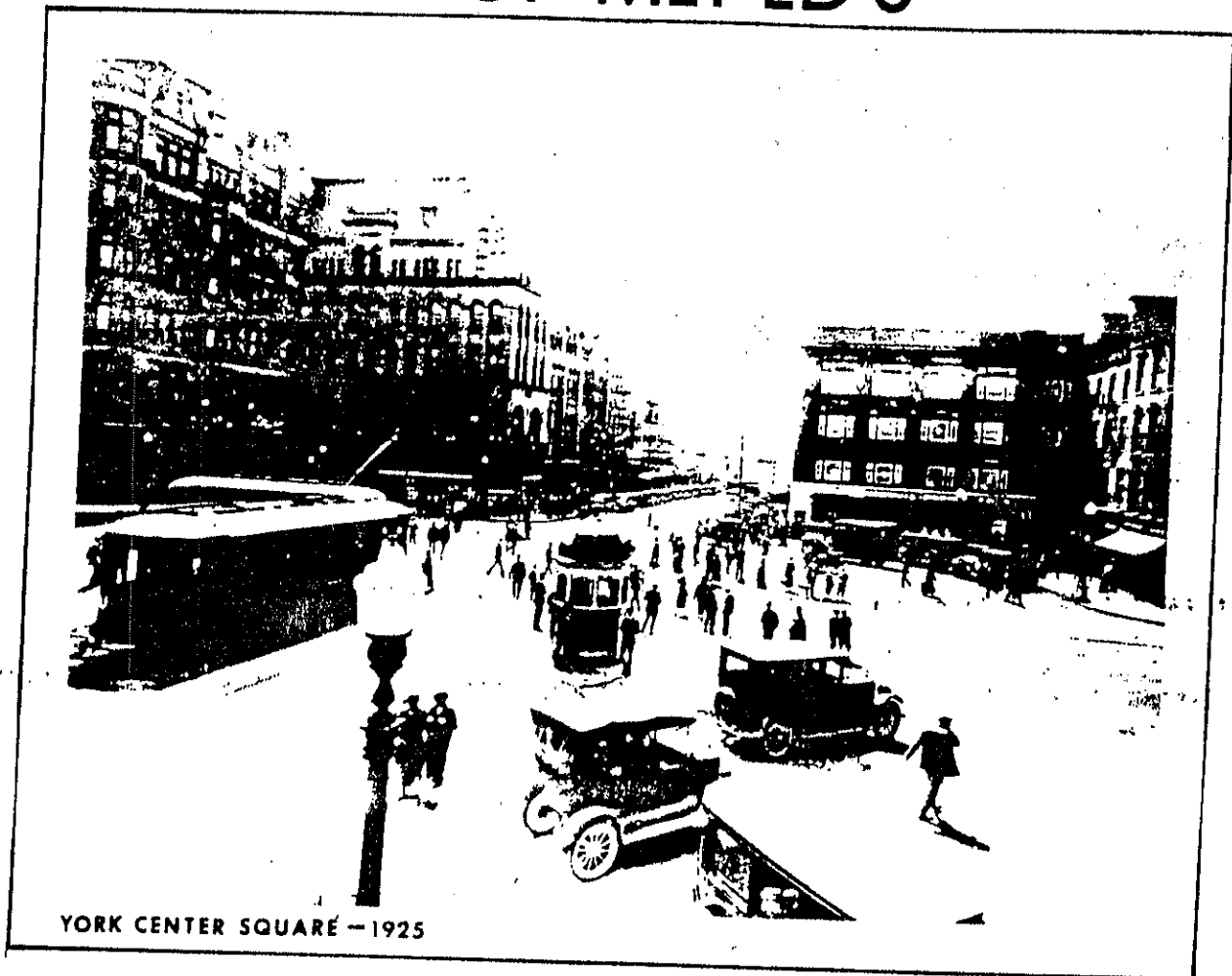


# A HISTORY OF MET-ED'S



## WESTERN DIVISION

MET-ED  
*Centennial!*  
1883 - 1983

## A HISTORY OF METROPOLITAN EDISON COMPANY'S WESTERN DIVISION

Although electricity was first produced into the area now served by the Metropolitan Edison Company in the city of Reading one hundred years ago on March 8, 1883, it did not come to what is now the company's Western Division until 1885 in York, followed by Hanover and Gettysburg in 1893, Glen Rock in 1903 and Dillsburg in 1909.

Initially this new type of energy was used only for lighting. As the desire for electricity grew, isolated generating plants were installed in many small communities, such as Boiling Springs, Railroad, Fawn Grove and Orrtanna. A number of individual generating operations were started by industries where the use of electricity was extended to operate machinery. During this growth, many power companies were formed and obtained charters to serve local municipalities. Some never produced electricity, but sold their franchise rights to operating companies that had generating capabilities. These companies, by progressively merging into larger ones, became today's Met-Ed System.

Metropolitan Edison Company entered the Western Division when it acquired the Gettysburg, Hanover and Cumberland Valley (Dillsburg) electric companies and the York Haven Water and Power generating facilities in 1925-26. Later acquisitions included Orrtanna in 1928, Boiling Springs in 1936 and the Edison Light and Power Company (York) in 1950.

### YORK HAVEN

The York Haven Water & Power Company was incorporated on January 16, 1895 by Henry L. Carter, Francis Stokes, Jonathan Evans, Samuel Mason and Phillip Garrett. According to a deed, dated May 31, 1901, land and water rights on the Susquehanna River near York Haven were purchased from the York Haven Paper Company and others. The site selected for a hydroelectric generating station was in the Susquehanna River at the Conowingo Falls where the river fell

approximately 23 feet in three-quarters of a mile over a series of rapids. A diversion dam was built extending approximately 8,000 feet in a northerly direction upstream and across the river to Three Mile Island.

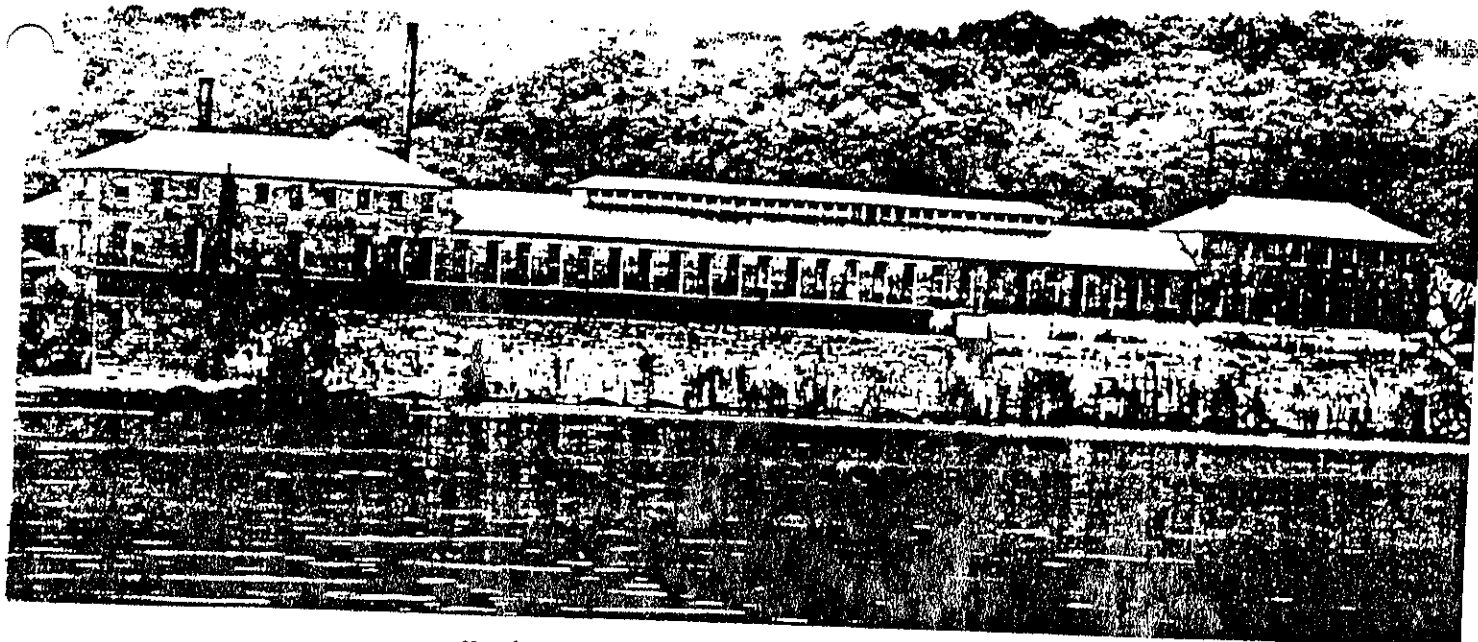
The actual construction of this project was started in 1901 with the first portion being completed in 1904. All work was done by the Power Company under supervision of Thomas Greene. The granite rock used in the project was secured from a quarry nearby, north of the site. (This same quarry was the source of the granite rock used in the wall around the Capitol in Washington, D.C.) The rock was transported by the Northern Central Railway Co. on facilities built especially for this purpose.

The buildings were designed by Architect Dempwolf of York. The steel for the original building was purchased from the Phoenix Iron Works. The water wheels and mechanical arrangement with wooden gears for driving the generators were designed by the Poole Engineering and Machine Co. of Baltimore, Maryland. Each unit consisted of 2 turbine wheels and a Stanley Company 3-phase, 2300-volt, 60-cycle generator rated at 700 kilowatts (KW).

At the completion of the initial phase of construction, an ice gorge and flood waters collapsed the superstructure of the power plant necessitating the reconstruction of the building. Fortunately there was only minor damage to the machinery and electrical equipment. Consequently, all repairs were made so that the first unit was put into service on August 28, 1904, followed by 5 more units that same year. The remainder of the building was completed in 1907 and more generating units were added periodically through 1914 for a total of 20.

Between 1905 and 1911 considerable dredging was done in the main channel to improve the water flow into the forebay of the power plant.

The distribution systems to serve potential customers were under construc-



York Haven Hydro Electric Station

tion during 1903 and were ready for service at the completion of the plant in 1904. They consisted of a 4800-volt line in York Haven and vicinity, and 23,000-volt lines to the City of York. In 1904 and 1905 a 23,000-volt line was built to serve the Borough of Middletown and other power customers in the area on that side of the river. The line was extended in 1906 to Steelton to serve that electric company and the Pennsylvania Steel Co. and finally to the Harrisburg Light & Power and Valley Traction Companies. A 4800-volt line was built to Bainbridge in 1915. Later, in 1919, an additional 23,000-volt circuit was placed on the same line to supply power to the J. E. Baker Co. plants at Billmyer.

Because of annual periods of low water in the summer months and ice and high water conditions during the winter and spring, the company's ability to provide an adequate supply of electricity to satisfy the demand was limited at times.

To improve low water situations, legal rights were secured and an east dam, low-level dam was constructed in 1918 between Three Mile Island and the York River.

A previous temporary gravel dam was destroyed pending settlement of damage claims as a result of a number of law suits.

The original company went into receivership on February 24, 1910, and was operated under the direction of E. F. Baker, General Manager, until August 26, 1911. In 1911, W. Lowry Mann replaced Baker as General Manager of the York Haven Water & Power Co. He was named Western Division Manager of the Metropolitan Edison Co. when it took over that company in 1925, a position he held until his retirement in 1946. Carl E. Freeman, employed in 1904, was York Haven Power Plant Superintendent from 1910 to 1941 when he retired.

The first interchange of Power between York Haven and the Met-Ed system occurred on December 20, 1920. The York Haven and Hanover Light, Heat and Power Co. systems first interchanged power on July 11, 1924.

To determine the advisability of increasing the plant's output, a 1200-KW vertical unit was installed in early 1923 to replace one of the 700-KW units. Based upon the operating experience of this installation, Met-Ed proceeded to replace 3 units with vertical

type 4800-volt generators, between 1927 and 1930. As a result, the overall plant generating capacity was increased from 14,000 KW to 19,620 KW.

With this increased load, it was deemed advisable to relieve the 23,000-volt system. In September 1930 the new 4800-volt generation was connected to the 66,000-volt transmission system where the two lines between Middletown and York passed near the plant. These lines were later changed to 114,000 volts.

### HANOVER

Eight years after Edison completed his successful incandescent lamp, Dr. John Wiest of York sent a dynamo to Hanover for demonstration purposes on October 19, 1887. The dynamo was set up in the Samuel H. Bechtel & Son Cigar Box & Hosiery Manufacturer's building, which was located at the site of a building now owned by Lester H. Little on Chestnut Street in the rear of the Hanover Hardware Store. It was driven by a 35-horsepower steam engine and was used to light 25 lamps. The demonstration lasted about a week and people came from miles around to see this phenomenon.

Six years later, in 1893, the Hanover Light, Heat & Power Company was organized by F. E. Bailey, David Longenecker, John Gastrock, Robert J. Heikes and John W. Wimper.

The company purchased a tract of land (the site of Met-Ed's present district service center) along the Western Maryland Railroad near Third and High Streets. In 1894, a power house was constructed there and generating equipment installed. The first was an arc machine for street lighting followed by a 300-KW generator operated by three hand-fired boilers. The plant produced direct current for operation of the Hanover-McSherrystown Railway, and alternating current for general distribution.

A 13,200-volt line was built to Gettysburg through Bonneauville in 1918, plus a second line was built by way of New Bedford, to pick up that area's system. In turn, the Dillsburg area was

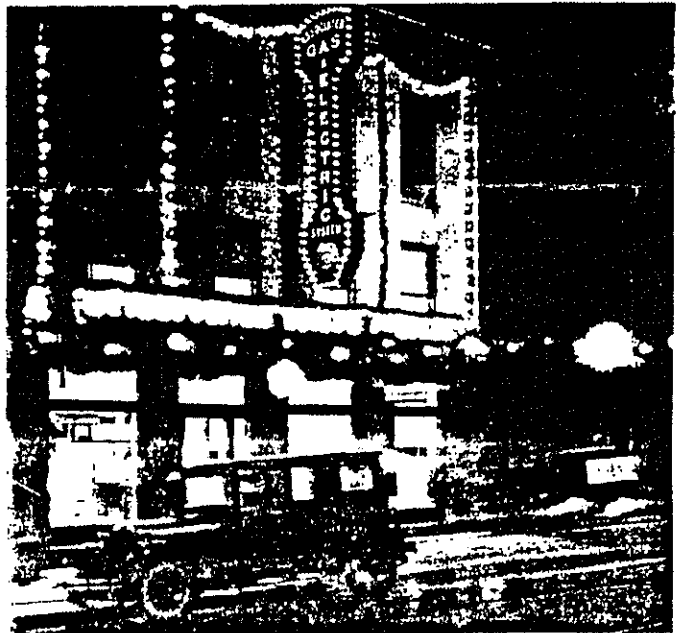
supplied from a 13,200-volt line from Hanover through East Berlin. Eventually this 13,200-volt distribution system was interconnected from Dillsburg through Mt. Holly Springs to Gettysburg.

Additional generation was added in 1924 and 1927.

A 66,000-volt line was built in 1923 from York to help carry the increasing load along with a second line in 1926. These became the sole source of power for the entire Met-Ed territory west of York as the old generating equipment was gradually withdrawn from service.

The original office of the Hanover Light, Heat and Power Co. was in the Northeast quadrant of the town's square. It was later moved to the first block of Baltimore Street.

Electrical appliances began to appear about 1920. Employees were asked to take a toaster under one arm, a six-pack of lamps under the other and contact customers in the evening after working hours. Prizes were awarded for sales. Customers could pay for the appliances by installments on their electric bills.



The name of the company was changed to the Hanover Power Co. and was taken over by Metropolitan Edison Co. in 1925.

## GETTYSBURG

The Electric Light, Heat & Power Co. Gettysburg was incorporated in 1893... started operating from a power plant which was leased from the Gettysburg Railway Co.

There are indications that this company was in financial trouble from records that its plant and property were sold at a Sheriff's Sale on May 1, 1897. The purchaser was a newly organized company known as the Keystone Electric Light, Heat & Power Co. of Gettysburg. In 1910 its name was changed to the Gettysburg Light Company. A plant located at North and Washington Streets was purchased from Central Savings & Trust Co.

In 1916 the Gettysburg Electric Co. acquired the Gettysburg Light Co. and continued to operate the plant until the 13,200-volt line was built from Hanover in 1918. The plant was discontinued and power was purchased from the Hanover Light, Heat & Power Co.

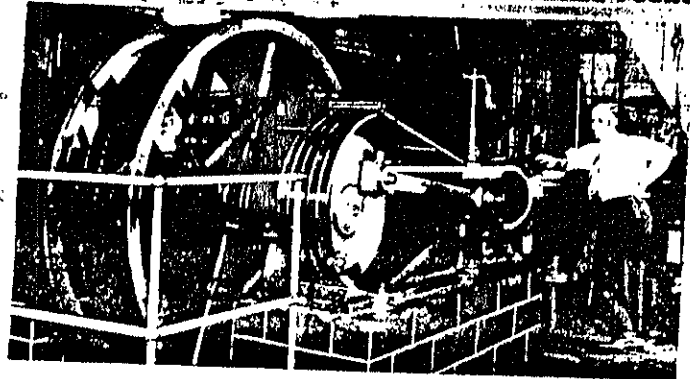


The Gettysburg Electric Co. was acquired by the Metropolitan Edison Co. in 1922.

## DILLSBURG

Electricity was introduced into Dillsburg by F. E. Bailey in 1891 when he was given a contract to light the borough streets. The site of the power plant was on the east side of Baltimore Street. This electric lighting business passed through successive hands and in 1910 some of the owners and operators formed the Dillsburg Light, Heat & Power Co. which took over the power plant, distribution system and business formerly conducted by individuals.

About 1911, the Dillsburg Company purchased the Kunkel's Mill property for the purpose of installing both steam and hydroelectric generating equipment. After this plant was in operation, the electric generating plant in Dillsburg was abandoned. The Kunkel Mill Plant.



remained in service until 1919, when electric energy was received over a transmission line from Trindle Springs from the Cumberland Valley Electric Co.

At Mt. Holly Springs the M. E. Kraybill Light, Heat & Power Co. was formed in 1909 to operate in Carroll Township in York County and in South Middleton and Upper Allen Townships and Mt. Holly Springs Borough in Cumberland County. The generating equipment was installed in Leidigh's Mills, Monroe Township. Another 60-KW hydro plant at Williams Grove on the Yellow Breeches Creek in Monroe Township was in operation until 1926.

Kraybill Company became part of the Cumberland Valley Electric Co. in 1920 which took over the Dillsburg Company in 1922. Metropolitan Edison Co. acquired the Cumberland Valley Electric Co. in 1925.

## ORRTANNA

The Orrtanna Electric Light & Power was formed by Samuel H. Musselman in 1916. Electricity was supplied by a generator installed in the Musselman Plant. This generation was shut down in 1922. A small hydro generating plant was then put into service on the Poplar Run Creek in Franklin Township, but was destroyed by fire in 1923. After that, electric energy was purchased from the Gettysburg Electric Co. and Metropolitan Edison Co. until Met-Ed acquired the Orrtanna Company in 1928.

## BOILING SPRINGS

About 1910, J. C. Bucher started to operate a small hydro electric generating plant in conjunction with his flour mill to supply electricity to a limited number of residents in the village of Boiling Springs. This electric business was incorporated in 1928 as the Boiling Springs Electric Co. and continued to operate under that name until the company was acquired by the Metropolitan Edison Co. in 1936.

## YORK

In 1876, Hiram Young, of the local newspaper Democrat (now The York Dispatch), brought back from the Philadelphia Centennial Exposition an incandescent lamp with a carbon composition filament, which he displayed in his newspaper office window connected to a battery. This being the first demonstration of an electric light in the area, it created a sensation.

In 1883, an out-of-town promoter and some local men, who were interested in electricity, installed a dynamo belted to a steam engine at 28 North George Street (now Gregory's). They then strung two wires on trees to Center Square where carbon arc lamps were hung on a flag pole and energized with the dynamo. People came from distances to witness this event.

On Monday, April 13, 1885, the Edison Electric Light Co. of York was chartered with capital of \$20,000.00. On a lot purchased from P. F. Wilt at

the corner of Water St. and Gas Alley, York's first electric generating station was built. The initial total capacity was 75 kilowatts from 4 steam engine-driven direct current generators. The steam was supplied by 4 boilers built by York's George F. Motter Co. All wire was bare copper. Voltage was regulated by manual operation of the generator field rheostats. Chemical meters were used to measure use of current.

The company's first office was on the second floor of the Geesey building. The first President was Geoffrey P. Yost, whose house at 263 East Market Street was the first to be wired in York.

During the next six years, three other electric companies were established and produced electricity in the City of York: the People's Lighting Co. on Water Street between Gas and Gay Alleys in 1886, the Westinghouse Light Co. at the corner of Water St. and Newton Alley in 1892 and the Merchants Light, Heat & Power Co. along the Pennsylvania Railroad and the Codorus Creek south, in 1901. All of these companies were eventually taken over by the Edison Electric Light Co. (which later became the Edison Light & Power Co.): the People's in 1894, Westinghouse in 1908 and Merchants in 1915.

As the demand for electricity increased due to more houses being wired, and industries changing to electrical power and stores replacing arc lights with incandescent lamps (to eliminate the danger from higher voltage), additional generating capacity was installed and the generating station was enlarged several times. To prevent any interruption to the operation, twice a new building was constructed over the existing one which was then torn down.

One of these expansions occurred on February 9, 1892, when the Edison Co. contracted with the York Railways Co. to supply direct current electrical power for trolley car operation. Horse drawn trolleys had been operated since 1881 by the York Charter Co. until it was taken over by the York Railways Co. when it

organized in 1886. The first test run of an electric trolley was from Center Square to Highland Park in West York, on August 18, 1893, which marked the beginning of this service in York.

The 110/220-volt direct current electricity supplied by the Edison Co. generators required very large copper wires, and even the area served from a single generating station was limited. In order to overcome this limitation, three phase alternating current service was started in 1894. This made possible the generation and distribution of electric power at higher voltages with the use of transformers to reduce those voltages to 110 or 220 volts for the safe use by homes and industries. The higher voltage also permitted smaller wire to be used.

The York Steam Heating Co. was formed in 1898 to supply heat to downtown buildings with steam purchased from the Edison Co. Exhaust steam from the generating plant's engines was adequate to supply the total demand for 75 per cent of the season, but required live steam to be added the remaining 25 per cent. The area served with steam heat was bounded by North Street, Pine Street, College Avenue and Water Street. The original mains were tin-lined wood casing wrapped with tar paper.

Eventually the demand for electricity increased to the point where another source of supply was sought. Further increase of generating capacity at Central Plant was limited by the low flow of the Codorus Creek. To satisfy this need, two 23,000-volt lines were built to the York Haven hydro-generating station in 1904. As part of the contract for the purchase of this power, it was agreed that the York Haven Water and Power Co. would serve all industrial customers in the Edison Light and Power Co. territory requiring over 100 horsepower of energy.

In 1907 the Edison Light and Power Co. merged with, and became a subsidiary of, the York Railways Co.

The railway system continued to expand. The trolley line to Hanover was

too long to be supplied from the 600-volt direct current network. Consequently a 6600-volt alternating current system was installed from West York to Hanover. A special suburban trolley car was equipped with a motor that could be operated either by alternating or direct current and a transformer to reduce the 6600 to 600 volts. At the end of West King Street, where the two systems met, each trolley's pole had to be pulled down from the 600-volt DC line, the car allowed to drift through a gap between the systems, and then a pantagraph had to be raised to pick up the 6600-volt AC line to complete the trip to Hanover.

The Red Lion and Windsor Light Co. was purchased by the Edison Light and Power Co. in 1913.

In order to provide Edison Light and Power Co. an additional power supply, Pennsylvania Water and Power Co. built two 69,000-volt lines from its Holtwood Hydro-generating Station to a new substation at Violet Hill, south of York, in 1923. With the completion of this interconnection, the Edison Co. now had three sources of supply as follows:

York Haven Water & Power Co.	7,500 KW
Pa. Water & Power Co.	10,000 KW
Edison Co. Central Plant	10,000 KW
<b>TOTAL</b>	<b>27,500 KW</b>

A 13,200-volt system was established at this time with lines extending to Glen Rock, Gitts Run (near Hanover), Violet Hill and Red Lion. This system was extended to substations in the East and West ends of York in 1927, to Hellam in 1930 and to Dover in 1931.

During 1931, all engine-driven generating equipment was removed from the Edison company's Central Plant. From then on all power produced at this plant was from steam-turbine generators.

In 1931, Metropolitan Edison built two 66,000-volt lines from its Smith Street Substation to connect with

Pennsylvania Water and Power Co.'s Violet Hill Substation. These served to increase the reliability of Edison Light and Power Co.'s supply.

The Codorus Creek flooded on August 23, 1933, reaching a depth of 5 feet in the boiler room. Resulting fires were extinguished and all rotating equipment was stopped, causing a shut down of the entire direct current trolley system.

All trolley service of the York Railways Co. was terminated on Sunday, February 5, 1939, replaced by the York Bus Co., a separately owned corporation. All equipment in the Central Plant that had been used for trolley operation was taken out of service and the York Railways Co. was terminated.

Prior to World War II, most of the operations at the Central Plant were devoted to steam heat with electricity only being generated when exhaust steam was required for heating load. However, during the war, the generators were called upon often to help meet the heavy demands created by defense plant operations. The machine shop at the plant was involved in the defense effort by turning out pump parts for the Navy under sub-contracts from manufacturers.

During the early 1920's, the National Electric Power Company, an Insull holding company, acquired control of the York Railways Co. and the Edison Power & Light Co. Following the bankruptcy of the Insull Companies, Met-Ed acquired control of the Edison Light & Power Co. and it was merged into Met-Ed in 1950. At this time, all operations were consolidated at Met-Ed's new building on Parkway Blvd.

On May 1, 1959, all electric generating equipment was removed from the York Generating Station (Central Plant), which then changed its identity to the

York Steam Heating Plant because that was the only function remaining at the site. New oil-fired boilers were installed in 1963 to reduce air pollution caused by the advanced age of the coal fired ones. Due to the increasing cost of fuel oil, making the operation uneconomical for both the company and the customers, steam heat service was terminated on May 31, 1977.

#### GLEN ROCK

The first electricity for general distribution in the southern part of York County was generated by the Deer Creek Water and Water Power Co., which had a hydroelectric plant on Deer Creek between Stewartstown and Fawn Grove. This company was founded on December 17, 1903 to serve the communities of Shrewsbury, New Freedom and Stewartstown initially. Later service was extended to Glen Rock.

In Glen Rock, the Norrish Co. installed a generator to illuminate its plant as early as 1892. That Company offered to supply street lighting to the borough at reasonable rates. The Glen Rock Electric Light and Power Co. was formed in 1908 by W. H. Burnham and others. They eventually moved the facilities from the foundry to a site on Baltimore Street. By 1921, 13 years later, they had acquired 18 small borough and township chartered companies and in 1929 took over the Deer Creek and Railroad Borough generating operations.

A second 13,200-volt line was built in 1928 from the Edison Light and Power Co.'s West substation to Glen Rock to supply additional power.

A 100-ton tank ice plant was operated by the Glen Rock Electric Light and Power Co. from 1919 to 1946. When the company merged with the Edison Light and Power Co. on January 31, 1946, all ice making equipment was dismantled.