KELLY-SPRINGFIELD TIRE PLANT,
POWER HOUSE
701 Kelly Road
Cumberland
Allegany County
Maryland

HAER No. MD-102-B

HAER
MD,
1-CUMB,
4B-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD

National Park Service
Northeast Region
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, P.A. 19106

HISTORIC AMERICAN ENGINEERING RECORD

KELLY-SPRINGFIELD TIRE PLANT
POWER HOUSE

HAER No. MD-102-B

HAER
MD,
1-CUMB,
4B-

Location: 701 Kelly Road
Cumberland
Allegany County, Maryland

USGS Cumberland, Maryland Quadrangle
Universal Transverse Mercator Coordinates:
17.690420.4390060

Date of Construction: 1920

Engineer: S. Dlescher & Sons, Pittsburgh, Pennsylvania
Architect: Edward Necarsulmer, New York, New York

Present Owner: Allegany County Commissioners
County Office Complex
701 Kelly Road
Cumberland, Maryland 21502

Present Use: Vacant

Significance: The Kelly-Springfield Tire Plant is a technologically and historically significant industrial complex in Allegany County. The facility was in operation from 1921 until 1987 and served as Kelly-Springfield's only manufacturing plant between 1925 and 1962. The plant was critical to the development of Cumberland during the twentieth century, and is an important record of an early tire manufacturing plant.

The power house is an integral element of the Kelly-Springfield Tire Plant. The building supplied both steam and electricity to the main factory building.

Project Information: Plans for the redevelopment of the Kelly-Springfield Tire Plant as industrial center include alterations to the power house. The power house smokestacks will be removed and the interior will be altered. Documentation of the building to the standards of the Historic American Engineering Record was prescribed as a part of a Memorandum of Agreement negotiated among the Economic Development Administration (EDA), the Allegany County Board of Commissioners, and the Maryland Historical Trust to mitigate removal of the structures. This documentation was undertaken in May and June 1995 in partial fulfillment of that agreement.

R. Christopher Goodwin & Associates, Inc.
337 East Third Street
Frederick, Maryland 21701

Institute for the History of Technology and Industrial Archeology
West Virginia University
1535 Mileground -- Bicentennial House
Morgantown, West Virginia 26506

Power House (Building 15)

Architectural Description

The power house is a two-story, concrete pier and steel-frame industrial building faced in brick. The structure has an irregular plan, measuring approximately 205 by 172 feet, and rises to a height of approximately 42 feet. The interior of the building is functionally divided into two large open rooms: the boiler room where steam was generated for the plant, and the turbine room where electricity was generated.

The power house rests on a concrete foundation; interior concrete load bearing walls and piers are found in the basement. Brick walls supported by a structural steel frame rise from the foundation. The exterior walls feature recessed brick bays that extend the height of the building. Multi-story, multi-light industrial sash windows are located in the recessed bays. The building terminates in a low pitched reinforced concrete slab roof impregnated with gravel. A parapet wall with simple terra cotta coping defines the structure's roof line. Three clerestories on an east/west orientation are located above the turbine room and a portion of the boiler room. Two buff brick chimney stacks rise from the south end of the boiler room. These stacks measure 250 feet in height.

Two sets of five coal bunkers/pulverizers, which are connected to a central feed system that delivered the processed coal to the power plant, are located along the east elevation of the power house. The coal bunkers/pulverizers are supported by a structural steel frame.

Entries to the power house are located on the north and south elevations. The north elevation features a large metal overhead door at ground level leading to the turbine room. A single wood door with six-light window is located adjacent to this door. The basement of the building is accessed by a ramp, capable of accommodating vehicular traffic on the north elevation of the boiler room. Two large wooden sliding track doors access the basement. The south elevation features a large metal overhead door above a loading platform in the boiler room. A single wooden paneled door with six-light window is located on the mezzanine level of the south elevation turbine room and west elevation of the boiler room. This door is accessed by an exterior metal stair.

The building's regular fenestration includes metal industrial sash windows that are six-lights wide by four-to-five-lights in height, located in recessed brick bays. These windows feature four-light by two-light, center-pivot sections located at the top or middle of the window; the remaining lights are fixed. Unlike the other buildings in the Kelly-Springfield complex, the power house features windows that extend the height of the building. The fenestration pattern and the smokestacks establish a vertical design emphasis for the building.

The interior of the plant is an open clear span. The structure was designed without interior columns; steel piers located along the walls support the steel roof truss system. This interior configuration created the space required for large equipment. The boiler room occupies the eastern portion of the building. Two boilers are located along the eastern half of the boiler room; the rest of the room remains open. Two levels of metal decking extend along eastern and northern walls of the room to provide access to the boilers. Brick-lined, steel-plated breechings and flues connect the boilers to the two smokestacks. Each brick smokestack sits upon a concrete foundation measuring 40 feet in diameter. A metal overhead coal bunker extends along the center of the boiler room ceiling.

The turbine room occupies the western portion of the building. Large, open pits in the floor are enclosed by metal tubular railing. The generators that were located in these pits have been removed. A 30-ton travelling crane is located along the north/south axis of the turbine room ceiling. A switchboard is located along the room's western wall; above the switchboard is a steel balcony that extends along the western wall of the room.

A cylindrical, glazed tile silo is located southeast of the power house. The silo was constructed to collect fly ash and bottom ash from the boilers. The silo rests on a 15-foot structural steel tower elevated above a railroad siding, a 10-foot operational booth is located below the silo. The silo rises 20 feet in height with an interior diameter of approximately 10 feet. An overhead pipe connects the fly ash silo to the boiler room.

Historical Evolution

The physical evolution of the power house corresponds to the three major periods of development for the complex. These periods are discussed below.

Early Tire Manufacturing in Cumberland (1921-1942). The power house was constructed in 1920 to supply steam and electrical power to the main factory building. Both steam and electricity were delivered to the factory building via underground pipes and cables.

Coal originally was delivered to the power house on standard drop bottom railroad cars. The coal was received at a concrete-lined ground storage basin on the east elevation of the power house. The coal was transferred from the basin by crane and mechanical clamshell bucket into an outdoor travelling coal crusher. The crushed coal was deposited on an underground conveyor and then placed on an elevator, to be delivered to the overhead coal bunker above the firing aisle of the boiler room.[1]

When originally constructed in 1920, the boiler room was equipped with six Stirling boilers equipped with superheaters, mechanical stokers, forced and induced draft apparatus, soot blowers, balanced draft regulators, draft gauges, automatic flue gas analyzers and meters. Two rows of three boilers lined the firing aisle. The equipment was capable of producing 9,000 to 12,000 horsepower.[2] A coal bunker that extended along the center of the boiler room ceiling fed coal by gravity to the boilers below.

The turbine room originally contained two 5000-Kw turbo generator sets, one 1000-Kw motor generator set, one 300-Kw and one 100-Kw motor generator sets. The turbine room also contained condensers, vacuum pumps, and transformers. The 30-ton overhead crane installed in the turbine room allowed for large equipment to be repaired or replaced. The steam-powered turbine and generator equipment supplied electrical power to the factory.[3] The power generated by the power house was augmented by electricity from local utility companies. Electrical power from local utilities was transferred

---

[1] "Mechanical Tire Features of Tire Factory," *The Iron Age, 17 November* 1921, 1260.

[2] James W. Thomas and Judge T.J.C. Williams, *History of Allegany County, Maryland* (L.R. Titsworth & Co., 1923), 433.

[3] "Mechanical Features of Tire Factory," 1262.

to the main factory building through transmission lines; the flow was regulated by a transformer housed in the power house. Electric current was carried from the power house by large copper bars contained in an underground tunnel to the main factory building where it was distributed by lead cables and then to the various substations.[4]

Ammunition Manufacturing (1943-1945). Archival evidence suggests that the power house was inactive during the war years. A map of the Allegany Ordnance Plant, dated 1943, does not list a building use for the power house.

Return to Tire Manufacturing at the Cumberland Plant (1943-1987). The general process of delivering power to the factory did not change significantly as the plant returned to tire production. Modifications to the power house included the installation of a new coal delivery apparatus and new boilers.

The method of coal delivery changed when the original travelling coal crusher was replaced with metal coal bunkers/pulverizers. These were installed on the exterior east elevation of the building. The coal bunkers/pulverizers were installed in two sets of five bunkers. They were connected to a central feed system that delivered the processed coal to the power plant. Coal was conducted by gravity through the pulverizers, where it was mechanically crushed to a fine powder.

The boiler was replaced in 1949. The six original boilers were replaced by two larger coal-fired boilers that generated more power with greater efficiency. Boiler ash from the plant was removed through hoppers located below floor level; these hoppers were water-sealed and hydraulically operated. The hoppers conveyed the ash to an outdoor storage pit where it was loaded into standard railroad cars or trucks for disposal.[5]

Another change to the power house occurred in 1970 when the facility was converted from coal to fuel oil. This modification was undertaken to meet state and federal clean air standards. However, in 1977, due to the international oil embargo and difficulties in reducing smoke emissions, the power house returned to coal. Electrostatic precipitators were installed within the stacks to collect fly ash, preventing it from escaping through the stacks. The collected material was conveyed by overhead pipes to the fly ash silo and hauled away to landfills for disposal.[6]

---

[4] Thomas and Williams, *History of Allegany County*, 432.

[5] "Mechanical Features of Tire Factory," 1260.

[6] Howard H. Peterson, Personal interview, 12 May 1995; *Back to Coal*, 30 June 1977.

SOURCES OF INFORMATION/BIBLIOGRAPHY

A. Engineering Drawings:

Drawings in the collection of the Allegany County Commissioners, Cumberland, Maryland:

1922, February 10. Boiler & Power House, first floor plan. One sheet.

B. Historic Views (All historic views courtesy of Kelly-Springfield Tire Co., Corporate Headquarters, Cumberland, Maryland):

View northeast Kelly-Springfield Tire Plant. Ca. 1935.

C. Interviews:

Peterson, Howard H. Interview by Eliza H. Edwards and Patrick Giglio. Tape recording, 12 May 1995. Allegany County Commissioners, Cumberland, Maryland.

D. Bibliography:

Primary Sources

"Back to Coal." 30 June 1977. Kelly-Springfield Tire Company Archives, Kelly-Springfield Tire Company Headquarters, Cumberland, Maryland.

Secondary Sources

Books

Stegmaier, Harry I., Jr., David M. Dean, Gordon E. Kershaw, and John B. Wiseman. *Allegany County: A History*. Parsons, WV: McClain Printing Company, 1976.

Thomas, James W. and Judge T.J.C. Williams. *History of Allegany County, Maryland*. L.R. Titsworth & Co., 1923.

Articles

"Mechanical Features of Tire Factory." *The Iron Age*. Vol. 108. No. 20. New York. November 17, 1921.