

# THE PROGRESS OF POWER





*The Electrical Building at A Century of Progress*

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## Electricity's Part in the Development of the Chicago Metropolitan Area

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Here in the great Chicago Metropolitan Area, which includes the city of Chicago and adjacent territory in northern Illinois, lies the logical center of industrial America. Manufacturers find here in this great and growing area the reliable power both in the city or in the smaller community which they require in operating their plants.

Always Chicago has marched forward.

In the span of one hundred years, a hamlet of forty-three houses and less than two hundred inhabitants has arisen from the mud of the swamplands around the mouth of a river on the shore of Lake Michigan to the fourth largest city in the world. This is a record without a parallel in the history of man.

Chicago is the City of Progress; a city built by hardy, adventurous pioneers, who endured many privations, but whose courage overcame all obstacles and built solidly for the future.

Swept by fire, the city rose again—greater and stronger than ever.

Today Chicago and the territory which makes up what is known as the Chicago Metropolitan Area stand on the threshold of a new era of still greater growth and achievement.

### Destined to Lead the World

The March of Progress continues. Metropolitan Chicago because of its location, its resources and its people still imbued with the conquering spirit of the pioneers, looks forward to even greater accomplishment—destined to become the greatest industrial and business center in the world.

Although the city of Chicago is celebrating its century milestone this year with a great World's Fair—A Century of Progress International Exposition—its greatest growth and development has come within the last half century. In fact, another World's Fair—the World's Columbian Exposition—held in Chicago in 1893 might well be said to have been the beginning of the new Chicago.

Just as the World's Fair of 1893 marked the beginning of a new period in Chicago's growth, the Century of Progress Exposition this year is the foundation on which is being built a Greater Chicago—a Metropolitan Chicago which knows no city boundary lines, but which spreads from the city into the suburbs and across the rich farm lands of northern Illinois, uniting a population of four and one-half millions of people into one great community. The interests of these people are interwoven in their business, cultural, social and home life. Together they face the coming of the new day which will bring greater prosperity and achievement to all of Metropolitan Chicago.

### Electricity, the Builder

The one single agency which has aided most the growth and progress of Chicago and its adjacent territory is Electricity. Plentiful power has made possible the great city of Chicago and the still greater Chicago Metropolitan Area. Adequate and reliable electric service in this great territory has built up great industries, speeded transportation, enabling people to live away from the heart of a great city, and brought comfort and beauty into the home. Electricity is ready today to do its part in the upbuilding of the great Chicago Metropolitan Area of the future.

Electricity has been used for light and power only a little more than fifty years. Chicago had a population of only half a million when, on April 26, 1878,

the crude, flickering arc lamps were first publicly displayed from the old Waterworks Tower at North Michigan and East Chicago Avenues. Thomas A. Edison did not invent the incandescent electric lamp until the next year. The beginning of the electric business in Chicago really dates from 1888—only forty-five years ago.

More electricity was used in lighting the buildings and grounds at the World's Fair in 1893 than was used in all the rest of Chicago. Yet the amount used was less than is consumed by a single State Street department store of today.

### A New Era Begins

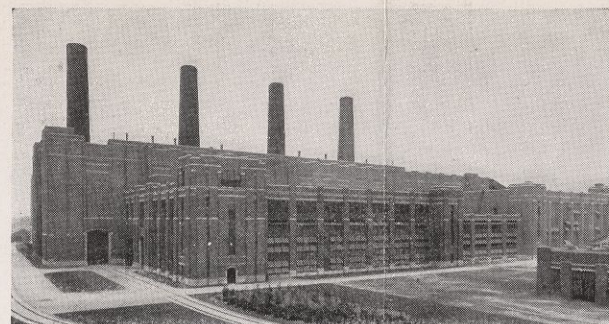
The electric generating plant on the World's Fair grounds was the largest in the world at that time. It was the dawn of the Electrical Age. The eyes of the world were turned on Chicago and on electricity. The rapid growth of Chicago and the development of the use of electricity have gone forward together since that time.

The same pioneering spirit which pulled one of the world's greatest and most beautiful cities from the mud, built the electric light and power business in the Chicago Metropolitan Area. The development of the use of electricity in this section is a story of private initiative and enterprise; of pioneers who led the way to a great development. Forward-looking, resourceful and daring, these pioneers set the pace for the world in electrical development.

Here in Chicago in 1903 was placed in operation the first large steam turbine ever built. It marked the abandonment of the use of reciprocating engines, which had been universally used and opened the way for the building of larger and more efficient generating units and lower costs for electricity.

### Scattered Plants Are Interconnected

But while developments seem to have been rapid thirty and forty years ago, the greatest progress in the electric light and power business has come during the last twenty years and particularly within the last decade. It was only a little more than twenty years ago that a number of communities in Lake County, just north of Chicago, all served by small, isolated electric plants, were interconnected and served from one large plant. This experiment was the forerunner of the establishment of widespread transmission systems interconnected with centrally located generating plants not only in the Chicago Metropolitan



One of the large generating stations

Area, but throughout the world. The spirit of the pioneer had triumphed again.

Within the last five years there has been placed in operation in the Chicago Metropolitan Area a generating unit which has a capacity of 200,000 kilowatts or 268,100 horsepower—the largest ever built.

### Area Served by Four Companies

All of this great electrical development in the Chicago Metropolitan Area has been accomplished without the aid of such natural resources as water power. In this flat country there is no possibility of water power development. All the generating plants in this section therefore are operated by steam. In the operation of such large plants as are essential in such an extensive and thickly populated industrial territory, large amounts of cold water for condensing purposes are necessary, however. For this reason plants have been built on the shore of Lake Michigan and on rivers where there is an ample supply of water.

The Chicago Metropolitan Area is served with electricity by four companies. The Commonwealth Edison Company supplies electrical energy to all of Chicago's homes, industries, offices, electric railroads, elevated railways and street cars. It lights the streets and the stores, the theaters and restaurants. In general it does all of the myriad jobs that modern inexpensive electricity can do in a modern city.

### Serving the Suburbs and Beyond

Outside the city limits of Chicago, north, west and south, lies the large territory served with electricity by the Public Service Company of Northern Illinois. This diversified area of 6,000 square miles includes the suburban residential territory around Chicago, excellent industrial sections with outstanding advantages, as well as hundreds of farms and rural towns beyond—320 separate communities in all.

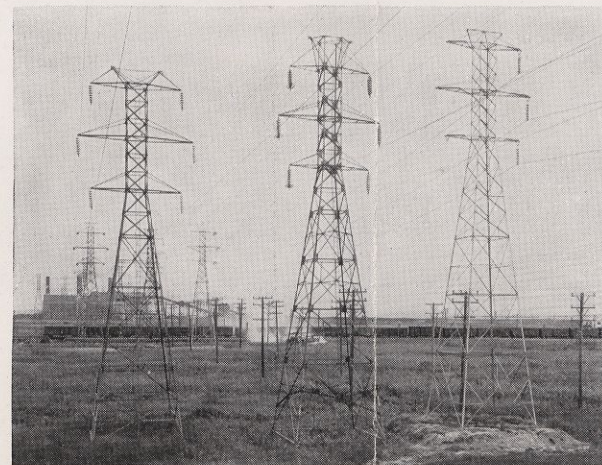
Directly west of Chicago and beyond the area served by the Public Service Company of Northern Illinois lies the somewhat smaller territory served with electricity by the Western United Gas and Electric Company. This section includes a portion of the beautiful Fox River Valley. Twenty-two communities and many of the rural districts between are served by this company.

Still further westward, stretching across the state to the Mississippi River, is the widespread territory served by the Illinois Northern Utilities Company. This organization serves 120 communities and reaches out into the agricultural sections, providing light and power to farms as dependable as that supplied to the city dweller who lives across the street from the power plant.

### Strictly "Home Institutions"

These companies are integral parts of the territories which they serve. They are home-managed and home-owned. They have thousands of employees—both men and women—who are a part of the business, civic and social life of the communities in which they work and make their homes. These companies have over 107,000 stockholders and over 96,000 of them live in Illinois, most of them in the territory served by these companies. In addition there are, of course, thousands of bondholders, which include banks, and insurance companies as well as individual investors.

The great Chicago Metropolitan Area served by these four companies has available at all times a great and reliable supply of electricity. Large generating stations are advantageously located at various



A section of the 132,000 volt transmission system

points throughout the area. High tension transmission lines interconnect these generating stations, forming one great network, pulsating with energy, ready to serve every individual customer anywhere in the whole area day and night.

### A Superpower System

In order to serve adequately this important section of the country and to provide power for future growth and development, several large generating stations have been built and interconnected with a 132,000 volt transmission system, which feeds energy into the area from a number of sources. This Superpower system is the backbone of the electricity supply network which extends over the many thousands of square miles of the Chicago Metropolitan Area.

The largest of the generating stations interconnected by this great system are the Crawford Avenue station (capacity 424,000 kilowatts or 568,400 horsepower) and the Calumet station (capacity 187,500 kilowatts or 251,300 horsepower) of the Commonwealth Edison Company in Chicago; the Waukegan station (capacity 290,000 kilowatts or 388,700 horsepower) of the Public Service Company of Northern Illinois on the lake shore at Waukegan, north of Chicago; the State Line plant (capacity 200,000 kilowatts or 268,100 horsepower) of the Chicago District Electric Generating Corporation on the shore of Lake Michigan at the Illinois-Indiana state line; Powerton station (capacity 210,000 kilowatts or 281,500 horsepower) of the Superpower Company of Illinois on the Illinois River near Pekin.

### Striking Capacity Increase

These great plants which have a combined capacity of 1,311,500 kilowatts or 1,758,000 horsepower and the Superpower transmission system which interconnects them are operated as a unit, resulting in greater reliability of service and more economical operation. Smaller generating stations and transmission lines of lower voltage are also interconnected with the result that the entire Chicago Metropolitan Area has adequate and dependable electric service at all times.

The total generating capacity of the plants in this area is 1,649,300 kilowatts or 2,210,900 horsepower. In 1912 the capacity was 320,900 kilowatts or 430,200 horsepower. In twenty years the amount of electrical energy available in the area has increased 414 per cent.

Truly this is the Land of Promise for all industry.

*Excerpts from address of Bernard E. Sunny  
at dedication of Electrical Group at  
A Century of Progress Exposition*

October 12, 1932

"As showing the improvement that has been made since then (World's Columbian Exposition, Chicago, 1893) in incandescent lamps, a downtown theater has just completed the redecoration of its sidewalk canopy in white and gold, and has equipped it on the under side with 5,300 frosted incandescent lamps, perhaps the largest mass of lamps in a limited space that has been attempted.

"A display of the kind in Columbian Exposition days would have been impracticable because the heat from the lamps would be almost sufficient to fry eggs on the sidewalk.

"The light produced each hour on the canopy is the equivalent of 23 pounds of coal. The same light in the Columbian days at the efficiency then possible would have required 184 pounds per hour, eight times more—the excess going into heat.

"In forty years, the life of the incandescent lamp has been increased five-fold, and one dollar will buy twenty-nine times more light!

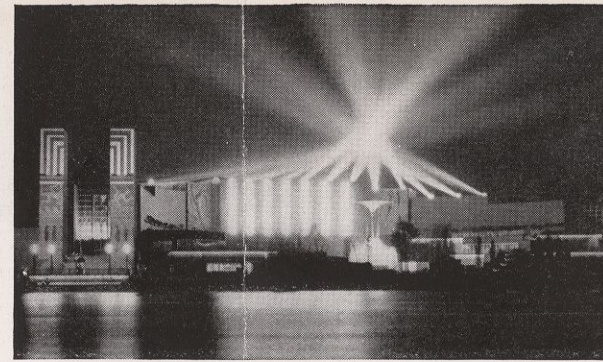
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"In the taming of the watt, we have evolved a paradox, in that for years we put up lightning rods to keep electricity out of our homes, while now we eagerly bring it in, to do a hundred tasks, and the lightning rod has gone into the discard.

"Electricity cooks the breakfast, washes the dishes, does the laundry, sweeps the floor, goes on errands to the market, keeps us cool in summer and warm in winter, brings the news every few hours and croons to us—if we don't mind what we listen to.

"The time-honored bedtime chore is to put the cat out and wind the clock. Electricity now winds the clock, and when we find out how to eject the cat electrically, another serious household care will be lifted."

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