



*A variety of electrical appliances were available to Edmontonians in this early twentieth century store.*



CHAPTER 2

# Moving with the Times

.....

1902 – 1919

**ELECTRICITY:** A term applied to that unknown power in nature, which produces electric phenomena.

– from the 1911  
*Handy Electrical Dictionary*

The first two decades of the twentieth century brought great change to both Edmonton and the new Province of Alberta. The Klondike Gold Rush, begun in 1896, would bring prospectors to the West. Homesteaders continued to flood into the area, attracted by government-funded advertisements promoting settlement. In 1902, a railway bridge was built across the North Saskatchewan River, linking Edmonton to the rest of Canada. Two years later, Edmonton was incorporated as a city. In 1905, it became the capital of the new province of Alberta. By 1908, Edmonton had its own streetcar system. In 1912, Edmonton amalgamated with Strathcona, its neighbour to the south, raising the capital’s population from 24,900 to 30,479. By the time an economic slump slowed the city’s economy in 1914, Edmonton’s population had grown to 72,516.

Edmonton needed to provide many services to its growing population. One of those services was electricity. In 1902, the city became the first in Canada to operate its own electrical utility. To meet the needs of a quadrupling population and increasing per capita demand, the utility increased its generating capacity 13-fold between 1907 and 1914, to 9,375 kW. Those responsible for this expansion faced considerable and unique challenges during this time of growth and transition.

## THE SALE OF EDMONTON ELECTRIC LIGHTING AND POWER

Despite the success of Edmonton Electric Lighting and Power under its private owners, there had been occasional lapses in service over the years. The

## MILESTONES

1902

The Low Level Bridge connecting Edmonton and Strathcona opens.

1903

*The Edmonton Journal* begins publication.

1904

The City of Edmonton purchases Alex Taylor’s telephone system for \$17,000.

1905

Alberta becomes a province within the Dominion of Canada, with Edmonton as its capital city.

1908

Classes begin at the University of Alberta.

Edmonton’s streetcar system begins operation.

The City of Edmonton installs the first automatic dialing telephones in North America.

1909

The City of Edmonton hires Alex Decoteau, Canada’s first Native police officer. He will later be killed during the Great War.

1911

Alberta’s legislature building opens; construction is completed in 1913.





people of Edmonton were voicing their dissatisfaction to Edmonton Town Council. So, in January 1902, when Edmonton Electric Lighting and Power asked for a 10-year renewal of its franchise, the Town decided to purchase the utility outright.

On May 8, 1902 the Town of Edmonton officially took over the ownership of Edmonton Electric Lighting and Power. For \$13,500 the municipality acquired the powerhouse, its generators, three boilers, and all other assets.

The electrical utility required considerable renovation when it was transferred to municipal ownership. The generating station had been built on a

flood-prone spot on the riverbank. Flooding had caused much as-yet unrepaired damage to equipment and to the foundations under one of the engines; the plant's vulnerability was made clear a short time after the transfer of assets, when a broken crankshaft left the community in total darkness. Town commissioners decided to move the plant out of harm's way. Operations were moved a short distance upstream, to just east of the Walterdale (105 Street) Bridge's present location. The station built at this location was the original Rossdale Power Plant; it included a water pumping station. Coincidentally, the municipal plant was built partly on the site of an early Fort Edmonton.

New equipment was also necessary to make the utility reliable. The generating system in use at the time of transfer of ownership was becoming outdated, and though an existing generator could still be used, more generating capacity was needed.

Considerable funds were spent to build the new building, move in the old equipment, and to purchase and install a new generator. The new facility was named Edmonton Water and Light Station.

The distribution system was also

**OPPOSITE:** *The Rossdale Power Plant at the turn of the century. INSET:* *The building's datestone survived the demolition of the original plant.*

## A REPORT FROM THE PLANT

The [new] electric light plant was installed by the Canadian General Electric Company under the supervision of Chas. L. Leacock ... The old electric light plant, which is in operation as well as the new, consists of two return tubular boilers of 80 horsepower each and one tandem compound engine of 150 horsepower. The boilers are fed by a ... duplex outside packed pump with sufficient capacity to feed four boilers.

The boilers supply steam to run the waterworks pump during the day. Arrangements have lately been made to have the plant fitted with a 1000-horsepower condenser. There is a force of 450 horsepower available for the electric light plant, but only about 250 horsepower are now being used. The pumps require 100 horsepower to run both together. For electric lighting the large engine is run until

11:30 PM, then the 150 horsepower engine until 5:30 PM, when the large engine is run again until morning.

The dynamo and switchboard of the electric light plant were installed by the Canadian General Electric company. The machine is a 3,000 light S.K.C. alternator, excited by a 4 1/2 K.W.D.C. bipolar generator. Upon the blue Vermont marble switchboard are mounted one-volt meters with a new style of double throw switch, which connects either phase of the machine to the motor. There are two ampere meters, one on each circuit, one ground detector; also four switches upon board, one to connect the exciter to the alternator fields, the generator to the bus bars and two switches which connect the bus bars to the transmission line. There are also two rheostats: one controlling the field current of the exciter

and the other regulating the amount of current flowing to the alternator field. At the bottom of the switchboards are two regular heads, each one being connected with several coils of armature, allowing an adjustment of voltage if either phase is more heavily loaded than the other.

Provision is also made for running the old machine at the same time as the new one. A lamp mounted upon the switches indicates by its pulsations the relative speeds of the two machines: when the lamp is bright the two generators are in phase and the switches can be closed, paralleling the same.

*From The Daily Edmonton,  
1903*

*\*Note: Generation at this time was two phase alternating current. Three-phase alternating current later became standard.*





### ALBERTA BECOMES A PROVINCE

*Inauguration Day, September 1, 1905*  
 Those were wonderful days, the days surrounding September 1, 1905. They were wonderful nights, too. In fact, it might be said the nights were almost more wonderful than the days ... During the nights Edmonton, the new capital, rivaled Paris for the title: City of Light. Edmonton blazed with lights as it never had before. And the electric light department of the new capital helped to make it so, by giving everyone [two days] of free power ... It was on the “powerhouse.” Let Edmonton be the city of light. The first place they decorated was Alberta College, just off First and Jasper. Alberta College was headquarters for the inauguration revelry, and string after string of coloured lights were hung on the college. Down on 98th Street the front of the fire hall was

ablaze with mottoes and designs, worked out in coloured lights.

Across from the fire hall on Jasper Avenue, the round tower of the Alberta Hotel was transformed into a barber pole by alternate strings of red, white, and blue lights. [Along] the length of Jasper Avenue ... up to Fourth Street – there were arches proclaiming the greatness of the new province. The arches were hung with sheaves of wheat, evergreens, and of course, lights. The Hudson’s Bay store and Revillon Freres were spangled with white stars. The residential streets were bright with Japanese lanterns hung in the trees. The very night was dazzled by the brightness. ... By night Edmonton was a veritable beacon ....

*From The Edmonton Story,  
 by Tony Cashman, 1956*

### MILESTONES (continued)

**1911**

Calgary Power Company Limited is registered.

**1912**

Strathcona amalgamates with Edmonton.

**1913**

The High Level and Walterdale bridges are opened in Edmonton.

The Alberta legislature building opens.

The City of Edmonton appoints Annie Jackson, Canada’s first female police officer.

**1914**

World War 1 begins.

**1915**

Edmonton’s Commercial Grads basketball club is formed.

Edmonton’s 49th Battalion goes overseas to fight in Europe.

**1916**

Alberta women gain the right to vote in provincial elections.

Prohibition comes to Alberta.

**1918**

The Spanish influenza epidemic strikes Alberta.



## PETER MCNAUGHTON

According to an *Edmonton Bulletin* article dating from June 5, 1916, Peter McNaughton was “one of the best-known Edmonton citizens.” He was a graduate of the mechanical engineering program at McGill University, and a member of the Canadian Society of Mechanical Engineers. McNaughton apparently came to Edmonton from Huntingdon, Quebec in 1898, and was soon employed as the power engineer at the city power plant. He retained this position until 1910.

McNaughton was active in civic affairs, and spent a two-year term as a City commissioner. He earned the esteem and confidence of a great many people. In a September 1903 letter to the Town of Edmonton, for example, he makes a request to the council for holidays on behalf of power plant employees. No doubt his workers respected him. “Of a genial disposition, he was exceedingly well

liked by all. A mechanic, a scientist, a soldier, he was a typical type of the all-round Canadian.”



McNaughton had always taken an interest in military affairs, and therefore was eager to sign up for service soon after World War I broke out. Like so many others, he was never to return. Sometime in June, 1916 his wife was notified that machine gunner Peter McNaughton had been killed in action.

*Source: The Edmonton Bulletin, 1916*

improved and expanded; new poles were installed while existing ones were altered for better transmission. In addition, a newly installed series street lighting system meant that streetlights could be turned on from a single point; previously, each one had to be turned on individually. This was fortunate, as the streetlights were growing in number: there were only 53 lights in 1905, and 1550 by 1920.

Before the Town of Edmonton took over the provision of electricity to its residents, the service was provided only until late in the evening. With municipal ownership, service was increased to 24 hours a day.

## A GROWING MARKET

Despite the purchase of new equipment, demand for power soon exceeded the utility's generating capacity. The area of the city grew from 7.17 square miles in 1904 to 14.67 square miles in 1908 and to 40.88 square miles in 1914. Furthermore, the population increased from 14,088 in 1906 to 23,000 in 1909, then to 72,516 by 1914. In 1908, the City had also taken over ownership of the street railway system, which operated on direct current electricity. Grain milling, grain elevators, machine shops, and packing plants established themselves in Edmonton. Expansion of the power and light service would have to keep step

with the general development of the city.

From 1904 to 1914, Edmonton undertook yearly expansions of electrical services. Two million dollars was raised for the power plant, and one million dollars was raised for the distribution system. These investments soon began to pay off; by the end of this period, the utility was producing a \$300,000 surplus for the City every year.

How was the money spent? Additions were made to the Rosedale building in 1906 and 1908. In 1908, a Loomis-Pettibone gas producer of 750 horsepower capacity was installed, along with a gas-engine-driven three-phase alternator. Then, in 1910, a 2,000 kW turbo-generator was installed. Two more generators were added in the following year: a second 2,000 kW unit, and a 400 kW direct current generator that energized the street railway. The railway required more power, however, so an additional 750 kW direct current generator was added in 1912. Then again in 1913, a 4,000 kW turbo-generator was purchased and installed to bring the total alternating current generating capacity at Rosedale to 9,375 kW.

The distribution system, too, was in dire need of renovation; it had become a system of feeders so complicated that economical operation became impossible. With the economic depression during World War I, however, there was little that could be done to improve the system until 1922.

## BEYOND CITY BORDERS

From time to time, as the city's power plant was stretched to the limit, alternatives to the utility's thermal generators were examined. In 1904, at the suggestion of the Edmonton Board of Trade, a



**TOP LEFT and RIGHT:** *Additions were made to the Rosedale Power Plant in 1906 and 1908.*

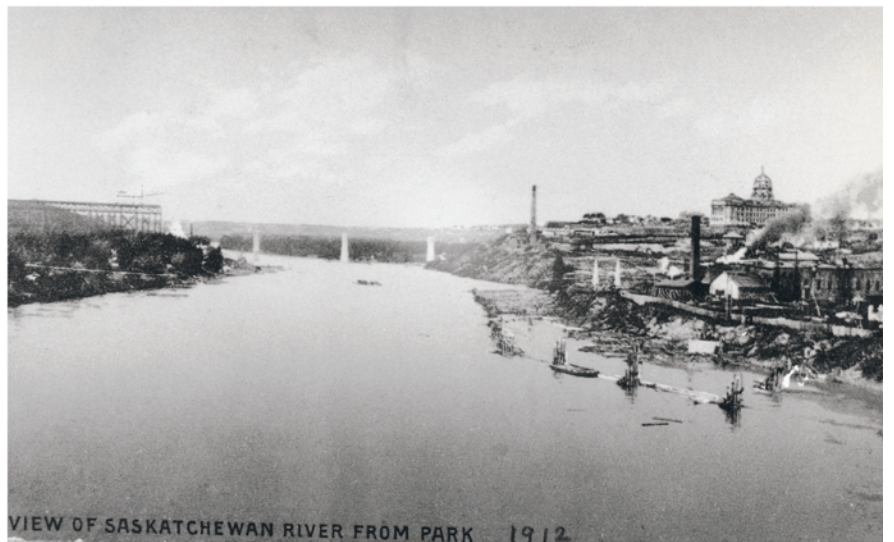
**RIGHT:** *Streetcars running on direct current power were an important part of Edmonton's transport system in 1910.*

**BELOW RIGHT:** *Both the legislature and the High Level Bridge were under construction in 1912. Rosedale is visible on the far right of this photograph.*



**COAL!**

Edmonton's first electric generating units were fed steam produced in coal-fired boilers. The Town of Edmonton contracted Samuel Moran to provide this coal. Moran was to provide graded coal to the generating station for a flat fee of \$225 per month. The contract obliged Moran to supply fuel sufficient to supply 1500 customers. If the customer base increased, Moran would receive an additional \$15 for every 100 customers in excess of 1500.





### FROM THE EDMONTON LIGHT AND POWER ANNUAL REPORT, 1913

In accordance with the policy of the Commissioners, the management of the substation was taken over by the Power Plant from May 1st, 1913, and at the same time debenture liabilities amounting to \$149,551.03 were transferred from the Street Railway books to those of the Power Plant. At

this time the only substation was a small wooden structure on Syndicate Avenue [95 Street], equipped with one 500 K.W. motor generator. As it was decided to abandon this site, plans were at once prepared and construction commenced on a permanent brick substation of

modern type, situated on John Street [80 Street], adjoining the new car barns. A transmission voltage of 6,600 volts was determined to be the most economical, and was, therefore, adopted – two 1,000 K.V.A. three phase, step-down transformers being installed in the substation. During November, 1913, the new substation was put into service with one 500 K.W. motor generator, which was transferred from a temporary location at the Power Plant. Early in 1914 the old substation will be dismantled and the motor generator and equipment re-erected in the new one, which will then contain 1,000 K.W. rating of synchronous motor-generating machinery and 2,000 K.V.A. transformer capacity.

*From the Edmonton Light and Power  
1913 Annual Report*

**LEFT:** 100 Substation in 2000.



### HOW DID ROSSDALE GET ITS NAME?

Rossdale, or Ross Flats as it was first known, got its name from local hotelier Donald Ross. Ross came to Edmonton in the early 1870s, where he was to erect the third house built in Edmonton, after the Hudson's Bay Company and the Mission. Being one of the few European men in town, his hospitality was stretched to the limit; thus, he decided to charge visitors \$0.50 for meals. This was his start as a hotelier. He opened the Edmonton Hotel in 1876. Ross's hotel was the first to be established west of Portage

La Prairie. Fitted up with rooms, kitchen, bar, and billiard tables, the Edmonton Hotel would remain as a landmark until 1925, when it was destroyed by fire. No doubt the Edmonton Hotel was one of Edmonton Light and Power's preferred customers. The power plant, still situated in Rossdale, continues to bear Donald Ross's name.

*Sources: The Edmonton Bulletin 1915, The Edmonton Journal 1955, The Alberta Hotelman 1965, and City of Edmonton Archive material*

consultant was hired to examine the possibility of a hydro-electric plant on the North Saskatchewan River 50 miles to the west of the city. According to the report finally made available in 1907, this was a feasible plan, though quite expensive: it required a capital outlay of \$1 million and yearly costs of \$139,000.

So the hydro-electric idea was shelved until 1910, when the City explored the possibility of a hydro-electric facility on the Athabasca River, at Grand Rapids, 200 miles north of the city. This idea was soundly defeated at the polls. Again, in 1912, the idea of a hydro plant on the Saskatchewan was investigated but later rejected. Though the City wanted to deal with its growing need for power, it





## THE BOUILLON AFFAIR: THE POWER PLANT CONNECTION

Politics are a part of business at municipally-owned utilities like Edmonton Light and Power. The “Bouillon Affair” of 1911 made this particularly apparent.

Mr. Bouillon moved from Seattle to Edmonton in April 1910. The City hired him to manage its municipal utilities; as a commissioner, Bouillon was paid the then-astronomical figure of \$10,000 per year. This high salary didn’t please everyone, and so Mr. Bouillon began his career in Edmonton on the wrong foot. This was just the beginning. As time went by, Bouillon proved to be what people called a “czar,” about as close as one could get to a dictator: he wanted to run all the departments himself and in his own way. City aldermen attempted to get rid of Bouillon after realizing that he did not meet

expectations. This task involved legal and civic battles, and spurred a media war that produced both comedy and drama for local citizens.

In early January of 1911, eight days after the public declaration of war between Bouillon and some of the City aldermen, Commissioner Bouillon refused to recommend that the city power plant superintendent go along with a civic party to eastern Canada on a buying trip. Two days later, he fired both the power plant superintendent and the head of the street railway. He refused to give any reasons. When councilors protested, he reminded them that hiring and firing was a power given to commissioners. This further enraged the councilors, and they “fixed” him by refusing to allow him to go on a three-week holiday. The street

railway also sent him a bill for \$22.50 for four late streetcars he had ordered to run after midnight mass on Christmas Eve.

Later that year, Edmonton City Council decided to have Bouillon hire an engineer to advise them on big purchases like power plant equipment. Bouillon hired a fellow who initially seemed competent. But it was soon discovered that his main engineering experience had been gained while installing some minor equipment at the Ponoka Mental Hospital.

Finally, after numerous legal challenges, the City was able to rid itself of Bouillon: he was fired. Ironically, he went back to Seattle where he took a job managing a big shipyard – for a salary of \$40,000 per year.

seemed unable to settle on a solution. Finally, in 1914, it appeared as though the City had resolved to purchase new equipment, including a boiler system, for Rossdale. Despite these intentions, this initiative was delayed when World War I broke out.

### AMALGAMATION

When Edmonton amalgamated with Strathcona in 1912, the Strathcona Power Plant became Edmonton’s responsibility. Edmonton had occasionally purchased power from this plant to meet peak demands. Large sums of money had been spent on machinery prior to the amalgamation. According to the Power House Annual Report of 1913, two boilers together with a 600 kW slow-

speed engine and alternator had been put into service in Strathcona. A new brick stack had been built and a considerable amount of money had been spent on coal unloading facilities. Unfortunately, after amalgamation the City operated this plant only when it was necessary, and it contributed only 1.66% to the total output in 1913. The poor condition of the building and its foundations, as well as the high cost of fuel, made the plant uneconomical to operate.

### ALLIANCE POWER COMPANY

Ownership of utilities was a hotly-debated topic in the early decades of the twentieth century – many thought that public utilities should be privatized, while others were opposed to this idea.

Edmonton Light and Power did not escape scrutiny. City Council had received numerous proposals from private businesses that wanted to participate in the electrical industry. When the question was put to the public in a referendum, they agreed that this would be a positive step forward. Consequently, proposals were called for, and from 1916 to 1919 the Alliance Power Company took over the power plant. They sold power in bulk to the Electric Light and Power Department of the City of Edmonton. This arrangement came to an end due to financial difficulties.

Undoubtedly, the City of Edmonton faced many challenges as it kept up with the ever-increasing demand for electrici-







### ELECTRIC SIGNS ARE BEING DISCARDED

“Illuminated electric signs as a method of advertising will soon be a thing of the past,” said Electric Superintendent Ormsby to the *Bulletin* yesterday, in discussing this method of street advertising.

“Montreal, Toronto, Vancouver, Winnipeg and all the other large cities are drawing the lines tighter on electric sign advertising, and in Minneapolis and St. Paul, where it used to be a big feature, it is being rapidly discarded,” he continued.

“What is the objection?” the *Bulletin* representative asked.

“The great complaint is the unsightly appearance of the signs in day time. They resemble rookeries in the best parts of the city,” replied Mr. Ormsby.

“Another reason is that it is hard to regulate them. Every person who gets a sign tries to go one better than his neighbour, and completely eclipse him if he can. You can see that already along Jasper Avenue.

“Edmonton will give more attention to street lighting, as Minneapolis and St. Paul are now doing, and the result will be a much better appearance both in the day and at night.”

*from The Edmonton Bulletin, 1910*

ty during the period from 1902 to 1914. However, financial records show that the City made a considerable profit from the utility during this time, and was able to keep rates among the lowest in Canada, at \$0.08 per kWh.

Over the same period, from 1902 to 1914, the ability of the power plant to

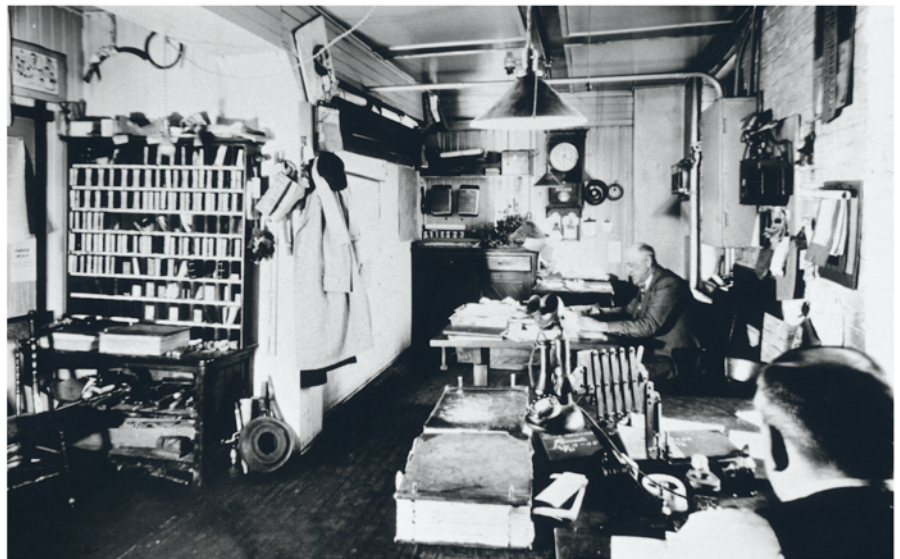
### POWER PLANT AND PUMPING STATION WITHSTOOD TEST: *Flats Flooded to First Street*

At the power plant, the scene was rather remarkable. The entire staff is working under high pressure, and in some instances, under high water. Several of the [ash] pits [in the plant's basement] have from four to six feet of water in them. As the power plant is the vital heart of the city, Mayor Henry and Commissioner Harlson kept gravitating to this point to see how things were going. The water kept rising in the pits at the average rate of one foot every hour. But it was noticed that by three o'clock in the afternoon the rate of rise was decreasing and it was felt that unless the

entire plant was flooded in from the surrounding land, it would be possible to keep it going.

The only way in which it was possible to keep the plant running was to keep ... the water out of the ash pits. Here a big six-inch hose was attached to a high power pump and a great stream of water was forced out of the pits just a trifle faster than it was coming in from the river. In this way the water was kept below the level of the fireboxes and steam was kept up, although the stokers were working in water all day long to do it.

*from The Edmonton Bulletin, 1915*



meet demand also increased. From a net capacity of 225 kW in 1902 (after the upgrade), net capacity had risen to 9,375 kW by 1914.

When the Great War came to a close in 1918, soldiers began to return to Edmonton. Businesses again began to flourish. Edmonton Light and Power

would continue to face the challenge of responding to a growing demand for power in a thriving city.

**ABOVE:** *The accounting office at Rosedale early in the twentieth century.*

