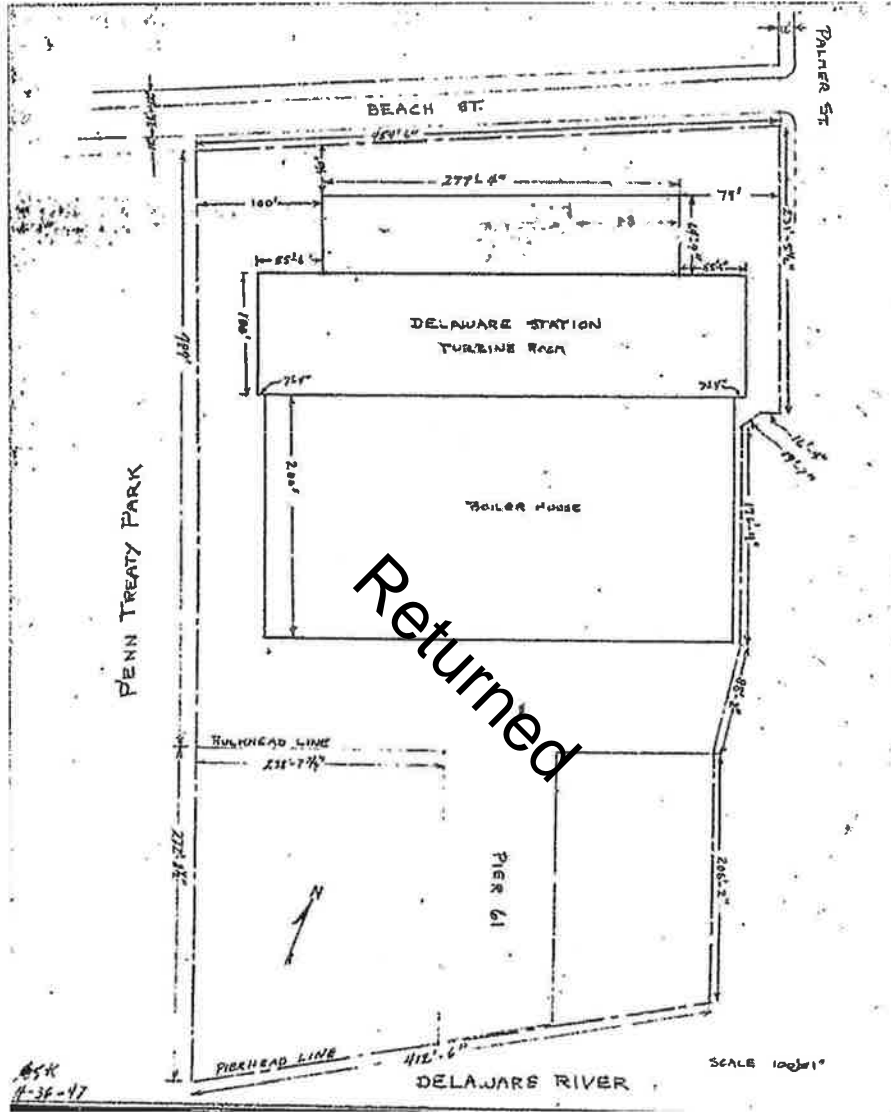
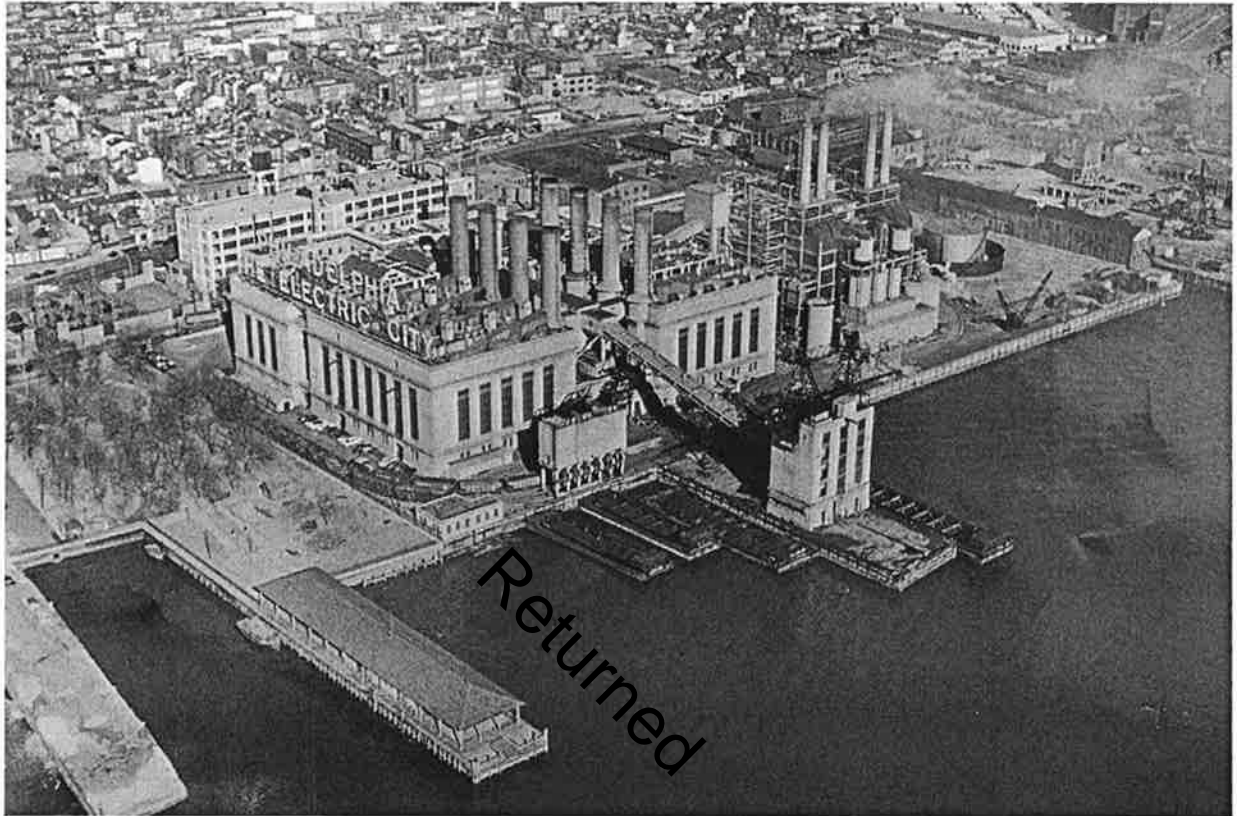


Figure 18 – Sketch of the parcel in 1947 from Philadelphia zoning permit #12858B (12/9/1948). The NRN Boundary matches the parcel as shown in this image. (From Zoning Archive Online: <http://www.phila.gov/zoningarchive>)



The Delaware Station of the Philadelphia Electric Company  
Name of Property

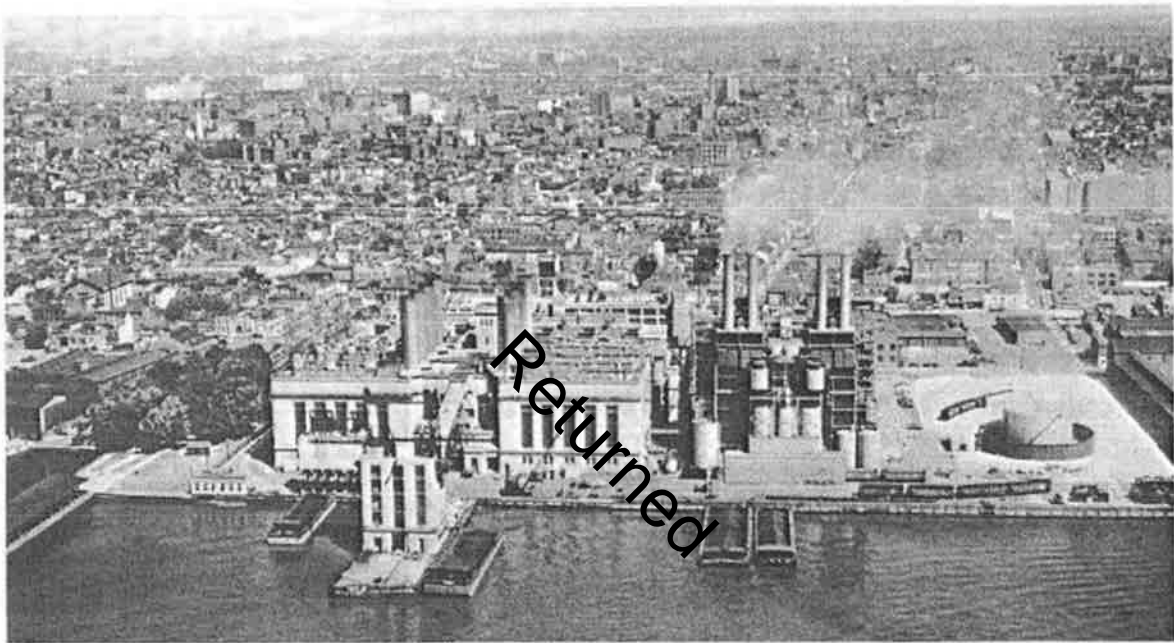
Philadelphia County, PA  
County and State



**Figure 19** – Aerial view, 1954.

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



**Figure 20** – Aerial view, 1957  
(From Wainwright, *History of the Philadelphia Electric Company*)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State

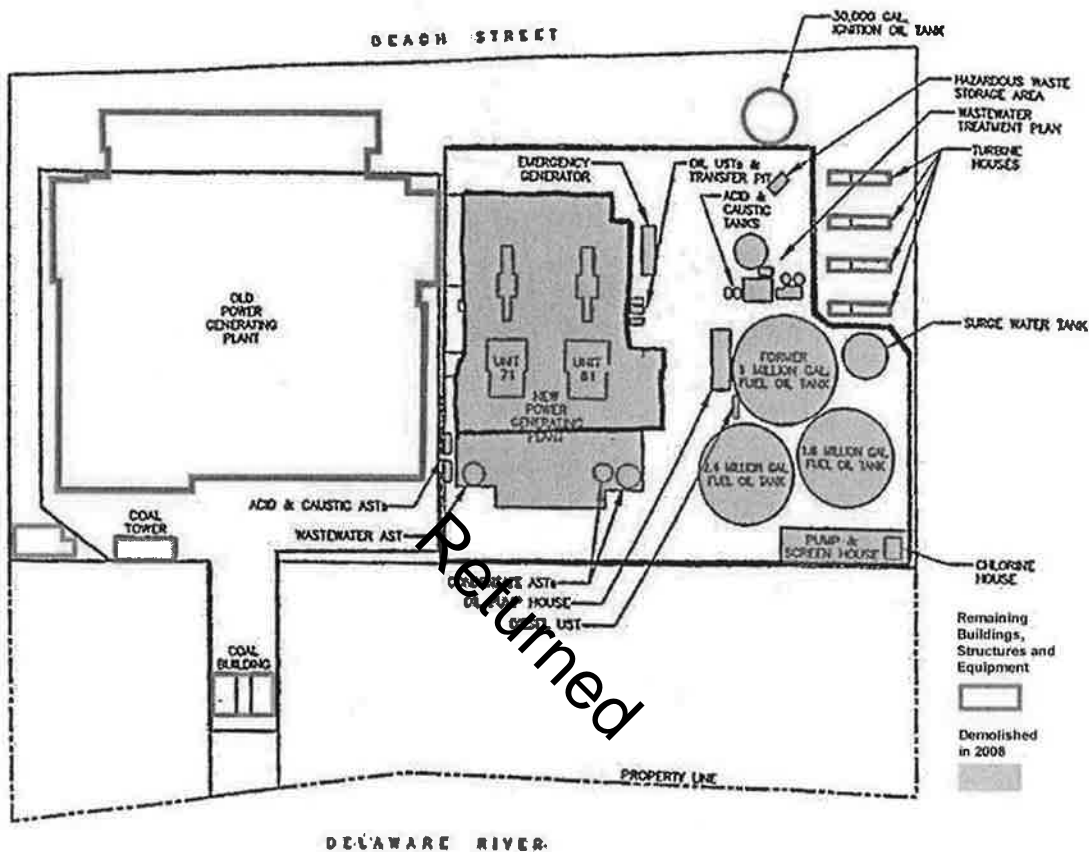
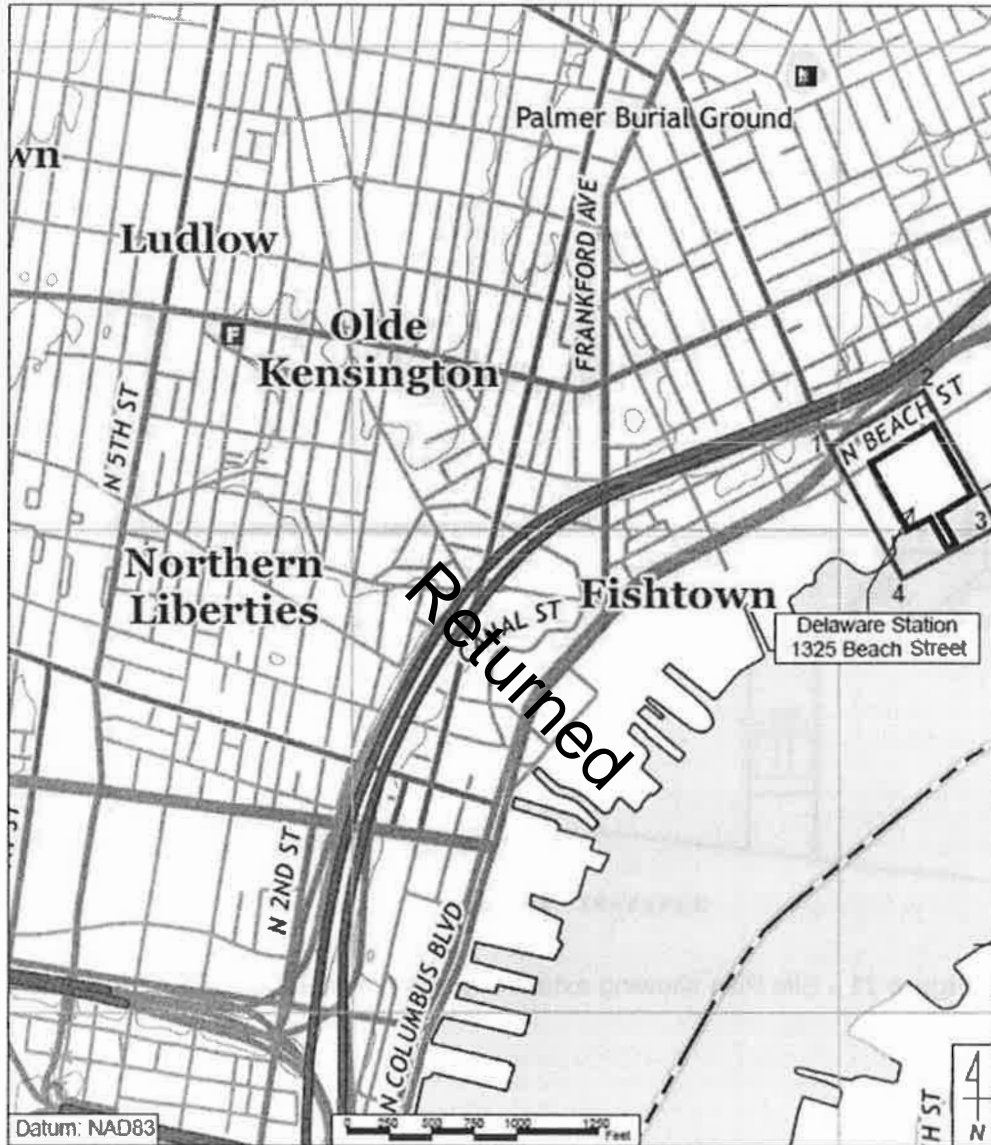


Figure 21 – Site Plan showing extent of demolition in 2008 (URS Corporation)

The Delaware Station of the Philadelphia Electric Company  
Name of Property

Philadelphia County, PA  
County and State



USGS Map - Philadelphia Quadrangle, Pennsylvania-New Jersey (2013)

Delaware Station of the Philadelphia Electric Company  
1325 Beach Street, Philadelphia, PA

Latitude, Longitude
1. 39.967641, -75.129061
2. 39.968313, -75.127029
3. 39.965996, -75.125325
4. 39.965255, -75.127414

Figure 22: USGS Map, Philadelphia quadrangle.



# United States Department of the Interior

NATIONAL PARK SERVICE  
1849 C Street, N.W.  
Washington, DC 20240

IN REPLY REFER TO:

## United States Department of the Interior National Park Service

### National Register of Historic Places Evaluation/Return Sheet

Property Name: The Delaware Station of the Philadelphia Electric Company  
State and County: PENNSYLVANIA, Philadelphia  
Reference Number: 16000427

#### Reason for Return:

The nomination is being returned because of problems with the defined boundary and the resource classification of Pier 61 (upon which sits a five-story coal tower). In Section 7 page 3 of the National Register nomination form, Pier 61 is described as "an uncounted landscape feature." Pier 61 is not a landscape feature, but rather it is a structure and because it is substantial in size it should be counted. The coal tower which sits on the pier is counted as contributing, so it seems logical that the pier would also be considered contributing. Please reclassify the pier and change the resource count.

The boundary of the nominated property is drawn to include a portion of the Delaware River. The boundary justification does not explain why the river is included. Please redraw to boundary to follow the outline of Pier 61 and to exclude from the boundary the section of the river which does not include contributing properties. Please provide a new boundary map showing the altered boundary.

Patrick Andrus, Historian  
National Register of Historic Places  
[patrick\\_andrus@nps.gov](mailto:patrick_andrus@nps.gov)  
7/05/2016



Andrus, Patrick &lt;patrick\_andrus@nps.gov&gt;

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**Returned nomination**

3 messages

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**Andrus, Patrick** <patrick\_andrus@nps.gov>  
To: "Frantz, April" <afrantz@pa.gov>

Wed, Jul 6, 2016 at 9:46 AM

Hi April: as we discussed, attached is the Return Sheet for the Delaware Station of the Philadelphia Electric Company. Please let me know if you have any questions.

Regards,

Patrick

--  
Patrick Andrus, Historian  
National Register of Historic Places  
National Park Service  
(202) 354-2218  
patrick\_andrus@nps.gov

---

 **DEStation.pdf**  
56K

---

**Frantz, April** <afrantz@pa.gov>  
To: "Andrus, Patrick" <patrick\_andrus@nps.gov>

Thu, Jul 7, 2016 at 9:18 AM

Thanks, Patrick—The preparer is proceeding with corrections full-steam-ahead.

When we return this, should the cover letter and envelope be addressed directly to you, or to Stephanie Toothman? And, I'm assuming I'll need to include a new signed first page of the nomination, associated letters of support, and both a CD with photos and CD with nomination pdf? Or, just the CD with the nomination pdf, and the photos and letters are already on file?

Thanks again for your help—April

**April E. Frantz** | National Register Reviewer/Eastern Region  
PA State Historic Preservation Office  
400 North Street | Harrisburg, PA 17120-0093  
717.783.9922 | afrantz@pa.gov

[www.phinc.pa.gov/Preservation](http://www.phinc.pa.gov/Preservation)

Visit our Pennsylvania Historic Preservation Office Blog at <http://pahistoricpreservation.com/>

Please take a few minutes to complete the 'Community Connections: Planning for Preservation in Pennsylvania' survey and help us develop Pennsylvania's next statewide historic preservation plan. And share the link with others who care about Pennsylvania's cultural resources!

**From:** Andrus, Patrick [mailto:patrick\_andrus@nps.gov]  
**Sent:** Wednesday, July 06, 2016 9:46 AM  
**To:** Frantz, April  
**Subject:** Returned nomination

[Quoted text hidden]

---

**Andrus, Patrick** <patrick\_andrus@nps.gov>  
To: "Frantz, April" <afrantz@pa.gov>

Thu, Jul 7, 2016 at 9:33 AM

Hi April: Just the cd with the nomination pdf will suffice. We have digitized the photos and letters.

Patrick

[Quoted text hidden]

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES  
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY NAME: Delaware Station of the Philadelphia Electric Company, The

MULTIPLE NAME:

STATE & COUNTY: PENNSYLVANIA, Philadelphia

DATE RECEIVED: 5/20/16 DATE OF PENDING LIST: 6/02/16  
DATE OF 16TH DAY: 6/17/16 DATE OF 45TH DAY: 7/05/16  
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 16000427

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N  
OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: N  
REQUEST: N SAMPLE: N SLR DRAFT: N NATIONAL: N

COMMENT WAIVER: N

ACCEPT  RETURN  REJECT 7/5/2016 DATE

ABSTRACT/SUMMARY COMMENTS:

See attached Return Sheet for detailed comment.

RECOM./CRITERIA Return  
REVIEWER Patrick Andrus DISCIPLINE Historian  
TELEPHONE \_\_\_\_\_ DATE 7/5/2016

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.





Andrus, Patrick &lt;patrick\_andrus@nps.gov&gt;

---

**delaware station return nomination**

2 messages

**Frantz, April** <afrantz@pa.gov>

Thu, Jul 14, 2016 at 4:30 PM

To: "Patrick Andrus (patrick\_andrus@nps.gov)" &lt;patrick\_andrus@nps.gov&gt;

Hi Patrick—

Just a heads-up that we're returning a revised version of the Delaware Station property (changed status of pier, adjusted boundary), and it's on the way to you via UPS in a packet that includes some new nominations, and a clarification/correction to an already-listed nomination. The Delaware Station CD and cover letter are in an individual envelope inside the packet; the envelope is marked "Attn Patrick Andrus" so hopefully it won't get mixed up with the new noms.

Every day in the NR office must be just like Christmas, with so many fun things arriving from all across the country . . . .  
..

Hope you're staying cool!—April

**April E. Frantz** | National Register Reviewer/Eastern Region  
PA State Historic Preservation Office  
400 North Street | Harrisburg, PA 17120-0093  
717.783.9922 | afrantz@pa.gov

[www.phmc.pa.gov/Preservation](http://www.phmc.pa.gov/Preservation)

Visit our *Pennsylvania Historic Preservation Office Blog* at <http://pahistoricpreservation.com/>

Please take a few minutes to complete the 'Community Connections: Planning for Preservation in Pennsylvania' survey and help us develop Pennsylvania's next statewide historic preservation plan. And share the link with others who care about Pennsylvania's cultural resources!

---

**Andrus, Patrick** <patrick\_andrus@nps.gov>

Fri, Jul 15, 2016 at 7:32 AM

To: "Frantz, April" &lt;afrantz@pa.gov&gt;

Thanks April. It is like Christmas, but sometimes there are lumps of coal in those packages. Have a gppd weekend.

**Patrick**

[Quoted text hidden]

—  
Patrick Andrus, Historian  
National Register of Historic Places  
National Park Service  
(202) 354-2218  
patrick\_andrus@nps.gov



Pennsylvania  
Historical & Museum  
Commission

RECEIVED 2280

JUL 15 2016

Nat. Register of Historic Places  
National Park Service

July 14, 2016

Stephanie Toothman, Keeper  
National Register of Historic Places  
National Park Service, US Department of Interior  
1201 "I" (Eye) Street, NW, 8th Floor  
Washington D.C. 20005

Re: Delaware Station of Philadelphia Electric Company nomination return; 16000427

Dear Ms. Toothman:

Enclosed please find a CD containing the revised version of the National Register nomination for the Delaware Station. The nomination had recently been returned to our office for technical corrections by Patrick Andrus. Per Patrick's request, the Pier has been reclassified as a contributing structure, and the boundary has been adjusted to follow the bank of the Delaware River or the edge of the Pier structure, excluding the river itself.

If you have any questions regarding the revisions, please contact April Frantz at 717-783-9922 or [afrantz@pa.gov](mailto:afrantz@pa.gov). Thank you for your consideration of this property.

Sincerely,

Andrea L. MacDonald, Director  
State Historic Preservation Office

enc.

Historic Preservation Services  
Commonwealth Keystone Building  
400 North Street  
Harrisburg, PA 17120-0093  
[www.phmc.state.pa.us](http://www.phmc.state.pa.us)  
*The Commonwealth's Official History Agency*

**Andrus, Patrick** <patrick\_andrus@nps.gov>

---

**Delaware Station NRN**

1 message

**Kevin McMahon** <kevin@powersco.net>  
To: patrick\_andrus@nps.gov

Tue, Aug 9, 2016 at 3:23 PM

Hi Patrick -

I wanted to check in on your review of the nomination for the Delaware Station in Philadelphia. As you know, we recently submitted a revised boundary for your consideration. The Philadelphia Historical Commission this Friday is reviewing a similar proposal (some local residents nominated the building to the Philadelphia Register as well).

Have you had a chance to look at the revised boundary and boundary justification? Is it possible for you to provide any kind of feedback? It may be helpful to have this information for the Historical Commission meeting this Friday. Thank you!

Kevin McMahon  
Powers & Company, Inc.  
1315 Walnut Street, Suite 1717  
Philadelphia, PA  
215.636.0192



Andrus, Patrick <patrick\_andrus@nps.gov>

Nomination return

1 message

Andrus, Patrick <patrick\_andrus@nps.gov>  
To: Edson Beall <edson\_beall@nps.gov>

Wed, Aug 10, 2016 at 8:09 AM

Hi Edson: I returned the nomination for the Delaware Station of the Philadelphia Electric Company (16000427) on July 5, 2016 with a request that they revise the boundary. On July 14, 2016, the state sent me an email saying they were resubmitting the nomination with a revised boundary.

They are anxious to get this listed and I need to look at the revised boundary. Can you tell me the status of the resubmission?

Thanks,

Patrick

Patrick Andrus, Historian  
National Register of Historic Places  
National Park Service  
(202) 354-2218  
patrick\_andrus@nps.gov

*I got resub. from Kevin's area  
arrive 7/15/16  
a letter & disk w/ revised nom.  
Where is original nomination  
signed by state  
- where is the Return file?  
Found it*

*Note: SHPO original letter sub. nomin.  
date rec. at NR May 20, 2016 BLT  
the orig. sig. page of the nomination was not  
date stamped. So we need to datestamp it 5/20 — done  
(see over)*

So - I took the orig. sig. page - date stamped  
it 5/20/16

I signed the orig. sig. page - listed 8/10/16

I put orig ER sheet & Return sheet  
in resub. file

Still need ER sheet for resubmission <sup>done</sup>

Jeff needs to scan new disk (but not  
it does not have a SHPO sig - I used  
the orig. sig. page).

ACTION: NATIONAL REGISTER INFORMATION SYSTEM

Id 16000427 DR 05/20/2016 PA Philadelphia Delaware Station of the Phila>  
01 More

Name Delaware Station of the Philadelphia Electric Company, The

Address 1325 Beach St.

City Philadelphia Vicinity Restrict  
State PENNSYLVANIA County Philadelphia  
Status DATE RECEIVED/PENDING NOMINATION Date 05/20/2016  
Day45 07/05/2016 Resource Type Acreage

Multiple

Contributing bldg	Site	Strc	Obj	Total
Noncontributing bldg	Site	Strc	Obj	Total
Park				



# United States Department of the Interior

NATIONAL PARK SERVICE  
1849 C Street, N.W.  
Washington, DC 20240

IN REPLY REFER TO:

## United States Department of the Interior National Park Service

### National Register of Historic Places Evaluation/Return Sheet

Property Name: The Delaware Station of the Philadelphia Electric Company  
State and County: PENNSYLVANIA, Philadelphia  
Reference Number: 16000427

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Patrick Andrus, Historian  
National Register of Historic Places  
[patrick\\_andrus@nps.gov](mailto:patrick_andrus@nps.gov)  
7/05/2016