

Commonwealth Electric Company, Fisk Street
Electric Generating Station (Commonwealth
Edison Company, Fisk Street Electric
Generating Station)

HAER No. IL-105

Illinois & Michigan Canal National Heritage Corridor
1111 West Cermak Avenue
Chicago
Cook County
Illinois

HAER
ILL
16-CHIG,
140-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
U.S. Department of the Interior
Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

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Location: 1111 West Cermak Avenue
Chicago, Cook County, Illinois

UTM: 16 E.445720 N.4633000
Quad: Englewood

Date of Construction: 1903

Architect: Shepley, Butan & Coolidge

Builder: Commonwealth Electric Company

Present Owner: Commonwealth Edison Company

Present Use: Electric generating station

Significance: The original Fisk Street powerhouse, built in 1903, contained the world's most powerful Curtis steam-turbine generator. Manufactured by General Electric, this vertical steam-turbine generator produced 5,000 kilowatts of electricity. The steam-turbine unit soon became the standard of the industry, replacing the reciprocating steam-engine driven generators. The 5,000 kw Curtis turbine-generator was removed from the Fisk Street powerhouse and now resides at the General Electric headquarters in Schenectady, New York. This unit was designated a national engineering landmark by the American Society of Mechanical Engineers in 1975.

Project Information: Photographic documentation of the Fisk Street Electric Generating Station followed on the heels of the HAER Inventory conducted in the Illinois and Michigan Canal was designated a National Heritage Corridor in 1985-86. Paul Vorel, Technical Staff Supervisor for Commonwealth Edison's Fisk Street Station, greatly aided in the identification of the buildings and electrical generating equipment.

Karen O'Leary of Commonwealth Edison's
Communications Services Department
coordinated the site work of the HAER
team and photographer Jet Lowe.

Historians:

Gray Fitzsimons, Frances Alexander, John
Nicolay, and Charles Scott, 1986.

When completed in 1903 the Fisk Street Electric Generating Station contained General Electric's most technologically advanced steam-turbine generating units. Electrical World hailed these vertical Curtis steam-turbine generators as the "most powerful steam turbine[s] in the world" and concluded that the installation of these turbines at the Fisk Street plant "marked a revolution in powerhouse design." The plant was designed to contain fourteen of the Curtis turbo-generator units each rated at 5,000 kilowatts; however, only three units were installed. Each measured 29' in height and 16'-6" in diameter. (One of the original vertical Curtis turbine-generator units, designated an American Society of Mechanical Engineers landmark, was removed for display at the General Electric Company's headquarters in Schenectady, New York.) Eight boilers, arranged perpendicular to the turbines, provided the Curtis turbines with steam. This turbine-boiler arrangement was a departure from the conventional method of setting the boilers in a line parallel to the turbines. Each pair of boilers contains a stack 205' in height. Originally, coal was brought to the plant by railroad cars was dumped into a hopper and fed directly to crushers and to each boiler. Three-phase AC current was generated at 9,000 volts, 25 cycles. The switch house was "divided into sections corresponding to the generating units, each section combining the bus bars, switches transformers, and recording instruments for the unit it served." The Fisk Street plant was so successful that the Commonwealth Electric Company shut down five of its smaller, less efficient generating stations.

In 1907 Commonwealth Electric and the Chicago Edison Company were consolidated to form the Commonwealth Edison Company. The following year, Commonwealth Edison constructed the Quarry Street Station across the river from the Fisk Street plant. These two generating stations remained the company's largest until the Northwest Station, located at Addison Street and the North Branch of the Chicago River, was completed in 1912.

Today the Fisk Street Electric Generating Station consists of four large buildings all of which contain reinforced concrete foundations, steel frames, and common-bond brick walls. The Boiler Building and Turbine-Generator Room now in use is a tall one-story building, measuring 600' x 200', which was constructed in 1959. It contains a single General Electric turbine-generator unit, called Unit No. 18, with a rating of 342 megawatts. The original powerhouse, erected in 1903, is attached to the 1959 building. Shepley, Butan & Coolidge of Boston and Chicago were the architects of the original powerhouse. It contains Unit No. 17, manufactured by General Electric in 1949, with a rating of 150 megawatts. The exterior of the powerhouse features a pedimented gable above the entrance. The interior is white

enameled tile adorned with decorative brass lamps. This building has slightly canted corners, and contains such decorative elements as rusticated quoins and pilasters, and embellished pendlils. Large arched windows extend up to two-thirds of the building's height. A wide concrete belt course extends around the building above the foundation and below the windows. The cornice is composed of a second concrete belt. A large portion of the south facade of the 1903 building was severely damaged by fire which occurred in the coal storage area of the building in the early 1970s.

West of the powerhouse is the administration building. This structure measures approximately 300' x 80' and is three-stories tall. The building is flanked by a one-story building on each side. (These flanking structures are entrances to subterranean storage halls.) The detailing on the administration building includes rusticated quoins, small two-over-two light paired windows, and a large, segmental arch door with concrete keystones on the north facade. There are concrete belt courses at the foundation and two parallel belts at the architrave, with a gabled facade and a flat roof.

On the northernmost portion of the site is Switch House No. 2 and Transmission Terminal built in 1940. This tall one-story building measures 120' x 50' and contains rusticated red-brick walls resting on a concrete foundation. Two oversized concrete entrances also have rusticated concrete pilasters. The ornamentation is stylized Classical motifs and exaggerated size. Of reinforced concrete construction, this building is symmetrical in plan with a slightly projecting central section. Its concrete cornice has a row of roof drains in square concrete orifices. An imposing metal double door marks the entrance to the building

The maintenance building is directly behind Switch House No. 2 and Transmission Terminal. This three-story building measures 200' x 80' and has a rusticated, one-story base with a concrete belt course above the base. There is also a concrete cornice above the main block of windows. The main massing has tall arched vertical lights. All windows are broken by a wide concrete band.

Switch Station No. 1 was built in 1920. It measures approximately 250' x 40' and contains a 30' x 15' brick addition to the east. Projecting porticoes have been added to the building. A rusticated base is defined by the concrete belt course. The facade is broken by segmental arch windows. Four of the arched windows have a concrete keystone. Windows from the top of the base rise in slender vertical columns to the top of the structure; a feature similar to the nearby maintenance

building. The top one-third of the building is defined by a wide steel beam which appears as a wide window transom. A thin concrete course is set across the brick facade on the base of the top story.

Attached to the southeast corner, extending southward, is Frequency Changer House. It was here that 60-cycle AC power was converted to 25-cycle DC power for use by Chicago's electric street railways. (The No. 1 Switch House contains some of the original switching boxes.) The building is in excellent condition, although no longer used. The grounds contain other smaller structures, including original water intake system and filtration plant.

SOURCES:

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