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Properties of the
**ASSOCIATED
GAS^{and} ELECTRIC
SYSTEM**



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Properties of the
ASSOCIATED
GAS *and* ELECTRIC
SYSTEM



ASSOCIATED GAS *and* ELECTRIC SYSTEM
61 Broadway
NEW YORK CITY

SEVEN GREAT FORMS OF POWER

MAN-POWER:

Man's arm for lifting, his hand for manipulating, his back and shoulders for carrying—the first and still probably most widely used form of power.

ANIMAL-POWER:

The ox, the dog, or the horse for pulling loads or turning tread mills.

WIND-POWER:

The wind mill for grinding grain or pumping water.

WATER-POWER:

The weight of falling water for turning wheels and driving machines.

STEAM-POWER:

The pressure of expanding steam for propelling engines or supplying heat.

GASOLINE-POWER:

The force of exploding gas for turning engines and driving wheels.

ELECTRIC-POWER:

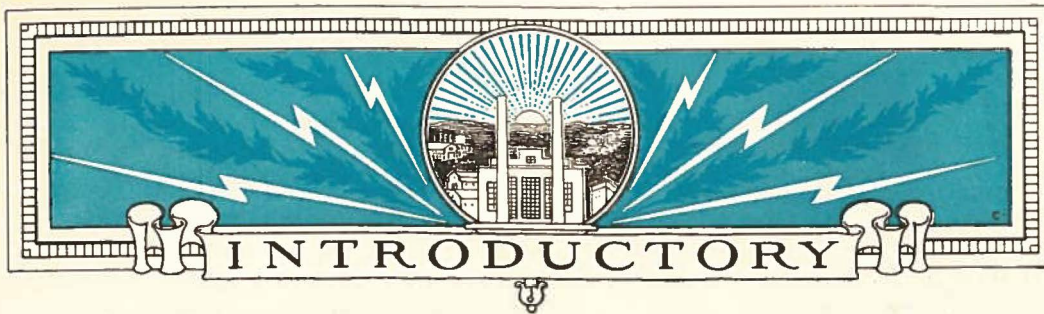
Perhaps the greatest form of energy. It is the most versatile: it produces light, heat and power. Unlike any other form of energy it can be transmitted economically at great distances and can be utilized in very small units as well as in giant motors.



The electric light and power industry is one of the most remarkable developments of the present day. Its output in kilowatt hours has practically doubled every five years for the past quarter of a century.

The management of the Associated Gas and Electric System is pleased to participate in this industry and to contribute to its growth. The following pages briefly describe and illustrate some of its properties.





THE Associated Gas and Electric System dates back to 1852. The Ithaca Gas Light Company was incorporated in that year and supplied gas to twenty-eight customers in the City of Ithaca, New York. It or its successor companies have been in continuous operation since that time.

The Johnstown Water & Gas Co., Johnstown, Pa., started business in 1856. The Owensboro Gas Light Company in Kentucky, long a part of the Associated System, was organized in 1860. The Solomon Gas Company at Bowling Green, Kentucky, was established in 1863.

The commercial manufacture of gas preceded that of electricity by over half a century. Edison invented the incandescent lamp in 1879. Electric light plants began to spring up shortly thereafter. The first commercial distribution of electricity was made in 1882, in New York City, by the predecessor of the New York Edison Company.

Many of the companies in the Associated System were among the pioneers in the electric light and power industry. The Johnstown Electric Light Company, Johnstown, Pa., started business in 1885. The Richmond Light, Heat and Power Company was established on Staten Island, New York City, in 1887. The Patchogue Electric Company at Patchogue, Long Island, dates back to 1887. The Brush-Swan Electric Company at Ithaca, New York, began operations in 1888. The electric plant of the Capital Gas Company at Frankfort, Kentucky, was built in 1889, and the Plattsburg Gas and Electric Company, Plattsburg, New York, was started in 1889.

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Groups of Properties

The map at the center of this book indicates the location and extent of the Associated properties. There are nine main groups as follows:

The CENTRAL NEW YORK STATE group which serves 42,000 customers in south central New York State.

The EASTERN NEW YORK properties supply electricity or gas to 23,500 consumers in sections centering at Plattsburg and Mechanicville and along the New York, Massachusetts and Connecticut border.

The WESTERN NEW YORK group serves electricity or gas to 12,000 consumers in Depew and Lancaster and adjacent communities.

The METROPOLITAN NEW YORK group serves electricity to 32,000 consumers on Staten Island, Borough of Richmond, New York City.

The LONG ISLAND properties serve water to 25,000 consumers in Queens (New York City) and Nassau counties and electricity to 5,000 consumers at Patchogue, Long Island.

The KENTUCKY-TENNESSEE-INDIANA group serving 25,000 consumers in Kentucky, Tennessee and Indiana.

The NEW ENGLAND group centering around Portsmouth, New Hampshire, also operating properties on Cape Cod and elsewhere in Massachusetts, serving electricity to 16,000 consumers.

The MANILA properties serving electricity to 50,000 consumers in the City of Manila.

The PENNSYLVANIA group, known as the Penn Public System, provides public service to 100,000 consumers in Western Pennsylvania.

The properties in the Associated System supply public service to a total of 330,000 consumers in 1,000 communities having 2,000,000 population. Eighty-four per cent of the net operating revenue of the Associated System is from electricity.

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Central New York State Group

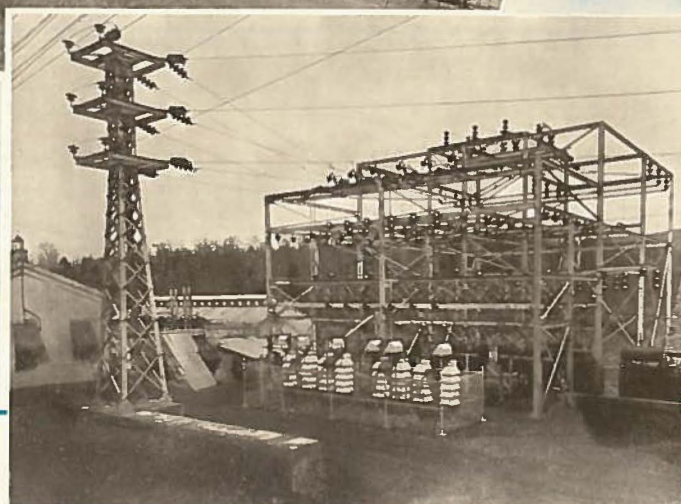
The Central New York operating light and power properties serve electricity and/or gas to more than 42,000 consumers in 211 communities, of which the greater number are located in the rich agricultural district in the south central portion of the State.

Among the communities served are Ithaca, Cortland, Oneonta, Norwich, Cooperstown, Sidney, Stamford, Walton, Liberty and Monticello.

The section of New York State served represents a wide diversity of business, manufacturing and agricultural (dairying and fruit raising) activities. It is essentially a well established, steadily growing area. The communities are all of moderate size and of the typical prosperous business and residential character.

A favorable contract has been made for the purchase of power from the Adirondack Power and Light Corporation. As a result plans have been completed

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Hydro-Electric Plant, Colliers, N. Y.

Company Office Building, Ithaca, N. Y.

Gas Plant, Cortland, N. Y.

Sub-Station, Colliers, N. Y.

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for making one great power system covering the central and southern New York territory. More than \$1,000,000 has been spent in the construction of high tension transmission lines in order that these properties might be joined with the Adirondack water powers. In addition to their own generating plants and the power connection with the Adirondack Plants, the Associated properties in this district will eventually be connected with adjoining properties and in that way will have large power resources to draw upon.

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Eastern New York Group

There are three groups of properties in the eastern part of New York. One group, known as the Harlem Valley unit, extends from Westchester County to the region southeast of Albany. Among the communities served are Chatham, Pawling and Brewster. This unit, representing what were formerly twelve local systems serving in the aggregate 10,000 consumers, is a good example of the consolidation of electric light systems that has been going on in rural sections. The second group centers around Mechanicville and is known as the New York-Vermont group. The third centers around Plattsburg and is known as the Champlain group. The last two groups serve electricity and/or gas to approximately 14,000 consumers in northeastern New York.

High tension transmission lines are being constructed along the New York, Connecticut and Massachusetts border thus insuring an adequate supply of power for the Associated properties. This improvement means that many communities formerly without electric light and power will have the opportunity of benefiting from the service.

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Western New York Group

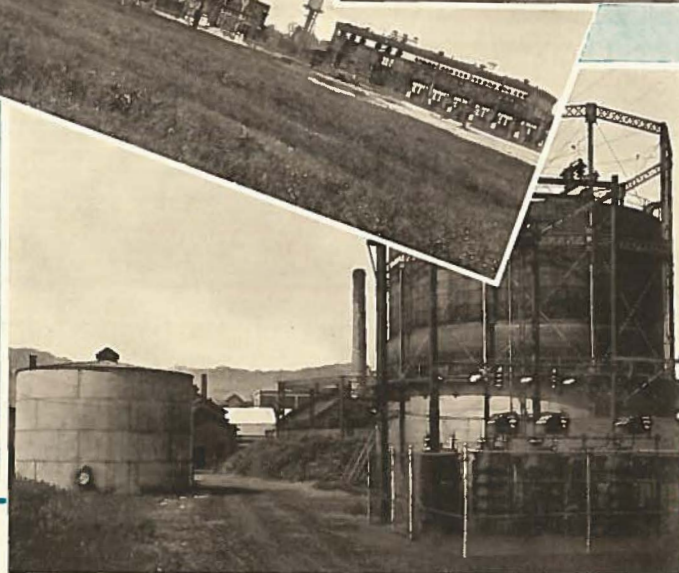
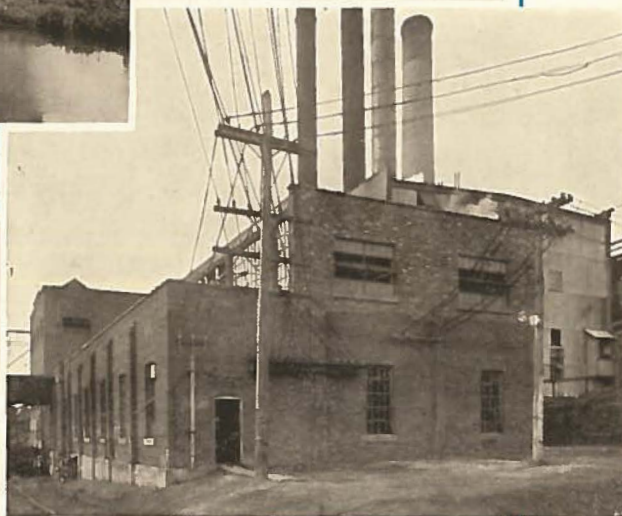
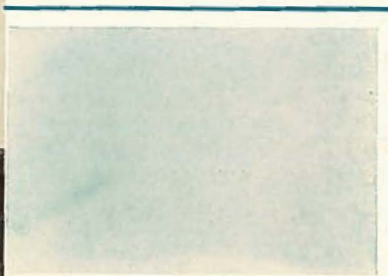
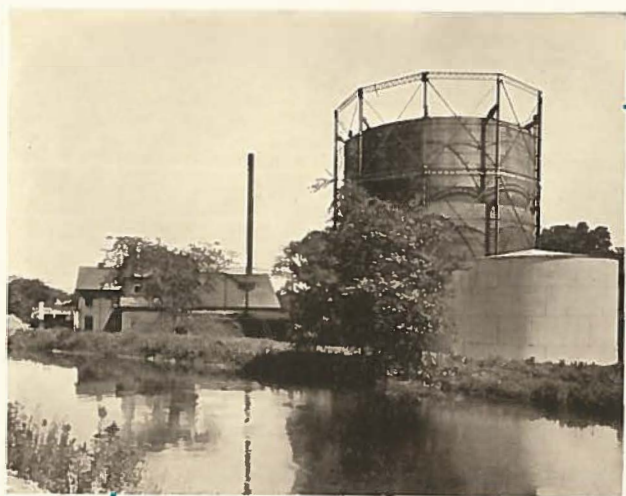
The Western New York properties supply electricity in the industrial and agricultural areas centering at Depew, Lancaster and Gowanda. These properties are supplied with electricity generated at Niagara Falls which is purchased under a contract extending until 1954. Natural gas wells are owned on over 200 acres of property and present indications are that the supply of gas will be sufficient for many years.

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Metropolitan New York Group

The Staten Island Edison property serves electricity without competition to over 32,000 consumers on the whole of Staten Island, Borough of

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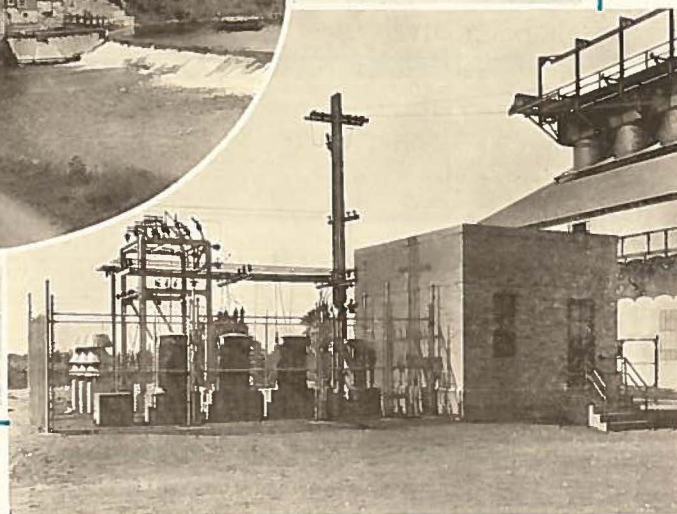
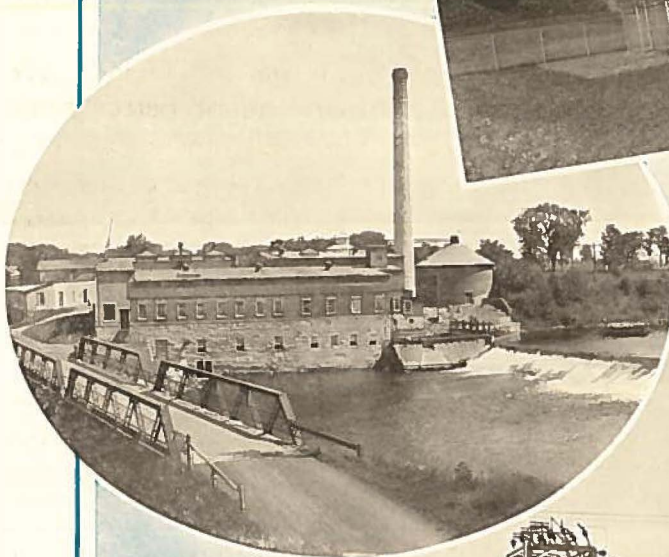
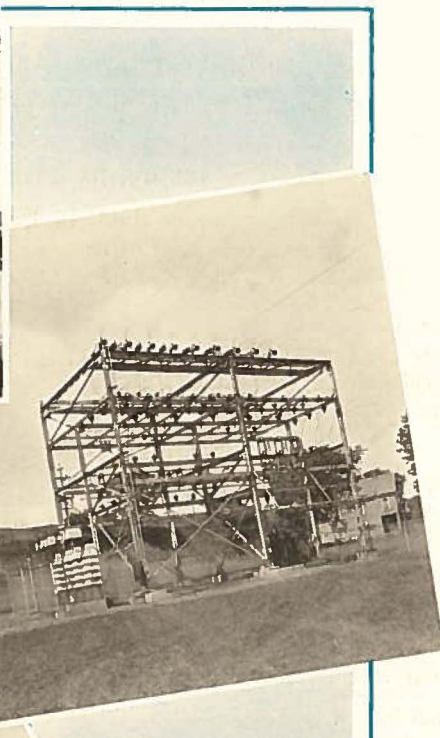


Gas Plant, Oneonta, N. Y.
Sub-Station, Gardenville, N. Y.

Steam Power Plant, Ithaca, N. Y.

Gas Plant, Norwich, N. Y.

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Office Building, Lancaster, N. Y.
Hydro-Electric and Gas Plants, Plattsburg, N. Y.

Sub-Station, Delhi, N. Y.
Sub-Station, Plattsburg, N. Y.

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Richmond, New York City. It also furnishes power for the operation of all the railways there. Through subsidiaries it supplies a substantial portion of the electric railway service and operates a ferry line between Staten Island and New Jersey. A rapid transit tunnel now under construction to connect Staten Island with Brooklyn, and the construction of two bridges between Staten Island and New Jersey, insure the rapid development of this territory.

"Staten Island, larger than the Bronx and nearly as large as Brooklyn, is a 'frontier.' It has only four persons to the acre, while Queens has ten, the Bronx thirty-five, Brooklyn fifty-five and Manhattan 170. None of these boroughs is more naturally attractive than Richmond * * *.

"Brooklyn may well look to Staten Island to take care of her population overflow. With the Fourth Avenue subway extended into the island, either through a tunnel or across a bridge, there would be more and better home room for Brooklyn workers than the most populous borough can offer."

—(Editorial, *New York Sun*, December 1, 1925)

There has been a very rapid growth in electrical service on Staten Island through the addition of new customers. The number of meters in service has increased from 2,000 in 1908 to more than 32,000 in 1925. During the same period the annual output in kilowatt hours has increased six times, namely from 12,000,000 to 77,000,000.

Improvements and new construction costing more than \$5,000,000 have recently been completed in order that the Company might better serve its old customers and at the same time take care of new customers and other increased business. The capacity of the power plant at Livingston has been considerably increased so that the Company might fulfill its recently acquired contract for supplying power to the lines of the Baltimore and Ohio Railroad on the island which have been electrified.

Staten Island has been experiencing rapid growth as a result of home building and settlement by newcomers. Its population has increased 18.6% from 1920 to 1925 as compared with an increase of 4.5% for the City of New York as a whole. New electric light customers have for a considerable period been added at the rate of over 200 a month.

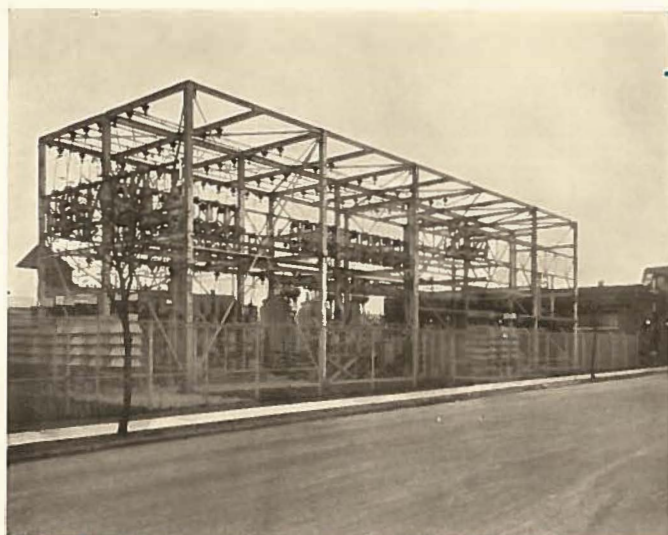
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Long Island Group

The Long Island operating water properties serve 24,000 consumers in Queens and Nassau Counties which are located on Long Island in and adjacent to the City of New York. Both Queens and Staten Island, Borough of Richmond, are within the corporate limits of the City of New York. The population of the Borough of Queens increased 52.3% from 1920 to 1925.

The Patchogue Electric Light Company, also a part of the Associated System, serves the southern shore of Long Island. This territory has a year

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Clifton Sub-Station, Staten Island, N. Y.

Steam Power Plant, Staten Island, N. Y.

Service Building, Staten Island, N. Y.

Eltingville Sub-Station, Staten Island, N. Y.

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round population of approximately 15,000 and the customers of the Company exceed 5,000. The communities served with electricity include some of the most popular watering places and summer resorts on Long Island.

The combined light and power properties in New York State include steam and hydro-electric power stations with an aggregate generating capacity of 60,000 K. W.; gas plants with a daily capacity of 3,230,000 cubic feet, and 865 miles of electric high-tension transmission lines with additional lines under construction. The gas properties have over 170 miles of mains. The total population served is nearly 500,000.

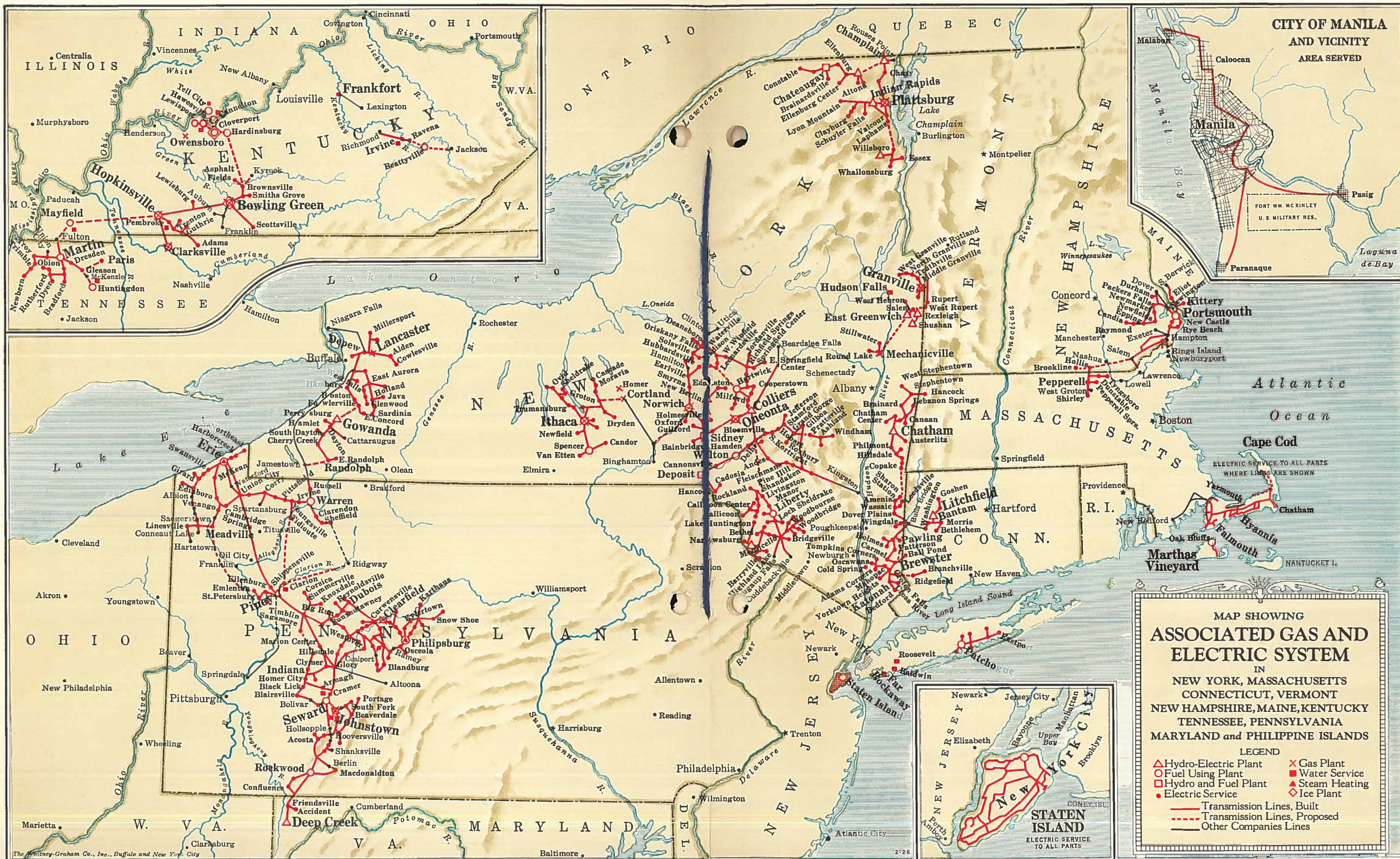


Pennsylvania Group

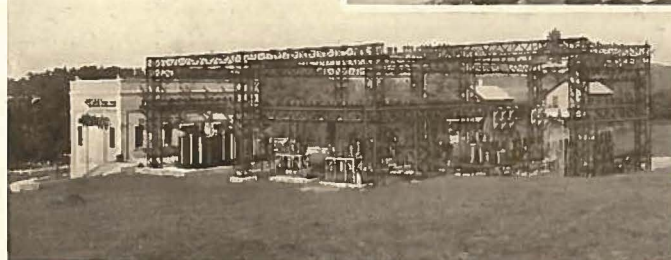
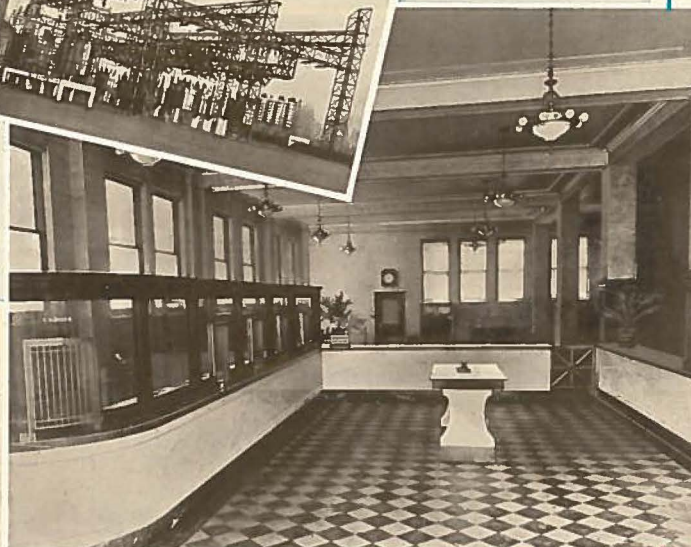
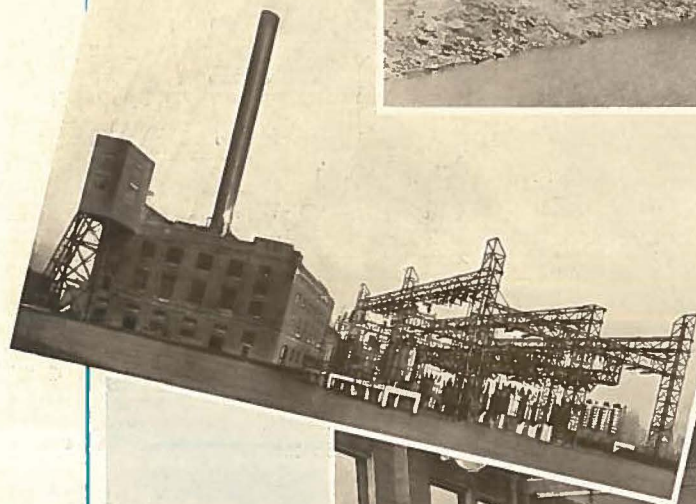
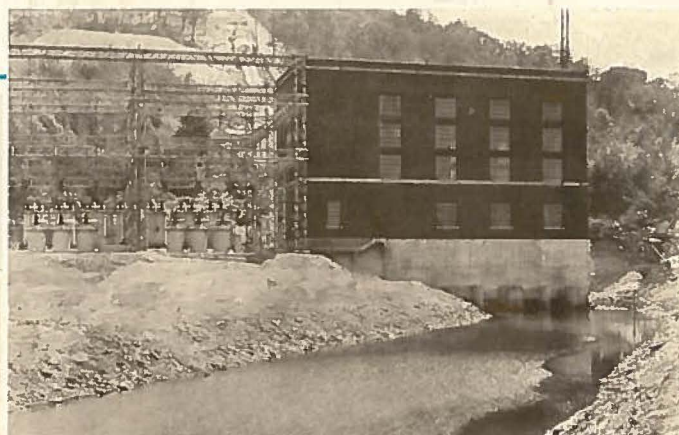
The Penn Public System serves electricity and/or gas to over 100,000 consumers in 350 communities in Western Pennsylvania extending from the New York-Pennsylvania state line and Lake Erie on the north in a southeasterly direction through the entire width of the state over into the State of Maryland. The Pennsylvania area served comprises approximately one-sixth of the entire state, having a total population of more than 875,000.

The properties are connected by high tension transmission lines, principally 110,000 volts, extending from Erie, Pa., on the north through to Deep Creek, Maryland, on the south. The generating properties include the Clarion River and Youghiogheny River hydro-electric developments with a total installed capacity of 48,000 H. P. These are links in a contemplated chain of hydro-electric developments on these rivers, which will, when fully developed, afford an ultimate capacity of upwards of 400,000 H. P. The steam stations have an additional installed capacity of more than 175,000 H. P. Their principal units likewise are adapted for expansion as may be necessary.

The hydro-electric and steam generating plants are interconnected by high-tension transmission lines, making possible the most efficient use of the generating facilities. In addition the properties include five coal mines containing 20,000,000 tons of unmined coal. The coal mines have thoroughly modern equipment including electric haulage, electric mining machines, electric driven pumps, fans and hoists. The principal steam generating station, as well as the most important secondary steam stations, are located at the mouths of the coal mines.



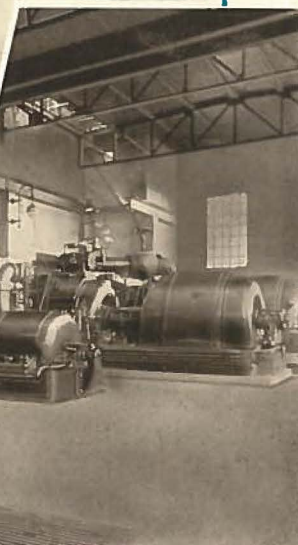
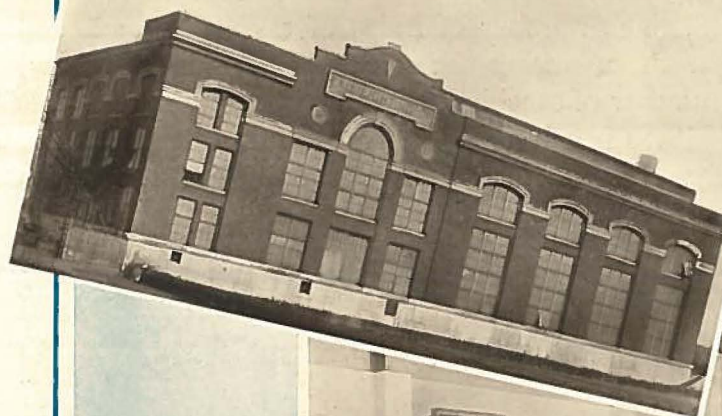
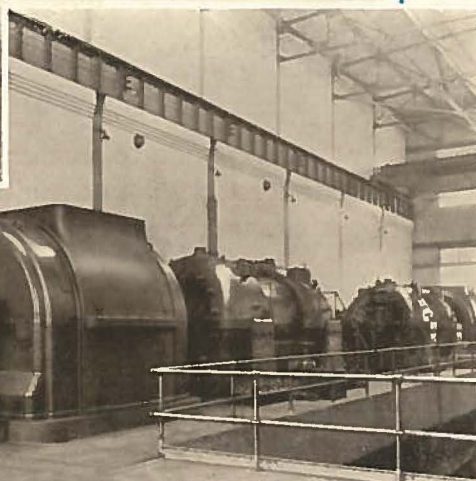
ASSOCIATED GAS *and* ELECTRIC SYSTEM



Steam Power Plant and Switching Station, Seward, Pa.
Sub-Station and Switchyard, Glory, Pa.

Hydro-Electric Plant, Deep Creek, Md.
Interior of Office, Erie, Pa.

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Sub-Station, Indiana, Pa.
Steam Power Plant, Front Street, Erie, Pa.

Turbo-Generators, Power Plant, Seward, Pa.
Interior, Steam Power Plant, Peach Street, Erie, Pa.

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Among the communities served are Erie, Johnstown, Meadville, Warren, Du Bois, Punxsutawney, Clearfield, Corry, Indiana, Philipsburg, Blairsville, Union City, Northeast and Somerset. The territory is primarily industrial and abounds in highly valuable natural resources.

There is a wide diversity of both urban and rural industries in the territories served. In the City of Erie there are over 500 manufacturing and industrial enterprises. Among the leading industries in the territory served are coal mining, fire brick, and plate glass manufacturing, oil and gas pumping, railroad shops, tanneries, silk mills and furniture factories, iron and steel manufacturing and to an increasing extent dairying and farming. More than half the territory is underlaid with bituminous coal.

All of the electrical properties constituting the Penn Public System have shown a steady growth for a considerable number of years. For some of the larger companies there has been a steady increase from year to year for a period of nearly fifteen years, despite such industrial fluctuations as were brought about by the World War.

The annual sales of electricity increased eleven times (between 1912 and 1925), from 25,000,000 k.w.h. to 275,000,000 k.w.h. The number of electric customers increased nearly six times (between 1912 and 1925), from 15,000 to approximately 86,000. The number of miles of transmission lines increased over twenty-four times during the same period, from 49 miles to over 1,200 miles. The number of stockholders increased fifteen times from approximately 600 in 1919 to nearly 9,000 in 1924. The main lines of the principal eastern railways cross its territory. Three of these railways are proposing electrification of their lines within this territory in the near future.



New England Group

In Massachusetts, electricity is distributed to more than 8,000 consumers in 85 communities located in the southern section of Cape Cod and on Martha's Vineyard and to over 1,100 consumers in five communities in the northeastern part of the state, including Pepperell, Shirley, Tyngsboro and Dunstable, Massachusetts, and in the town of Hollis, New Hampshire. The total population is estimated at 47,000.

Electricity for the Cape Cod territory is generated in the plants of the New Bedford Gas and Edison Light Company. The operating properties own 90 miles of high-tension transmission and 309 miles of distribution lines.

In New Hampshire and Maine, the Portsmouth property serves 7,500

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Power Plant, Portsmouth, N. H.

Office, Portsmouth, N. H.

Interior Portsmouth Power Plant

Appliance Office, Portsmouth, N. H.

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consumers in 15 communities largely devoted to manufacturing. The principal communities are Portsmouth, New Market, Raymond, Candia, Rye and Epping in New Hampshire, and Kittery and Eliot in Maine. In addition, power at wholesale is supplied to the following electric distributing companies: Twin States Gas and Electric Co., and Exeter and Hampton Electric Light Co. The total population served is approximately 40,000.

The properties include a 15,500 K. W. steam station located at tidewater in the City of Portsmouth. The Company also has undeveloped water rights on the Lamprey River near New Market. Electricity is distributed over 90 miles of high-tension transmission lines.

The electrical output by the New England properties shows a steady increase. In fact the growth is more rapid than that of the electric output for New England as a whole. The latter was 12.2% for the first six months of 1925 over the same period in 1924, whereas the output of the New England Associated properties increased 21.5% in September, 1925, over the same period in 1924.



Kentucky-Tennessee-Indiana Group

The Kentucky-Tennessee properties serve over 25,000 consumers in 57 communities in agricultural districts in Kentucky, Tennessee and Indiana largely devoted to the cultivation of tobacco. The principal communities include Hopkinsville, Owensboro, Frankfort, Mayfield and Bowling Green, Kentucky; Martin, Paris and Clarksville, Tennessee; and Tell City and Cannelton, Indiana. The total population served is more than 100,000.

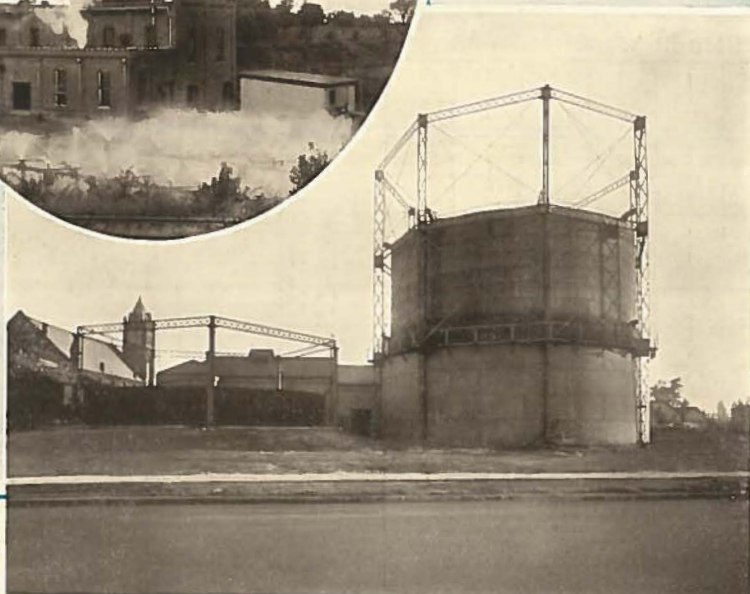
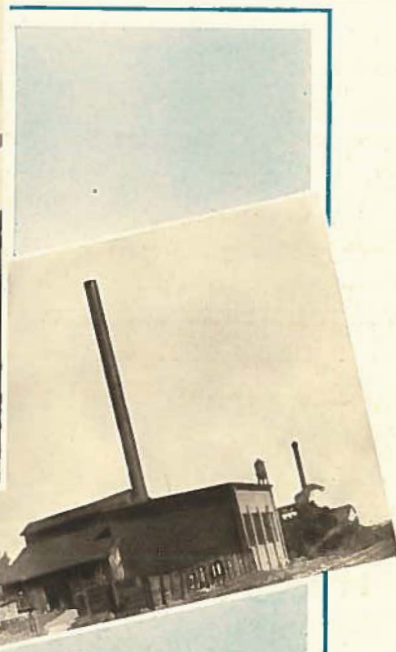
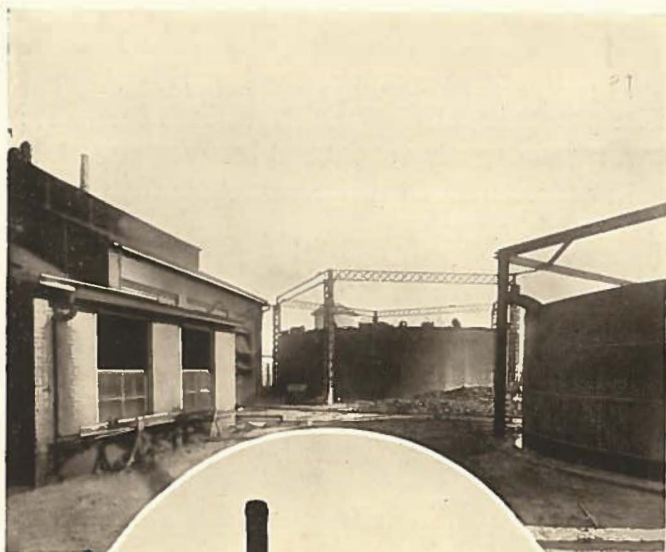
The properties include electric power stations with a generating capacity of 10,000 K. W., distributed over 287 miles of high-tension transmission lines, gas plants with a daily capacity of 605,000 cubic feet and 60 miles of gas mains. Sixteen municipally owned and operated electric plants and distributing systems, adjacent to the territory theretofore served and partly in northwestern Tennessee, were recently acquired.



Manila Properties

The Manila Electric property, which has served the City of Manila and its suburbs since 1905, distributes electricity to more than 50,000 consumers serving a total population in excess of 400,000. It also furnishes the entire street railway service which is profitably operated. Manila is the capital,

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Gas Plant, Hopkinsville, Ky.
Steam Power Plant, Hopkinsville, Ky.

Steam Power Plant, Clarksville, Tenn.

Gas Plant, Owensboro, Ky.

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the trading and shipping center and the industrial metropolis of the Islands, and is one of the important ports and trade centers of the Far East.

The Company generates all its power in a modern power plant (concrete and steel construction) having a rated capacity of 29,500 K. W. The electric distribution lines are built in accordance with the best American standards and cover the territory thoroughly.

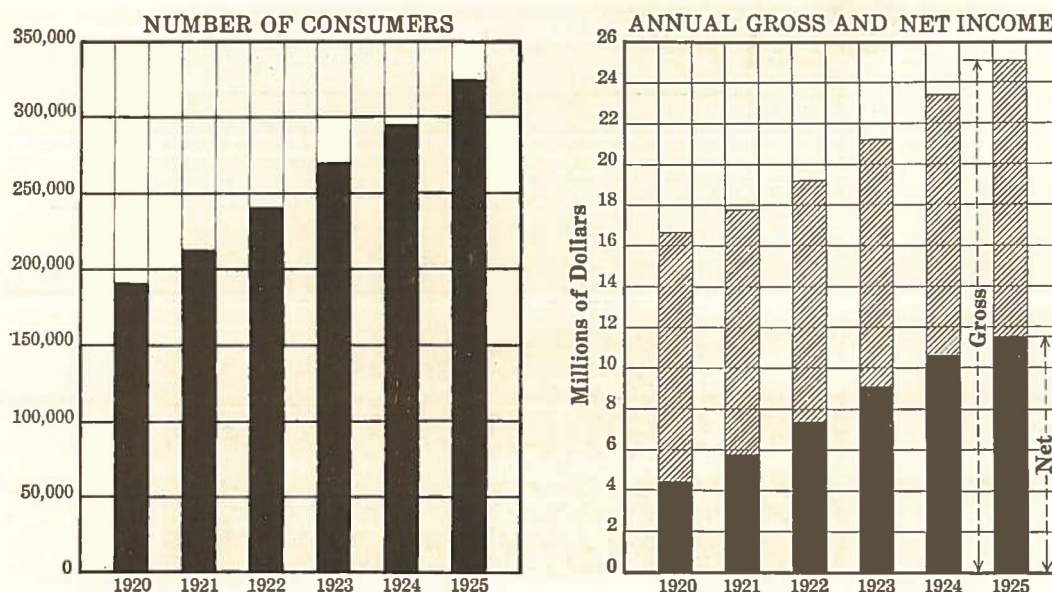
The electric railway lines consist of 52 miles of standard gauge track built and maintained under the best American practice. The rolling stock includes 170 cars, principally of American manufacture. The property is well maintained and carries over 34,000,000 passengers annually. Lack of other means of rapid transit in Manila makes the community almost entirely dependent upon the electric railway, which has been profitably operated.

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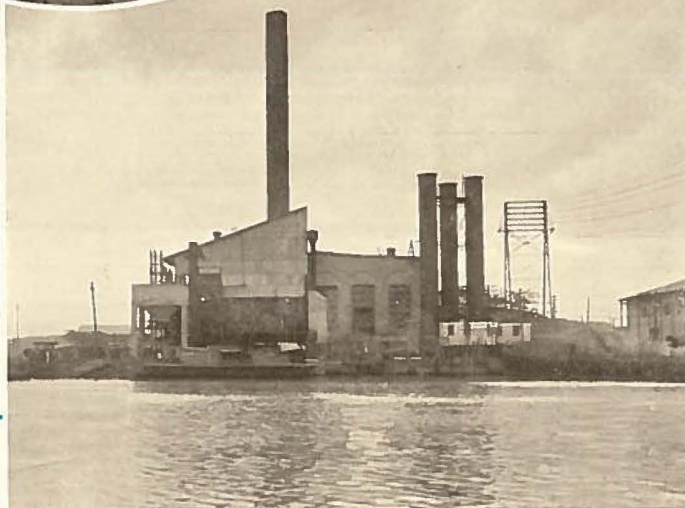
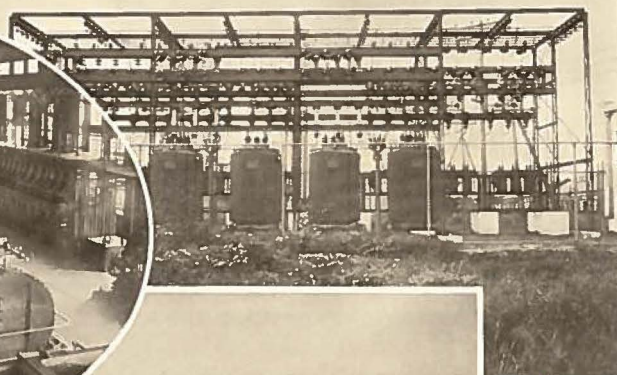
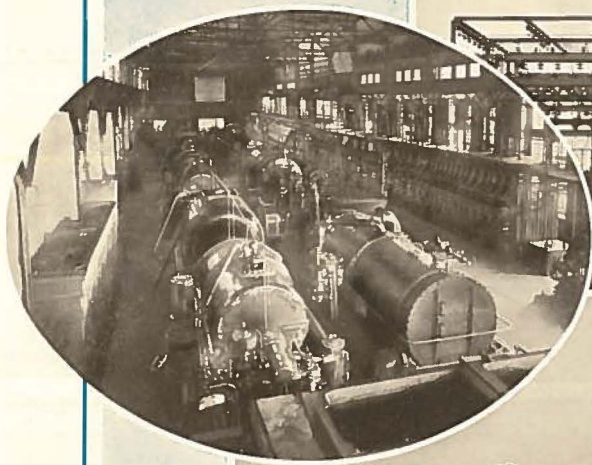
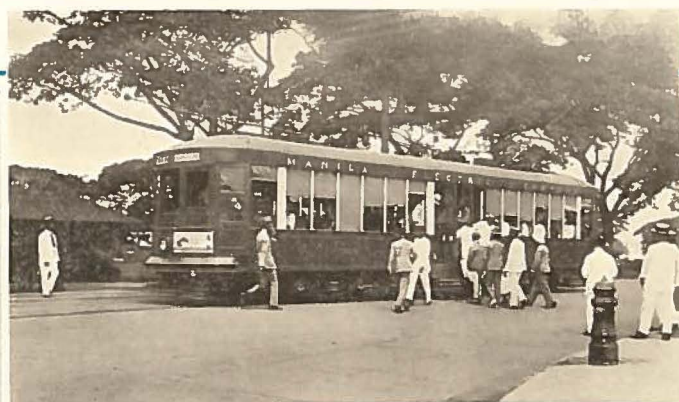
Ohio Property

In Van Wert, a gas plant with a daily capacity of 600,000 cubic feet distributes gas to 1,800 consumers through 23 miles of mains. The total population served is 8,100.

GROWTH IN CONSUMERS AND INCOME OF THE ASSOCIATED SYSTEM



ASSOCIATED GAS *and* ELECTRIC SYSTEM



Street Car, Manila, P. I.

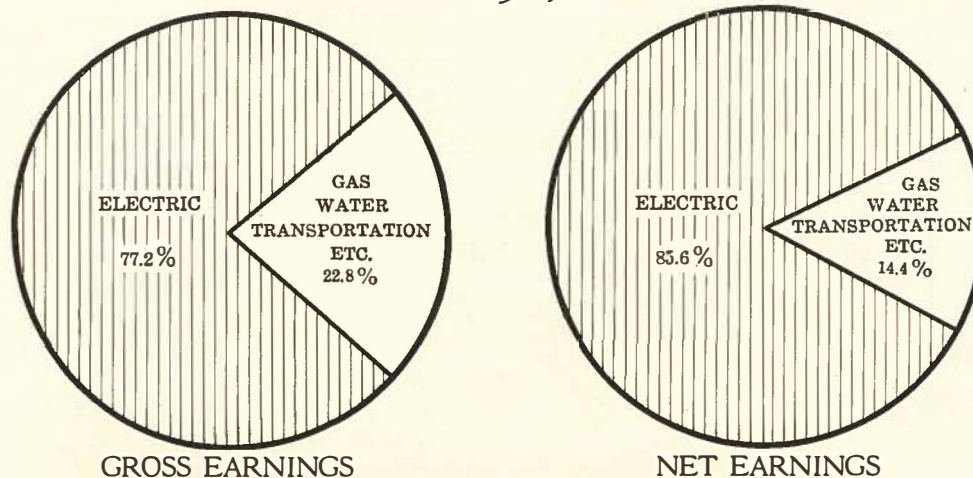
Turbo-Generators, Manila, P. I.

Pandacan Sub-Station, Manila, P. I.

Steam Power Plant, Manila, P. I.

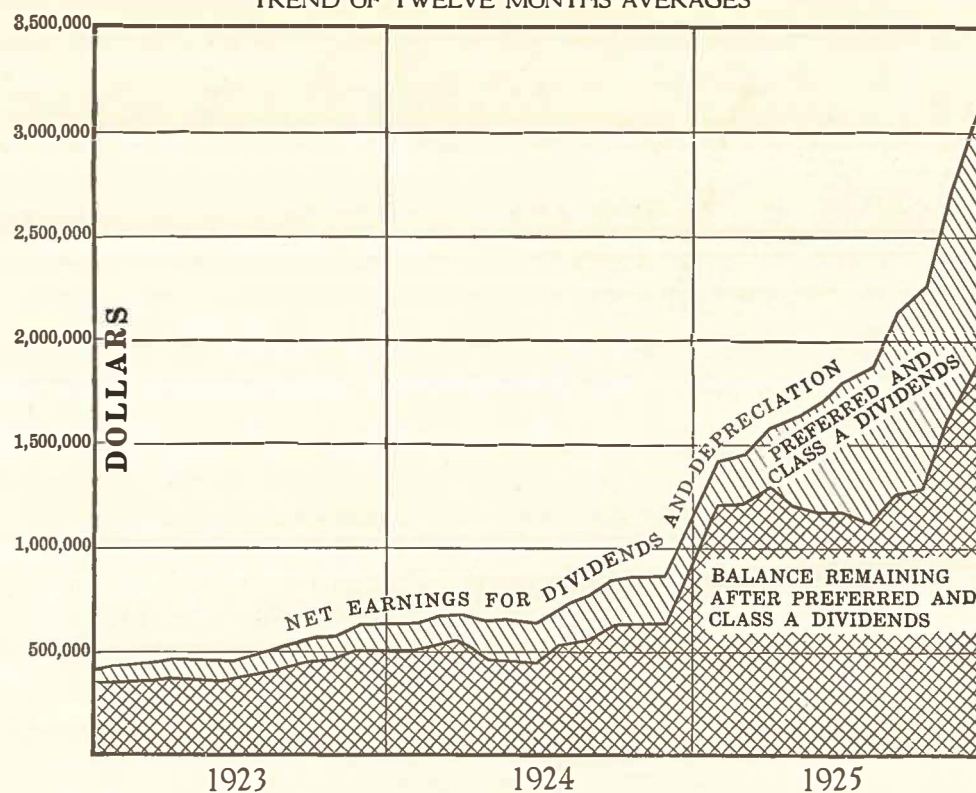
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SOURCES OF 1925 EARNINGS



EARNINGS AND DIVIDENDS

TREND OF TWELVE MONTHS AVERAGES



This chart gives effect to earnings of new properties only since the dates they joined the Associated System.

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THE ASSOCIATED GAS AND ELECTRIC CO.

INCORPORATED IN 1906

Officers

J. I. MANGE, *President*

Vice-President of J. G. White Management Corporation, New York, New York

H. C. HOPSON, *Vice-President and Treasurer*

President of H. C. Hopson & Co., Public Utility Consultants,
New York, New York

S. J. MAGEE, *Vice-President*

General Manager of Associated Gas and Electric Company,
New York, New York

HENRY D. FITCH, *Vice-President*

Engaged in the public utility business in Kentucky and Tennessee
during his entire business career, Bowling Green, Kentucky

JOHN M. DALY, *Vice-President*

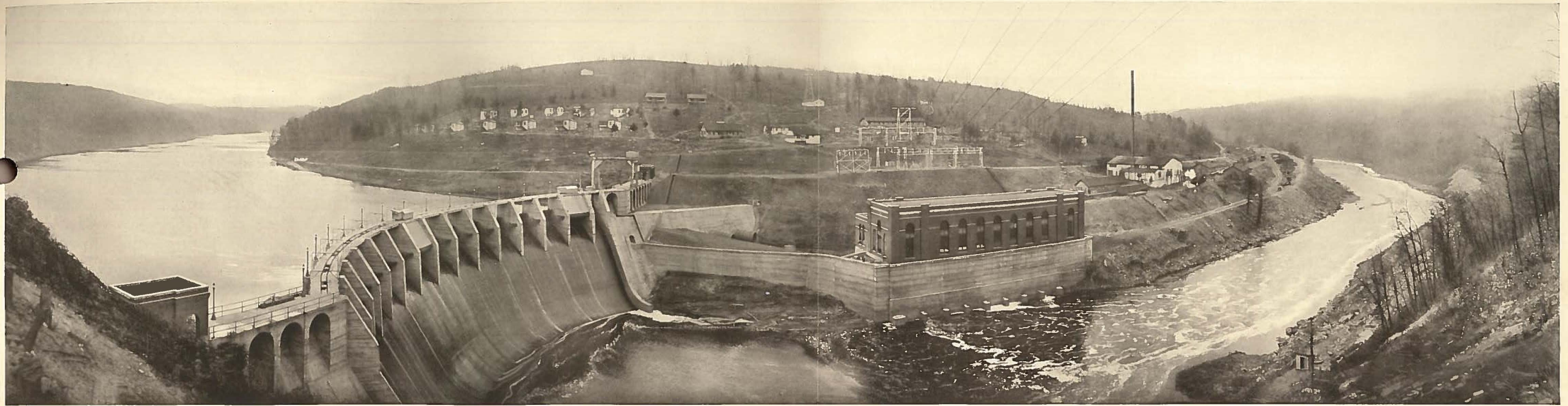
Vice-President of H. C. Hopson & Co., Public Utility Consultants
New York, New York

M. C. O'KEEFE, *Secretary and Assistant Treasurer*

New York, New York

O. E. WASSER, *Comptroller and Assistant Secretary-Treasurer*

Ithaca, New York



PINEY DAM AND POWER HOUSE, CLARION RIVER, PENNSYLVANIA



ELECTRIC, GAS AND ICE PLANTS, BOWLING GREEN, KENTUCKY