

**NORTHERN LIGHTS: A HISTORY OF THUNDER  
BAY HYDRO**

by  
**David Leo Black ©**

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Partial Fulfilment of the Requirements  
for the Degree of Master of Arts  
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## INTRODUCTION

Electricity has played an important role in the economic and social development of Ontario cities, and Port Arthur and Fort William located at the head of the Great Lakes are no exception to this rule. Industrial development depended on an adequate electric power supply, especially for the pulp and paper industry, the industrial mainstay at the Lakehead. Safety in the city streets and a high quality of life for the citizens were also provided by electric lighting and numerous electric appliances. There are few households or businesses today that do not have access to electrical power; in this way, it has touched each of our lives. This paper examines the history of the prime provider of electric power at the Lakehead, Thunder Bay Hydro and its predecessors. For one hundred and ten years this area has been served by the hydro electric Commissions of the two cities. For the first four decades of their existence, roughly 1910 until the end of the Great Depression, the Port Arthur Public Utilities Commission and the Fort William Hydro-Electric Commission were influenced greatly by the inter-city rivalry. The two cities are geographically isolated from other cities but in close proximity to each other and this set the stage for their rivalry. They competed for such things as industries and electric power. After the Great Depression began, however this rivalry subsided, where electric power matters were concerned.

The history of electricity at the Lakehead can be divided into six eras. Each era is studied in a chapter in this thesis. The first era began about 1889, when the first lights flickered in Caleb Shera's store, and ran until 1906 when the Kaministiquia Power installation was built at Kakebeka Falls to supply 35,000 hp to the area. During this

time, the cities had many options from which to obtain their power supply. There were private firms such as the Port Arthur Water, Light and Power Company, the Current River Power Company, and the Arthur Power Company, all vying for rights to generate power on the Current River. There was also a public power development on that river from 1891. In Fort William there were numerous groups vying for water rights on Kakebeka Falls and a publicly-built plant existed in the city from 1898. Each city took a different route to obtain a power supply, as Port Arthur fought private interests and got water power rights for the municipality whereas Fort William was content to allow private interests to develop Kakebeka Falls. The main reason was the cost of developing power at Kakebeka Falls, which was very high and would have bankrupted the municipality, compared to the cost of the municipal development of 700 hp on the Current River which the city of Port Arthur could afford.

The second chapter examines the years 1906-1917. It was in this era that the two municipalities joined Ontario Hydro, each for its own reasons. Port Arthur needed a secure power supply since the Current River potential was inadequate and the city did not trust private interests. Port Arthur joined Ontario Hydro to safeguard its interests on Dog Lake and the Current River from the Ontario-Michigan Power Company and the Kaministiquia Power Company. In Fort William, dissatisfaction with the rates charged by Kam Power, which were higher than Ontario Hydro's, led them to join Ontario Hydro in 1917. The city did not join Ontario Hydro for all of their power needs until almost a decade later since the city had a ten-year agreement with Kam Power which did not

expire until 1926.

The third era, 1917-30, was one of difficult growth for the utilities. Ontario Hydro built a generating station on the Nipigon River which provided the first large-scale generation in the area built by public funds. This provided a secure power supply for the cities and attracted industrial growth to the Lakehead as pulp and paper mills were established in the area. Fort William remained hostile toward the provincial utility since they felt that Ontario Hydro favoured Port Arthur over their interests, while the people of Port Arthur were far more conciliatory in their attitude toward the provincial Commission. The two cities struggled with one another to attract pulp and paper mills by using abundant power supply and low rates as bait for the companies.

The fourth era was that of the Great Depression, when the most important challenge for the local utilities was their relationship with pulp and paper interests. In an attempt to keep the mills operating, Ontario Hydro granted a rate reduction to the mills which the local utilities had to absorb. The wholesale power rate from Nipigon did not drop since the cost of providing power by the provincial Commission did not decline. The two cities, especially Port Arthur, struggled to cover the rate reductions but failed to do so. Finally, by 1942, they turned over the pulp and paper load to Ontario Hydro as "system customers". The largest customer for the city became the domestic load of residential customers.

In 1949, early in the fifth era, 1945-1969, Ontario Hydro and the Fort William

Hydro-Electric Commission purchased the Kaministiquia Power installation. The entire area was subsequently serviced by publicly-owned power. Ontario Hydro, as well as the local Commissions, expanded greatly in this era by adding generating stations, power lines, and substations, to the system. It was a time of remarkable material growth for the hydro-electric industry of this area.

The two cities amalgamated in 1970 which meant the merger of the Port Arthur Public Utilities Commission and the Fort William Hydro-Electric Commission as Thunder Bay Hydro was born. The demand for power grew at a rapid pace in this era as the power load doubled between 1970 and 1980. Thunder Bay Hydro has struggled to keep its rates as low as possible while Ontario Hydro's wholesale rates have steadily increased in this time. There are indications that the local utilities are having some success as their retail rate dropped for the first time in twenty years, while Ontario Hydro did not increase its rates in 1994.

Most of the information for this thesis came from one of four archives. First, the bulk of the sources used were the extensive operating records from the Port Arthur Public Utilities Commission. There were over 100 boxes of documents which spanned both the early era of electrical development at the Lakehead as well as the period from 1945 to 1970. There were 60 rolls of microfilm which covered the years 1913 until 1945. For the City of Fort William the records were far less complete. The files were mixed into the City Clerk's files for that city and did not contain the detail found in Port Arthur's records which were a separate category. For the post-1970's era Thunder Bay Hydro was

the main source consulted. The two main sources were the Minutes of the Hydro Commission meetings and the Annual Reports. The Ontario Hydro Archives in Toronto had much information about the relationship between the provincial and the local utilities. The main collection of documents consulted were the Fort William and Port Arthur files which were included in the municipal histories collected by the Commission. For the pre-1900 era the Thunder Bay Museum had the collection of documents on which to base the first chapter.

Many people have helped me in the completion of this thesis. In the research stage four archives were used and I was fortunate to meet helpful people at each one. At the Thunder Bay Archives, Alex Ross, Richard Hargreaves, Jo-Anne Anderson and Maggie Lesperance recovered numerous files and boxes from the city records. At the Ontario Hydro Archives, Rea Papperela, Jan Liebars and Trish Wilcox made the trip to Toronto very rewarding thanks to their co-operation in providing information from that archive. Tory Tronrud of the Thunder Bay Museum provided valuable information on the early years of hydro-electric development, and the staff of the Inter-library Loans Office at Lakehead University procured the Ontario Hydro Annual Reports, which were invaluable to my research. I would also like to thank Julia Sore at Thunder Bay Hydro for providing most of the sources for the last chapter. I would also like to also thank my typists for this project, Alison Lavioe and Alison Dacey, as well as Cathy Chapin for her preparation of the map, and for their skill and promptness in preparing this manuscript. I owe a vote of thanks to my readers, Professor V. C. Smith and Dr. H. V. Nelles for

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# CHAPTER ONE

## Many Options

By the late nineteenth century access to electrical power was a necessity for the growing cities and towns of Ontario. The latter half of this century saw many inventions, innovations and applications of electricity which were used in many industrial processes as well as for various domestic purposes. Clearly, if a city wanted to compete with other cities for industry in this period access to electricity was the key. If an area lacked a power supply, many industries simply would not locate there. This situation was no different for the towns of Port Arthur and Fort William at the head of the Great Lakes. Electricity was needed to allow these towns to become modern cities with healthy economies and high standards of living.

The path these cities took toward electrification was similar in some ways and quite different in others. Each city originally depended on coal-fired electric steam generators but both switched over to hydraulic power soon after the turn of the century. In both cases, this change was probably due in some part to chronic problems with the coal supply,<sup>1</sup> as well as advances in hydro-electric technology which occurred around

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<sup>1</sup>Merrill Denison, The People's Power: A History of Ontario Hydro, (Toronto: McClelland and Stewart, 1960), p. 8. A coal strike in the United States in 1897 had a significant impact on the electric industry in Canada as many communities looked for alternative energy sources. Another strike, this time in 1901, led to the establishment of the Ontario Hydro-electric Power Commission in order to overcome these problems of energy supply.

1895.<sup>2</sup>

The two cities differed regarding the ownership of their respective utilities. Port Arthur's electrical development began in 1889 under control of a private company, The Port Arthur Water, Light and Power Company, but the town gained municipal control of electricity in 1895 when a disastrous fire destroyed the private company's generating station. In addition to this purchase, the town of Port Arthur constructed power facilities on two other occasions, once in 1891 primarily to power the municipal street railway and again in 1901 when the city built a hydro-electric station on the Current River to replace the coal-fired plant.<sup>3</sup>

Fort William originally received power from a municipal steam plant built in

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<sup>2</sup>John Negru, The Electric Century: an Illustrated History of the Electrical Industry in Canada, 1881-1991 (Toronto: The Canadian Electrical Association, 1991), p.106.

The Pearl Street Station built by Thomas Edison in 1882 to supply power to Manhattan was the first commercial electric station. In 1895, Niagara Falls was tapped and power transmitted to Buffalo from the falls. These two developments set the stage for electric power to be transferred over long distances. This allowed access to electric power from a central generation facility to remote areas.

<sup>3</sup>Port Arthur Treasurers Reports, copies of By-laws in 1895, 1896, 1901 and 1906, Thunder Bay City Archives, (Hereafter called TBA).

The Port Arthur debt for electrical projects from 1891 until 1906 was \$117,000. Some of the money spent in 1891 was also required for the street railway but it is unclear how much was spent on hydro-electric power and how much was spent on the railway.

1898.<sup>4</sup> This project was short-lived since it was closed in 1906 after the Kaministiquia Power Company, a subsidiary of Ogilvie Flour Mills, took over the town's power supply. In this case the potential of Kakebeka Falls, (35,000 hp), created a situation where the town probably could not raise the capital needed to harness the power from the falls.<sup>5</sup> This development was simply too large for the town to finance, so Herbert Holt of Montreal undertook the project. The private supplier held a monopoly in the city until 1917, when Fort William purchased some power from Ontario Hydro. Then, in 1926, the city signed a contract to purchase all of its power from Ontario Hydro. From 1926 until 1950, the provincial Commission acted as a middle man by selling Kam Power generated electricity to the city.

The Port Arthur development on the Current River was for 700 hp at its inception, only one-fiftieth as large as the capacity of the Kakebeka Falls project. Port Arthur could afford to finance its own project on the Current River since the outlay of capital was so much smaller than that required in Fort William. These differences had a huge impact on the history of electricity at the Lakehead.

Electric lighting came to Port Arthur six years before it was used in Fort William.

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<sup>4</sup>Elizabeth and Gerald Bloomfield with Peter McCaskill, Urban Growth and Local Service: The Development of Ontario Municipalities to 1981 (Guelph: University of Guelph, 1983), p. 66.

<sup>5</sup>Art Taber, Electricity and Fort William, (Fort William: The Fort William Hydro-electric Commission, 1967), p. 79. From 1897 until 1906 the town of Fort William borrowed \$58,000 to build its power plant on Sprague Street, while the Kakebeka Falls Development cost well over \$500,000 to build. Given this discrepancy, it is unlikely that the town could have paid for the larger development.

After some preliminary discussions about a possible city-operated power plant, an electrical engineer named G. E. Dorman came to Port Arthur to demonstrate the Siemens' System patents. On June 23, 1888, the first lights shone brightly when Caleb Shera's store, "The Right House", was illuminated by incandescent lights powered by a generator in the Woodside Bothers Foundry.<sup>6</sup> Although the store was "lit up" for demonstration purposes only, the advantage of the new technology was not lost on the citizens of Port Arthur. This event marked the dawn of a new era at the Lakehead. The actual building of the street lighting system as well as the electric generator was delayed until 1889. By this time Dorman was gone, off to install a lighting system in Duluth, and a new developer for electricity, The Port Arthur Water, Light and Power Company was on the scene. This firm operated a generator built in the Conmee Planing Mill located on Manitou Street.<sup>7</sup> The contract between the city and the company was signed on December 21, 1888 and laid out the conditions under which the firm would operate in the city. Even in this first contract the town was careful to maintain control of its streets since any works put on the streets by the company had to be approved by the town

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<sup>6</sup>Joseph D. Winterburn, "The Woodside Generator: Port Arthur's First Electric Light System", The Thunder Bay Museum Historical Society Papers and Records, 8 1979, 9.

<sup>7</sup>Ralph B. Chandler, A History of the Port Arthur Public Utilities Commission, Port Arthur: the Port Arthur Public Utilities Commission, 1967, p. 30. Also see Port Arthur Treasurer's Reports, Copy of By-Law 212, 12 November, 1888, TBA. This By-law gave the private company the right to immediately establish a waterworks in the town, and an electric plant a year later.

engineer or a committee of council before the work commenced.<sup>8</sup> The first lighting system built in Port Arthur was "the Hiesler System of Incandescent Lighting."<sup>9</sup> The town was a customer for "at least sixty lights for municipal purposes",<sup>10</sup> which were placed mainly in the commercial section of the town under the direction of the Fire, Water and Light Committee. The rates for domestic and commercial users were set by this committee with charges based on a flat-rate charge per light on the premises.<sup>11</sup> Table 1 shows the monthly rates for commercial and residential lighting in the town in 1888.

The privately-owned franchise could be taken over by the municipality at any time providing a by-law to that effect had been passed by the ratepayers. The price would be set through arbitration.<sup>12</sup>

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<sup>8</sup>Port Arthur Treasurer's Reports, Copy of By-law 217 between the town of Port Arthur and the Port Arthur Water, Light and Power Company, 21 December, 1888, Article 2, Subsection 1, TBA.

<sup>9</sup>Ibid., Subsection 2.

<sup>10</sup>Ibid., Subsection 6.

<sup>11</sup>Ibid., Schedule A. The rates declined as the number of lights increased. This is consistent with the principles of hydro pricing since most rates charged throughout the history of the utilities were based on declining block pricing where the price per unit of electricity dropped as the consumption increased.

<sup>12</sup>Ibid., Article 2, Subsections 9-12.

Table 1. --Rates charged for lighting in Port Arthur, 1888.

Commercial Rates

	Candle Power		
	30	40	60
1 Light	\$2.00	\$3.00	\$4.00
2 Lights	4.00	6.00	8.00
3 "	5.70	8.55	10.00
4 "	7.60	10.00	15.20
5 "	9.00	13.55	18.05
6 "	10.00	16.25	21.65
7 "	12.40	18.90	25.20
8 "	14.40	21.50	28.80

Domestic Rates

	Candle Power		
	30	40	60
1 Light	\$.70	\$1.40	\$2.00
2 Lights	1.40	2.80	4.00
3 "	2.00	4.00	5.70
4 "	2.65	5.30	7.60
5 "	3.15	6.35	9.00
6 "	3.80	7.60	10.85
7 "	4.20	8.40	12.60
8 "	4.10	9.60	14.40

One of the most interesting aspects of this company was the prominent Port Arthur citizens involved in both the financing and operation of the new enterprise. The president of the firm was M. Dwyer and the Secretary was James McTiegue who, in 1893, became Treasurer and Manager of the Street Railway as well as the accountant for the town's electric lighting system. Among the financial backers were George O.P. Clavet, the first mayor of Port Arthur after it was incorporated as a city in 1907; Thomas Marks, the first mayor when Port Arthur became a town in 1884; and James Conmee, Liberal

MPP and father-in-law of James Whalen, who built the building which would later house the municipal hydro utility.<sup>13</sup>

The municipal ownership spirit was evident in Port Arthur as early as May 1889 when council passed a resolution for the acquisition of the Port Arthur Water, Light and Power Company. It stated that:

The council declares that it is expedient in the interest of the town of Port Arthur, to acquire the works of the said Port Arthur Water, Light and Power Company for the purpose of supplying the town with electricity for the purpose of light, heat and power.<sup>14</sup>

Due to financial considerations this was never acted on, but it illustrated that Port Arthur had, from a very early time, a desire to control its power source. It was significant that the town almost took over the franchise before it was even in operation for a year. Clearly Port Arthur council was wary of private operators and resisted any overtures by private firms to supply power to Port Arthur.

Given the opposition toward the private company as exhibited in By-law 217, it was almost inevitable that the next electrical enterprise in the town would be a municipally-owned and operated system. In 1891 one of the first municipal enterprises in Canada was built in the form of the Port Arthur Street Railway.<sup>15</sup> The purpose of

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<sup>13</sup>Chandler, History of the Port Arthur PUC, p. 2.

<sup>14</sup>Copy of By-law 217, May 1888, The Thunder Bay Historical Museum Society, (Hereafter called TBHMS), G10/1/1.

<sup>15</sup>Negru, The Electric Century, p. 3. Electric streetcars were developed in North America only eight years previously and were usually installed and operated by private firms.

this electric railway was to link Port Arthur with Fort William and allow residents easy access to one of the biggest employers in the area, the Canadian Pacific Railway yards located in Fort William. Of course, the operation of this line required electric power and the Port Arthur Water, Light and Power Company did not have the capacity needed to fill this demand so an alternative was sought. It made no sense for the town to pay for the construction of a street railway and not control the power source needed to operate it so the town built its own steam generating plant. This generator was built on the Current River to supply both the street railway and commercial users in the town.<sup>16</sup> The cost of this project was \$75,000.<sup>17</sup> From that day forward, the city of Port Arthur had a municipally owned and operated power plant and the Current River became synonymous with electric power.

Thus, by the time Fort William had the first lights switched on, the town of Port Arthur already had two electric power developments. In 1894 T. A. Bell, the publisher of The Fort William Daily Times Journal had a power line strung from the street railway to the editorial offices of the paper which supplied five 16 candle power lights.<sup>18</sup> Like

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<sup>16</sup>Port Arthur Treasurer's Reports, "The Growth and Development of Municipal Ownership in Port Arthur, Ontario," 25 July, 1905, p.1, TBA. Also see Chandler, History of the Port Arthur PUC, p. 30.

<sup>17</sup>Port Arthur City Clerk's Files, Copy of By-law 281, 2 February, 1891, TBA. The plant produced 150 HP and was increased to about 210 HP in 1894. See Chandler, History of Port Arthur PUC, p. 17.

<sup>18</sup>Taber, Electricity and Fort William, p. 5.

the experience of Port Arthur, there was a delay in the establishment of a lighting system in the town. In Port Arthur this delay was only one year, but in Fort William it lasted four years as their lighting system was not built until 1898.

On August 18, 1894 disaster struck the Port Arthur Water, Light and Power Company when its generator was destroyed by fire.<sup>19</sup> Unfortunately for the company the building was not insured. This effectively ended privately owned and operated electrical utilities in Port Arthur until the mid-1980s when Robert Whiteside developed a small power plant on the Current River. In 1895, the idea of a takeover of the remnants of the Port Arthur Water, Light and Power Company was broached once again when a local editorial asked:

...would it not be well for the town council to make an offer to the company for the outside plant and the town itself to do the lighting in the future?<sup>20</sup>

Since the company was obviously disabled by the fire and there was a good deal of municipal ownership sentiment in the town, it was not surprising that an offer was made for the company. A sale seemed to meet the needs of all involved: the owners of the company would recoup their losses due to the fire and their failure to carry insurance, while the town could gain control of the power source for the municipality. On January 13, 1895, almost five months after the fire, the town council decided to purchase the

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<sup>19</sup>Port Arthur City Clerk's Files, "The Growth and Development of Municipal Ownership in Port Arthur, " p. 3, TBA. Also see Chandler, History of the Port Arthur PUC, p. 3.

<sup>20</sup>Copy of an editorial in the Port Arthur Weekly Herald, September 1894, TBHMS, G10/1/1.

remnants of the company.<sup>21</sup> The actual sale was not completed until October 14, 1895 due to some haggling over the sales price which was finally set at \$7,000.<sup>22</sup>

With this new acquisition now under town control along with the street railway power source, the work became too onerous for the town's Fire, Water and Light Committee. On December 16, 1895, a by-law was passed to replace this committee with a three-man Electric Railway and Light Commission which would oversee both the street railway and the growing electric utility.<sup>23</sup> This Commission operated until 1911, when it was replaced by the Port Arthur Public Utilities Commission which lasted until the two cities were amalgamated in 1970.

These newly-appointed commissioners faced a challenge almost immediately with the electric utility. The business of the street railway had grown so that by 1895, 158,573 passengers were carried on the line. This increased demand for electricity at a time when the supply had decreased since the fire wiped out the other source. By the end of 1895, the electrical system needed to be expanded in order to produce more power in order to keep pace with the increasing demand. In 1896-97 the town:

...inaugurated a system of incandescent lighting for domestic and commercial users

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<sup>21</sup>History of Port Arthur File, Copy of By-law 436, 13 January, 1895, Ontario Hydro Archives (hereafter called OHA), 510.001. Also see *Ibid.*, By-law 446, which reinforced By-law 436.

<sup>22</sup>Port Arthur Treasurer's Reports, Copy of the contract between the Town of Port Arthur and the Port Arthur Water, Light and Power Company, 14 October, 1895, TBA.

<sup>23</sup>Port Arthur Treasurer's Reports, Copy of By-law 447, 16 December, 1895, TBA.

and the streets were equipped with 1,000 16 candle power lights with poles and wires covering the settled areas of town.<sup>24</sup>

The cost of these improvements was \$15,000.<sup>25</sup> This investment soon paid dividends for the town since the income increased by almost one third from the 1894 figure. As Table 2 indicates, from 1895 until the end of the decade, the Electric Railway and Light Utility made at least a modest profit each year after enduring losses from 1892 to 1894. It is unclear how much of the profit or loss was due the street railway or the sale of power since the statements show combined figures for the two utilities.<sup>26</sup>

Table 2.--Profit/(Loss) for the Street Railway and Electric Light and Power Departments, 1892-99.

YEAR	INCOME	EXPENSES	PROFIT/(LOSS)
1892	\$6,139.10	\$7,691.11	(\$1,552.72)
1893	8,357.47	12,657.75	(4,300.28)
1894	10,603.73	13,373.98	(2,770.25)
1895	10,688.32	10,461.37	226.95
1896	13,002.55	10,958.47	2,843.88
1897	12,166.97	12,053.43	113.54
1898	14,438.13	12,295.48	2,142.46
1899	15,565.29	14,000.75	1,584.54

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<sup>24</sup>"The Growth and Development of Municipal Ownership in Port Arthur", p.4, TBA.

<sup>25</sup>Port Arthur Treasurer's Reports, Copy of By-law 527, 22 November, 1896, TBA.

<sup>26</sup>"The Growth and Development of Municipal Ownership in Port Arthur," p. 2, TBA.

In 1898 the town of Fort William finally installed its own power system when council had a steam-driven plant built on Sprague Street. On March 1, 1898, a by-law for the venture was passed which provided financing for the plant.<sup>27</sup> Like the first initiations in Port Arthur, the decision to build a steam plant rather than a hydraulic plant was due to the cost, since hydro-electric installations were more expensive to install at this time. In all likelihood, this plant was built because of a sense of urgency on the part of the council since the generator began operation within twelve days of the by-law vote. On Saturday March 12, 1898, the citizens of Fort William saw their own "artificial sunshine" as the steam boiler began operation.<sup>28</sup> The station could generate 150 hp which was used to light thirty-five municipal lights placed on every street corner and an additional 690 incandescent lights for domestic use. Similar to Port Arthur the charges were based on a flat rate.<sup>29</sup> The facility was built for \$13,000 and had additions in 1898, 1899, 1905, and 1906.<sup>30</sup> In 1898 the Fort William realized \$3992 in revenue

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<sup>27</sup>Public Utilities File, Copy of Fort William By-law, 1 March, 1898, TBHMS. Also see: Taber, Electricity and Fort William, p.8. The vote was overwhelming in favour of the new plant: 143 for and 13 against.

<sup>28</sup>Public Utilities File, Clipping from the Fort William Daily News, 12 March, 1898, TBHMS.

<sup>29</sup>Taber, Electricity and Fort William, p. 8. The charge for 16 Candle Power lights was 45 cents per light for commercial users and 30 cents per light for residential users.

<sup>30</sup>Taber, Electricity and Fort William, p. 79.

Debentures for the Sprague Street Station and lighting system of Fort William

YEAR	AMOUNT
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from the first year of operation, only 27% of the revenue in Port Arthur in the same year.<sup>31</sup> Although the Sprague Street station filled an important need for Fort William there was little doubt that it was "at best merely a preliminary step."<sup>32</sup> The key for Fort William was Kakebeka Falls, about 16 miles west of the city, and hydraulic power, not the steam plant on Sprague Street, (see Appendix four for a map of generating sites in the area).

The two main potential sources of hydro-electric power for the two towns were the Current River in the town of Port Arthur and Kakebeka Falls for Fort William. There was little doubt after 1894 that the municipality of Port Arthur would develop the power potential of the Current River, but Kakebeka Falls was another matter. As stated earlier, the town of Fort William probably could not supply the capital needed for this huge project and it was left to private developers to fill the void. Almost from the

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1897	\$13,000
1898	3,000
1899	11,000
1900	12,000
1905	5,000
1906	<u>14,000</u>
	\$58,000

These were all 4 1/2% debentures which matured in 20 years, (except the 1900 issue which matured in 1930).

<sup>31</sup>Ibid., p.72. Revenue in 1898: Fort William- \$3992; Port Arthur- \$14438.13.

<sup>32</sup>Ibid., p.8.

beginning, the basic problem facing the developers was funding. There were many pretenders, who failed to find the capital, but hoped to get water rights which could be sold at a profit; and contenders, who had access to capital who could build the power installation. As the rights to the falls were fought for in court and transferred from one to another developer, the financial backing was always a difficult issue. In this era there was no shortage of developers with grand schemes; the trick was to find someone who could pay for the development.<sup>33</sup> All of the legal wrangling will not be recounted here. Although Kam Power greatly influenced the history of electricity at the Lakehead, it is not necessary to discuss the development in a corporate history of the local hydro-electric Commissions. Suffice it to say that, by 1904, Edward Jenison had sold his rights on

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<sup>33</sup>For a brief description of the development of Kakebeka Falls and the various disputes see Taber, Electricity and Fort William, pp. 10-17.

There were seven groups of developers who surveyed or bid to develop the falls. In the end the rights were awarded to Edward Jenison who sold them to the Montreal interests in 1904. Here is a list of the potential developers of Kakebeka Falls. Most were Americans who saw the potential of the power source but in the end it was Canadians who built the installation.

YEAR	POTENTIAL DEVELOPERS	ORIGIN
1889	Eastman Brothers and Mr. Anderson	United States
1894	Francis Clergue	Sault Ste. Marie
1895	Edward Jenison et el	Chicago
1898	Jenison	
1900	Douglas Bothers	Philadelphia
1902	Pringle and Son with Jenison	Chicago
1903	Clergue	
1903	Phillips and Anderson with Jenison	Chicago
1904	Wegge and Jenison	Chicago
1904	Hebert Holt, C. W. Hosmer and F. W. Thompson	Montreal

Kakabeka Falls to a group of Montreal capitalists who developed the falls and sold power to the towns at the head of the lakes under the name of the Kaministiquia Power Company, generally known as Kam Power.

While the debate over who would develop Kakebeka Falls was raging, the town of Port Arthur was also looking toward developing their own water resources on the Current River. As early as 1894 Mayor Thomas Marks and Councillor E. A. Neelan brought William Kennedy, a prominent hydraulic engineer from Montreal to examine the potential of the Current River. His report was favourable but due to financial considerations the development was held over.<sup>34</sup> By 1900 it was clear that additional power would be needed to meet the growing demand for lighting and for the street railway which was overtaxing the steam plant. In the next year Council passed a by-law authorizing the issue of \$30,000 in debentures to provide capital for the development of water resources on the Current River and for the extension of Port Arthur's lighting system.<sup>35</sup> This By-law received overwhelming support as the vote was 3,014 in favour and only 27 against this expenditure.<sup>36</sup> Buoyed by this support in 1901, the Council

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<sup>34</sup>Chandler, History of the Port Arthur PUC, p. 2.

<sup>35</sup>Copy of By-law 572, 25 February, 1901, History of Port Arthur File, 510.001 OHA.

<sup>36</sup>Port Arthur Treasurer's Reports, By-law results, 7 January, 1901, TBA. The By-law submitted for vote read: A By-law to provide for the development of the water power of the Current River in the town of Port Arthur and the extension of the Electric Lighting Plant of the town and to authorize the issue of debentures to the amount of \$30,000.

added an additional \$30,000 in debentures to complete the Current River waterworks and provide hydro-electric power to the community.<sup>37</sup>

For the \$60,000 investment the town added 700 hp to the electrical supply of which roughly 1/3 or 250 hp was used by the street railway. The remainder, 450 hp was used for lighting the streets as well as for residential and commercial customers.<sup>38</sup> The building of this installation set off an intense building campaign in the city as numerous lights were added to the system in the years 1902-04 as Table 3 shows.<sup>39</sup>

Hydro was becoming indispensable and potentially a lucrative business for the utility to enter into. The financial picture for the public utility became much healthier from 1900-02 and, in 1903, the Street Railway and the Electric Light Department were separated and operated as individual units as Table 4 shows.<sup>40</sup>

The Fort William utility also expanded in the early twentieth century when in 1904 the old 150 hp steam generator on Sprague Street was replaced with a new 450 hp generator.<sup>41</sup> As Table 5 shows, this addition added greatly to the power consumed in

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<sup>37</sup>Copy of By-law 591, 1 October, 1901, OHA, 510.001.

<sup>38</sup>Chandler, History of the Port Arthur PUC, p. 3.

<sup>39</sup>"The Growth and Development of Municipal Ownership in Port Arthur...", p.4, TBA.

<sup>40</sup>Ibid., p.2.

<sup>41</sup>Taber, Electricity and Fort William, p.78. The Sprague Street Generator was closed in 1906 when the city began to take power from the Kam Power Company.

the city but revenues still lagged behind those of Port Arthur.<sup>42</sup> Within twenty years of the first lights in Caleb Shera's store both communities at the Lakehead had prospering electric utilities which supplied power to the citizens and businesses.

Table 3.--16 Candle Power Lights in Port Arthur, 1898-1905

DATE	COMMERCIAL AND RESIDENTIAL	STREET LIGHTS
January 1, 1898	629	82
June 30, 1898	775	82
June 30, 1899	970	82
June 30, 1900	1046	82
June 30, 1901	1123	82
June 30, 1902	1179	82
June 30, 1903	3805	284
June 30, 1904	4883	309
June 30, 1905	6330	344

Table 4.--Profits of the Port Arthur Electric Utility 1900-04

YEAR	INCOME	EXPENSES	PROFIT
1900 *	\$17,312.56	\$15,232.70	\$2,079.86
1901	21,275.14	16,603.75	4,671.39
1902	26,797.76	14,617.38	12,180.44
1903 **	21,635.00	17,510.00	4,125.00
1904	27,259.00	17,810.00	9,449.00

\* Combined Street Railway and Electric Light accounts.

\*\*Electric Light and Power Department account only.

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<sup>42</sup>ibid., p.72.

Table 5.--Selected Fort William Power Revenues

YEAR	POPULATION	AVE. KW LOAD	# OF CUSTOMERS	REVENUE
1900	4298	83	210	\$8,945
1904	6491	202	447	\$15,310

Despite the determination to have a municipally owned and operated power supply in Port Arthur, there were still private challengers attempting to get the rights to supply the town with electricity. Many saw the potential of the electric franchise in Port Arthur. The disputes did not reach the levels of those in Fort William, but their results illustrated the determination of citizens to keep control of their water rights on the Current River. The first attempt was made in 1904 by George Marks, brother of ex-mayor Thomas Marks, under the name of the Current River Power Company.<sup>43</sup> This soon ended when townspeople sent petitions which put pressure on the politicians to quash the attempt.<sup>44</sup> Having failed with the Current River Company Marks returned in 1906, with the Port Arthur Power Company.<sup>45</sup> This attempt also failed. The city had improved the area and built the dam so why should a private firm benefit from the work already done. This

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<sup>43</sup>Port Arthur Treasurer's Reports, Copy of the contract between the Town of Port Arthur and the Current River Power Company, N. D., TBA. This contract was not dated or signed.

<sup>44</sup>Port Arthur Treasurer's Reports, Various letters and documents, 1904, TBA. Also see Ibid., City Council Report, 24 March, 1904.

<sup>45</sup>Port Arthur Treasurer's Reports, 1906, TBA. Also see Chandler, History of the Port Arthur PUC, p. 4. The principles in the firm were: Joseph Kilgour, George Marks, Hamilton Cassels, Richard Cassels and William Hunt Langlois.

time the Board of Trade came out strongly against the company which put an exclamation point on the opposition of the general public.<sup>46</sup> By 1906, there was no doubt that the town would develop power on the Current River.

In order to fulfil the growing demand for electricity, the town once more invested in that area. In 1906 an additional \$39,000 was invested in dams on the Current River system and in the electric lighting system in the town.<sup>47</sup> By the end of the first era, the town of Port Arthur was firmly entrenched as a municipal ownership town while Fort William relied on private investment to secure a power supply. This difference in approaches toward electrification would have repercussions in the next era.

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<sup>46</sup>Clipping from the Port Arthur Weekly Herald, "Board of Trade Takes a Stand", 1906, TBMHS, Hydro File.

<sup>47</sup>Copy of By-laws 817, 8 January, 1906, 818 passed on 18 January, 1906 and 849 passed on 30 July, 1906, OHA, History of Port Arthur File, 510.001.

## CHAPTER TWO

### End of Options

The cities of Port Arthur and Fort William faced very similar challenges and questions regarding hydro-electric power but the solutions each adopted were quite distinctive. Port Arthur lacked a viable water resource, since the Current River would produce only 700 hp, whereas Fort William was in close proximity to the Kaministiquia River and the large power development on it. Adding to the differences in approach to power resulting from geography was the inter-city rivalry which complicated power development at the Lakehead. By 1909, many Ontario communities had a viable and cost-effective alternative to supply of electricity by privately-owned firms. Municipalities joined Ontario Hydro for various reasons, most of them because of the absence of any viable water resource for electrical development. Much of the impetus in Southern Ontario communities reflected this determination to secure a share of Niagara power in the face of threatened Toronto domination. At the end of 1909, there were thirteen municipalities in the original Ontario Hydro system; within another year, that number had swelled to thirty-eight, one being one thousand miles away in Port Arthur. Unlike the other towns in the new Ontario Hydro system, Port Arthur did not rely on Niagara Falls power, but there were still parallels in both areas.<sup>1</sup> Like many Southern Ontario municipalities, Port Arthur lacked a viable water source to meet the expected increases in demand for electricity. The Current River had proven to be quite inadequate. Perhaps

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<sup>1</sup>Denison, The People's Power, pp. 66-91.

the best illustration of the limitations of Current River was given by engineer J. F. Fanning. He reported that the existing system and water flow would produce only 800 HP in high season and only 250 HP in low season. Further, he reported that, even if the water supply were increased by adding storage reservoirs on Ray, Onion, Hazelwood and Paquette Lakes, the power demand expected in Port Arthur would soon exceed the supply.<sup>2</sup> For a city with great aspirations of industrial development at the head of the lakes, the Current River generating capacity would not suffice.

Fort William had abandoned municipal ownership of power facilities in 1906 when the Sprague Street generating station was closed down. This power source was replaced by the Kaministiquia Power Company installation at Kakabeka Falls.<sup>3</sup> Fort William did not deem it necessary to operate a steam plant when there was hydro-electric power available. The city had little hope of competing with Kam Power since fuel costs would force rates too high to be competitive. While the Kam Power generating station ensured an adequate power supply and the company enjoyed an excellent relationship with Fort William, it had little success in Port Arthur. The biggest reason for the different, and often contradictory, approaches of the cities was the fact that Fort William relied on private suppliers for power whereas Port Arthur searched for other solutions.

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<sup>2</sup>Port Arthur Treasurer's Reports, "Report of J. F. Fanning re: Current River," 1 August, 1906, TBA.

<sup>3</sup>"The Chronological Expansion of the Fort William Electric Light and Power System: Historical Data," Fort William, 1972, OHA, 510.001, p.1. Also see Taber, Electricity and Fort William, p. 20.

By 1910, electrical power had become indispensable for the street railway, street lighting, residential and industrial users. The city of Port Arthur had 2,375 customers on line and earned a surplus of \$11,301.14.<sup>4</sup> The Fort William system had over 2,000 customers and earned a surplus of \$9,348 in 1910.<sup>5</sup> Hydro-electric power was an important resource for the existing customers and as a basis for industrial growth in the area. The sale of electricity also earned attractive profits in a consistent manner, unlike other public utilities such as the street railway, the waterworks, and the telephone systems. These other utilities often suffered deficits in their operations.<sup>6</sup> Power revenue could be used by the city to expand the electric system, while council had to borrow money to keep the other operations in good form. It was a profitable business to operate an electrical utility in this era.

Even though Port Arthur was in a difficult position in regard to power supply, the contract with Kam Power was cancelled by the city. This effectively eliminated 400 hp of the supply and put pressure on the Current River supply. The station usually produced

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<sup>4</sup>Port Arthur Public Utilities Commission Files, Electrical Light and Power Statistics, (1910-15), Fred Gaby, (Ontario Hydro engineer) to F. Gurney, (Port Arthur Treasurer), 17 June, 1915, TBA 4165, microfilm reel #4.

<sup>5</sup>Fort William City Clerk's Files, N. D., TBA, folder 67.

<sup>6</sup>For examples of the performance of the utilities see Taber, Electricity and Fort William, p. 20, and Port Arthur Treasurer's Reports, 17 June, 1915, TBA 4165, and Port Arthur PUC Files, Special Files, 3 February, 1915, TBA 4166, microfilm reel#5. Fort William experienced a deficit in power sales only once from 1909 to 1923; see Fort William City Clerk's Files, Electric Utility Performance, 1909-23.

700 hp with 450 hp for general use, and the rest was for the street railway.<sup>7</sup> Fort William had a far more abundant supply, however, of up to 14,000 hp that it could draw from the Kaministiquia Power Company in 1909.<sup>8</sup> The Fort William Hydro-electric Commission sold 1,400 hp to various customers while Kam Power sold 7,000 hp to larger users in the city.<sup>9</sup> Although Fort William had a bigger power supply, Port Arthur had control of its power resource in the city. Kam Power had a monopoly to supply all customers over 5 hp while the Commission serviced the smaller users.<sup>10</sup> This was reflected in the loads, with Kam Power transmitting five times what Fort William serviced. Fort William had a huge advantage in power supply over Port Arthur but was clearly dependent on the Kaministiquia Power Company.

The power supply difficulties of Port Arthur were chronic and dated back to the turn of the century. The supply problems were still evident in 1907 as little had changed in six years. A rebate had been offered to the ratepayers in 1901 because of poor service, and the city pledged then to find other power sources in the area.<sup>11</sup> Since there was no alternative power source, the Port Arthur Light and Power Department had to

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<sup>7</sup>Chandler, The History of the Port Arthur PUC, p. 3.

<sup>8</sup>Chronological Expansion of the Fort William Electric Light and Power System, p. 2, OHA.

<sup>9</sup>Taber, Electricity and Fort William, p. 24.

<sup>10</sup>Fort William Treasurer's Reports, 1906, TBA.

<sup>11</sup>History of Port Arthur File, Clipping from The Daily News, 11 December, 1901, OHA 510.001.

enlarge the system of dams and lakes in the Current River system. Unfortunately, this did not solve the problem. Once more, in 1906, the ratepayers challenged the Port Arthur Public Utilities Commission. The Electrical News reported in December 1906 that:

General dissatisfaction is in evidence with regard to the present lighting system in the city, and it is stated that unless the authorities make the necessary improvements a large number of local merchants will install their own lighting plants.<sup>12</sup>

It was significant that there had been no other option in 1901, but by 1906, Kam Power was available to fill the void. The 1906 "revolt" was serious since many businesses threatened to build their own system if they did not get satisfaction. Council and the Public Utilities Commission faced a huge challenge and had to act quickly.

Not only were the existing users unhappy because of poor service but also hope of future industrial growth brought added pressure to provide sufficient power. More power was clearly needed. In order to solve the problem, the Commission decided to strengthen the Current River system once again. On January 25, 1907, George Hodder, the Chairman of the Commission, assured the commissioners that:

Your power plant is now fully loaded and taxed to its capacity and will continue to be until the development now underway is completed which I fully believe we will have in operation by April 15 at the latest when you will have an additional 1200 hp at your disposal.<sup>13</sup>

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<sup>12</sup>Clipping from the Electrical News, December, 1906, p.32, OHA, History of Port Arthur File, 510.001.

<sup>13</sup>Port Arthur Treasurer's Reports, George Hodder to the Public Utilities Commission, 25 January, 1907, TBA.

Even with the improvements that Hodder promised, an additional 1200 hp would not go far to meet the growing demand in Port Arthur. Demand was growing at a steady rate and, with fluctuating water levels, it was doubtful that enough power could be produced to meet the demand. A better solution was needed, but city Council still wanted to keep control of supply.

New industrial demand created additional problems for Port Arthur. City solicitor Frank Keefer reported the situation to Adam Beck, Chairman of Ontario Hydro, in the case of the Canadian Northern Railway:

The CNR people are ready to deal in the town of Port Arthur and take 500 hp. The town cannot supply them at present. They are ready to make a contract with us for over 1,000 hp for the elevators, dock and smelter. The town feels they should not block the company from getting power from another source until it is ready to supply and at the same time they do not want to give any other company franchise over its streets. Will you therefore please wire us whether there is any definite proposition likely to come from the Hydro-Electric Commission.<sup>14</sup>

The quotation is instructive, since the city solicitor had approached Ontario Hydro, not private interests for additional power supply. In this case, the community was hesitant about allowing private firms any foothold in the city but did not want to block any development which could add prosperity and increase tax revenues to the region. It was ironic that it was the railway which had wanted to relocate into Port Arthur, but was unable to do so due to the lack of a sufficient power supply. After all it was only about three decades earlier that the two cities had struggled with one another to attract the CPR

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<sup>14</sup>Port Arthur Treasurer's Reports, Frank Keefer to Adam Beck, 3 May, 1907, TBA.

to their community. By 1907, something had to be done since Port Arthur could not afford to lose any potential industries. In order to meet the new demand and ensure a power supply, the city turned to Kam Power for a series of temporary contracts plus one longer-running, and more permanent contract which was to be renewable every ten years.<sup>15</sup> These contracts did not give the Kaministiquia Power Company any rights in the city; rather, the company simply supplied power to the Public Utilities Commission which sold it to various customers. This arrangement was quite different from the contracts between Fort William and the Kaministiquia Power Company which were more permanent in nature and provided the company with monopoly rights in the city. In the short term, the supply difficulties had been overcome but a more permanent solution was clearly needed.

The supply of hydro-electric power was the prime concern, but control of water rights was also of prime importance for Port Arthur. The community was determined to protect its rights to Dog Lake water from control by the Kaministiquia Power Company or any other private firm. The debate which ensued over these water rights illustrated the approaches that each city took toward power development. Port Arthur looked outside the region for help in securing its rights whereas Fort William was closely allied to the privately-owned Kaministiquia Power Company. By 1907, Kam Power

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<sup>15</sup>Port Arthur's Treasurer's Reports, Copy of the contract between Port Arthur and Kam Power, 10 January, 1908, TBA. This served as a temporary contract and ran for three months. Earlier, in September 1908, a contract was signed for 400 hp to be delivered for ten years in duration.

began to explore additional water resources to create more electrical power by reviving the Jenison legislation to stake a claim to water power from Dog Lake. Port Arthur lawyer Frank Keefer and the City Council clearly showed that these rights had lapsed in 1904 when the Jenison deal fell apart.<sup>16</sup> The city of Port Arthur was determined to gain control over Dog Lake and this pitted the two communities against one another. As early as May 22, 1907, Port Arthur asked Ontario Hydro to build a dam at Dog Lake. This act set a precedent where by Port Arthur drew from Ontario Hydro the technical, financial, and engineering expertise to build up and monitor its system.<sup>17</sup>

In the same year, 1907, the city attempted to strengthen their claim on Dog Lake. Clearly, for Port Arthur City Council, the Dog Lake rights tested their position as protector of public rights. In a letter to Frank Cochrane, Minister of Land and Forests, Port Arthur described itself:

... as a pioneer of municipal ownership and by the successful carrying out of this principle to the great advantage of a city, and as an example to the province at large, we anticipate from you every assistance which you can rightly afford towards the furtherance of this principle.<sup>18</sup>

PUC Chairman W.P. Cooke was not only expressing his concern for Dog Lake; he was also placing the controversy within the private-public power debate. Dog Lake involved

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<sup>16</sup>Dog Lake Water Power: Statement of Facts Regarding Proposed Lease, Frank Keefer, 12 November, 1908, p. 4, OHA 410.1-27.

<sup>17</sup>Port Arthur Treasurer's Reports, Mayor G. O. P. Clavet, to Adam Beck, 22 May, 1907, TBA.

<sup>18</sup>Port Arthur Treasurer's Reports, WP Cooke (Chairman of the Port Arthur Public Utilities Commission), to Frank Cochrane, 8 July, 1907, TBA.

more than water rights; it related to larger questions of public and private power, the same argument that Adam Beck had used so effectively to gain political support for Ontario Hydro in Southern Ontario. The people of Port Arthur clearly backed their own Commission, since the Dog Lake vote was 321 to 79 in favour of public development.<sup>19</sup> The implication was that, by supporting public power the community was supporting Ontario Hydro since it was the provincial Commission who would develop the project. By 1907, if Port Arthur wanted help in power supply or water rights, it would deal with Ontario Hydro.

It was not surprising that, the city of Fort William allied itself more closely with the Kaministiquia Power Company. The interests of Kam Power were intertwined with the interests of Fort William and vice versa, and this made their partnership natural. The Kam Power contract called for Fort William to support and aid the company in legislative matters.<sup>20</sup> The city also had a moral obligation to the private company. Mayor James Murphy outlined the city's view of the situation in a strongly-worded letter which expressed the hope that Kam Power could increase its supply of power by using the Jenison legislation in the Dog Lake case. It was clearly in the city's interest to have the firm develop the falls. Murphy wanted to help Kam Power to enlarge its capacity and

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<sup>19</sup>Ibid., p. 2. Cooke also called for the government to build, maintain and regulate the necessary dams at the outlet of Dog Lake as well as granting the right-of-way for transmission.

<sup>20</sup>Fort William City Clerk's Files, Copy of the contract between Fort William and the Kaministiquia Power Company, Clause 18, 1907, TBA.

sell the surplus power to Port Arthur, thereby reducing the cost of power in Fort William. He also expressed fear that lack of access to Dog Lake would interfere with potential growth for the private company. His desire was to protect Kam Power's interests, because after all: "prosperity for Kam Power means prosperity for Fort William."<sup>21</sup>

The cities at the lakehead were taking separate and dramatically opposite paths towards power supply. Early in 1908 Frank Keefer urged Port Arthur Council to assert their rights on Dog Lake. This intensified the battle over the rights. Keefer wrote:

I would strongly recommend that the city at once, by a resolution set forth what the city has done, request that the government now give to the city the lease of these Falls as previously arranged. I could suggest that the mayor call a special meeting to deal with this matter I am advised that every day will count that if the city is not active it may be superseded in its rights.<sup>22</sup>

Given the determination of Port Arthur to protect public rights and Fort William's allegiance to Kam Power, the two cities found themselves on opposite sides of the issue.

By February of 1908 Kam Power outlined its views regarding the situation. Many of the arguments revolved around the rights granted to Jenison years earlier. It would benefit the entire area if the firm obtained rights in that area: 5,000 additional horsepower

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<sup>21</sup>Fort William Treasurer's Reports, Mayor Murphy to Fort William city Council, 20 November, 1908, TBA, file #507.

<sup>22</sup>Port Arthur Treasurer's Reports, Frank Keefer to T. F. Milne, Port Arthur City Clerk, 3 January, 1908, TBA; see also Clipping from Daily News, "Mr. Keefer explains Power Situation Regarding Dog Lake Power," 12 November, 1908, OHA. This story summarized the city's position regarding Dog Lake.

could be produced with added water from Dog Lake and the Kam Power plant could meet the needs of both cities. The company needed to win this battle, and their view was expressed in this statement:

If the company rights are denied to it, it will mean that the undertaking was born only to be strangled, and I respectfully submit that so long as the statutes referred to remain repealed even the Crown has no right the refuse to give the company full benefits conferred by the legislature.<sup>23</sup>

Much hung in the balance -- if Port Arthur won the battle, the future growth of Kam Power would be greatly restricted by shortages of water supply. The firm was clearly looking for provincial action to strengthen their position. This produced a strong and predictable response from Port Arthur Council.

True to form, Port Arthur made this part of a larger philosophical debate. In the view of one city lawyer, Dog Lake had to be protected "in order to keep the people's faith in Hydro."<sup>24</sup> Much more was at stake than water rights on Dog Lake--the two cities were struggling for control of power development in the area in the future. By the end of 1908 the city of Port Arthur had managed to protect its water rights and, in conjunction with Ontario Hydro, began to develop Dog Lake as a potential power source.<sup>25</sup> The Kaministiquia Power Company had failed to gain rights to Dog Lake and

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<sup>23</sup>Port Arthur Treasurer's Reports, R. T. Rydeman, (Kam Power), to J Foy MLA, February 18, 1908, TBA.

<sup>24</sup>Port Arthur Treasurer's Reports, R. Hogarth to the Port Arthur Council: Kam Power vs. Port Arthur, re: Dog Lake, 25 February, 1908, TBA.

<sup>25</sup>Port Arthur Treasurer's Reports, Copy of resolution 295, 23 January, 1909, TBA. Under this plan the municipality invested \$10,000 in a survey of Dog Lake to

suffered other setbacks because of the Dog Lake controversy.

By the end of 1908, the Dog Lake issue had eroded whatever good feeling had existed between Port Arthur and Kam Power. The Port Arthur City Council decided to cancel its contract with that firm due to success in the Dog Lake battle. This pushed Port Arthur even further away from private power and towards Ontario Hydro. They were willing to put their power supply in jeopardy to keep Kam Power from gaining any foothold on Dog Lake. They feared that the Kaministiquia Power Company would use its role as a supplier of power to Port Arthur to gain an advantage over the city. As the Electric News reported:

The city council of Port Arthur are reported to have cancelled their agreement with Kam Power by which they were to have taken 400 HP for a period of 10 years. It is alleged that the company, immediately upon securing an agreement had endeavoured to use it in their negotiations with the Ontario Government for the Dog Lake water rights. The city is also endeavouring to alter the same rights and the council alleged that it was especially understood when the agreement was made that it was not to interfere with city rights in the Dog Lake matter.<sup>26</sup>

Having turned its back on Kam Power, Port Arthur needed to obtain an adequate power supply. To solve this problem, the city once more asked for the help of Ontario Hydro. Late in 1908 the Hydro-electric Power Commission of Ontario sought the authority to develop Dog Lake on behalf of the municipality:

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strengthen their claim on the area.

<sup>26</sup>Clipping from The Electric News, December, 1908, p. 31; also see Electric World, 31 October, 1908, p.977, OHA. Electric World was a Canadian paper published in Toronto whereas The Electric News, was American and this probably explains why this story appeared in Electric World first.

The Honourable Adam Beck has introduced a bill in the Ontario Legislature to provide for the development of water power at Dog Lake or in the Kam for the purpose of storing and controlling water power. The commission will develop electrical energy and may sell or lease such water power to such firms or corporations as the government may deem fit. The cost of the work is not to exceed \$20,000 and it is to be paid out of the Consolidated Reserve Fund of Ontario. It is understood that the bill is introduced in connection with a Pulp and Power scheme.<sup>27</sup>

In 1908 Ontario Hydro was not yet in the generation business. A Dog Lake station could not be completed for a few years and Port Arthur needed to get an additional power supply. Where could it turn? By 1909 there were three options available: Ontario Hydro, the Kaministiquia Power Company, or the new entrant to the market, the Ontario-Michigan Power Company.

Due to the Dog Lake issue, Ontario Hydro became closely associated with the City of Port Arthur while the Kaministiquia Power company was closely allied to Fort William. Given the tense relationship and finally the termination of the contract between Kam Power and Port Arthur, Ontario Hydro became the only viable option. In an Ontario Hydro report regarding the power situation at the Lakehead, two potential sources of power were noted: the Current River, which offered very limited capacity and the Kaministiquia Power Company, which was still the best source in the area. Demand was increasing and this put added pressure on the Commission to find some new power. The city needed 5,000 hp almost immediately : 3,500 hp for new industry, 1600 hp for

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<sup>27</sup>Clipping from The Electrical News, April 1908, p. 655, OHA.

lighting and 650 hp for the street railway.<sup>28</sup> This challenge was stated in a report filed by P. W. Southern of Winnipeg, which showed that Dog Lake could provide only 3,500 hp,<sup>29</sup> less than Kam Power had calculated earlier and significantly less than the expected demand. No matter how Port Arthur felt about Kam Power, they were the only immediate option. Although the Kaministiquia Power Company contract had been cancelled in 1908, later in the year Port Arthur was compelled to make a new series of interim contracts with the private firm which ran for three months at a time to meet the immediate demand.<sup>30</sup> Short-term arrangements were nothing new -- Port Arthur made them even while it had the ten-year contract, but this time the city had to go to Kam Power for electricity. There was simply no choice and Port Arthur remained a valuable customer for Kam Power.

In 1909 Port Arthur could be seen as a plum a private company could pick if it could meet the demand and avoid the hostilities that Kam Power had aroused. Port Arthur had proved its resolve to keep private power interests from gaining any foothold with Dog Lake. Just as Kam Power was being finally rebuffed, the Ontario-Michigan Power Company came on the scene. In many ways it was a more dangerous foe for the

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<sup>28</sup>Current River was providing 750 hp at this time which indicates that an additional 5,750 hp was needed to meet demand.

<sup>29</sup>Port Arthur Treasurer's Reports, P. W. Southern (Engineer, Winnipeg) to Adam Back, 30 November, 1908, TBA.

<sup>30</sup>For example see: Port Arthur Treasurer's Reports, Temporary Power Contracts with Kam Power, 10 January, 1908, TBA.

city. Led by one-time Member of Parliament For Thunder Bay, James Conmee, this company attempted to secure water rights on the Nipigon River by using Dominion powers to override provincial rights. Conmee could see that provincially-chartered private firms generally lost to the province in these disputes, so he took another tack to obtain rights. He hoped to use the Pigeon River, on the American border, as well as the Nipigon River, to generate power under the same charter. Since the Pigeon River was on the international border, it fell under federal jurisdiction and Conmee hoped that he could get these rights more easily than provincial rights.<sup>31</sup> Once he acquired these rights Conmee would be free to build his "grand vision" which would create a huge power company in the North and attract various industries to this area such as pulp and paper mills and metal works. Despite his previous failures to obtain the charter, he felt he could accomplish his goal if he could get the municipality to agree on a contract. This might provide more clout in Parliament and tip the scale in favour of Conmee.

In 1909, Conmee approached the City of Port Arthur for a contract to supply power.<sup>32</sup> He met predictable resistance in the city. Adam Beck, who visited Port Arthur early in 1909, took the Ontario-Michigan offer apart clause by clause as Ontario Hydro worked with Port Arthur to protect public water rights and prevent private power

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<sup>31</sup>Christopher Armstrong, The Politics of Federalism: Ontario Relations with the Federal Government, 1867-1942, (Toronto: University of Toronto Press, 1981), pp. 91-99.

<sup>32</sup>Port Arthur Treasurer's Reports, Ontario-Michigan Power Company to the City of Port Arthur, 1909, TBA.

from gaining a foothold in the city. Beck demonstrated the problems with the Ontario-Michigan offer.<sup>33</sup> First, under clause three, the Ontario-Michigan Company could undersell the Port Arthur Commission and this could lead to domination by the private firm. This was a matter of concern since the municipality was earning income as the distributor of power.<sup>34</sup> Fort William and the Kaministiquia Power Company had divided their market between customers who used less than 5 hp, which the city handled, and those over 5 hp which the private firm serviced. This allowed each to realize revenue from distribution and gave the city a secure power supply. Under Conmee's offer, he eventually could control the whole market if he could undersell the City of Port Arthur.

Clause four of this contract required the city to purchase 1,000 hp, whether it would use it or not. This would not provide the city with the flexibility needed in this era of uneven economic development. Ontario Hydro dealt in power consumed, not a fixed amount. Their bills were based on peak loads. This fixed charge would only increase the fixed costs for Port Arthur. Added to this load problem was the fact that Conmee wanted the charges to be based on 100% of the load factor. Ontario Hydro

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<sup>33</sup>The contract was never signed, but the offer was made to the city. It had twenty-seven clauses, many of which were similar to the Kam Power deal, but Conmee demanded far-reaching powers which hurt his offer in the end. Given Port Arthur's position vis-a-vis private power, it was always doubtful that they could make an arrangement unless Conmee was the only viable option. He was probably gambling that the federal charter would leave Port Arthur with the Ontario-Michigan offer as the only option. Beck used this offer to strengthen Ontario Hydro's position in the municipality.

<sup>34</sup>Port Arthur Treasurer's Reports, Adam Beck to the Port Arthur city council, 1909, p.1, TBA.

charged on 90% which allowed for power lost in transmission. If power were brought from Pigeon River or Nipigon, some would inevitably be lost. Under this clause, the city would be paying for the lost power.<sup>35</sup> The power company could also locate lines and poles wherever it saw fit if its proposal were accepted. The city would also lose revenue accrued from pole rentals which Ontario Hydro would pay, as well as right-of-way on the streets and this made the deal even less acceptable. Given the importance Port Arthur placed on municipal water rights, it is not surprising that they were also quite protective of their streets.<sup>36</sup>

Finally, clause eighteen would allow the Ontario-Michigan Company to close on Sundays for repairs and gave it a perpetual franchise.<sup>37</sup> Even a brief perusal of the contract exposed problems with the offer. The city of Port Arthur could not accept a contract worse than the one cancelled with Kam Power, or worse yet, the one its rival, Fort William, had struck with the same company. This offer gave Beck valuable ammunition to use in promoting the Ontario Hydro system, which clearly offered better terms than the Ontario-Michigan offer. On February 8, 1909 the Board of Trade expressed their opposition to the Conmee firm when they advised council that they "opposed [Ontario-] Michigan Power Company demand for water power out of our

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<sup>35</sup>Ibid., p.3.

<sup>36</sup>Ibid., p.5.

<sup>37</sup>Ibid., p.8.

system."<sup>38</sup> Clearly this group was in favour of public ownership and their stand in this case was consistent with the one taken three years earlier in opposition to the Port Arthur Power Company. Given these contractual problems and opinions, it was inevitable that Port Arthur would refuse the offer.

In all likelihood, the Conmee offer was nothing more than speculative in nature. His goal was to use a federal charter to obtain water rights in North-Western Ontario which would eventually have forced the city to accept his terms. It could only be a matter of time before the community would need power and be forced to accept his offer. Fortunately for Port Arthur, the bill was never passed which ended this speculative venture.<sup>39</sup> Newspapers outside the area cheered Port Arthur as The Calgary Eye-Opener wrote: "Say Port Arthur you-re not going to let those pirates tie you up like that are you?"<sup>40</sup> By the end of 1909, it was clear that Ontario Hydro was a better option than either the Kaministiquia Power Company or the Ontario-Michigan Company.

In the end, a Port Arthur contract with Ontario Hydro was precipitated by three factors: the unreliability of, and limitations of the water flow of the Current River, which limited municipal generation; the Kaministiquia Power Company's attempt to monopolize Dog Lake power; and finally, the Ontario-Michigan Power Company scheme to control

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<sup>38</sup>Port Arthur Treasurer's Reports, Port Arthur board of Trade to Council, 8 February, 1909, TBA.

<sup>39</sup>Armstrong, The Politics of Federalism, p.100.

<sup>40</sup>Port Arthur Treasurer's Reports, Clipping from The Eye-Opener, Calgary, 1 January, 1910, TBA.

the Nipigon and Pigeon Rivers. Port Arthur's public ownership-minded Council needed an assured supply of power which only Ontario Hydro could supply at terms and conditions favourable to the community. Just as communities in South-Western Ontario had done a few years earlier, the officials of Port Arthur sought a solution through public enterprise.<sup>41</sup>

Port Arthur joined the Ontario Hydro system during 1910. The details of the final arrangement required negotiation and the community did not actually take power from Ontario Hydro until 1910. This move seemed inevitable since Ontario Hydro and the city had a history of cooperation in matters of water rights. In 1909 Adam Beck wired the mayor his personal congratulations: "I congratulate you and the citizens of Port Arthur on your great victory by which you can retain control of your public utilities."<sup>42</sup> Ontario Hydro would act as the wholesaler of power to Port Arthur. By January 31, 1910, the Ontario Hydro Commission was required to deliver 1,100 hp to the municipality. Additional power could be added in blocks of 100 hp until the total equalled 5,000 hp. The price would be based on rates of \$17 per hp for the first 2,000 hp, \$11 per hp for the next 4,000 hp and \$15 per hp for the next 5,000 hp. Sinking funds and reserves were to be established to raise capital and cover any costs the

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<sup>41</sup>"The Nipigon Hydro-electric Power Development Constructed and Operated for the Municipalities of the Thunder Bay Districts", (Toronto: Ontario Hydro, 1922),p. 2, OHA OR 402.1.

<sup>42</sup>Port Arthur Treasurer's Reports, C. P. Telegram, A. Beck to Mayor I.L. Matthews, 4 January, 1909, TBA.

operation incurred.<sup>43</sup> This was a fairly standard power-at-cost contract, not unlike those in Southern Ontario, with declining block pricing and provision for reserves. The declining blocks encouraged growth of load since the rate was less with each additional block, after certain requirements had been met. The city now had a secure power supply and could look forward to further growth with enough power to meet almost any eventuality.

Ontario Hydro, now had to negotiate a contract with the Kaministiquia Power Company for the supply of power it would sell to Port Arthur. This contract was signed in the nick of time as the Current River experienced yet another drought in 1910. As the Electrical News reported:

Port Arthur has been suffering inconvenience owing to a scarcity of electrical power due to the current of the Current River running dry. The hydro-electric substation being constructed by the Kam Power at Kakabeka Falls will be ready by August 1 when supply will meet all possible demand. In the meantime it has been necessary to resurrect the old steam plant at the Current River powerhouse.<sup>44</sup>

Unlike Fort William, which closed down its Sprague Street steam station after it signed its contract with Kam Power, the city of Port Arthur had kept the Current River plant in operation. Current River power from the hydraulic plant (the steam plant only operated if the hydro plant lacked water) was used when demand increased since it could reduce

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<sup>43</sup>Port Arthur Treasurer's Reports, copy of the contract of the Ontario Hydro-electric Power Commission and the City of Port Arthur, 2 January, 1909, TBA.

<sup>44</sup>Clipping from The Electric News, 1 December, 1910, p. 10, OHA.

the peak load level lower and provide savings to the ratepayers. With the Ontario Hydro contract and the Current River plant in operation the power supply was assured and the city could get on with the job of building power consumption.

The Kaministiquia Power Company was the only supplier in the area at that time that could meet the 1,100 hp requirement promised to Port Arthur by Ontario Hydro. The Ontario Hydro-electric Power Commission signed a contract with Kam Power for delivery of the needed power. The contract signed mirrored the previous ten-year deal that Port Arthur had had with the private firm. The city was secure in the knowledge that Ontario Hydro would safeguard its interest, and it now had a formal contract to obtain the needed power. Under the concept of power at cost, the municipality purchased power from Ontario Hydro at cost and paid this, plus other expenses incurred as well as fixed costs. Ontario Hydro negotiated with the private power company and sold power directly to the municipality. The municipality could sell to customers as it saw fit. Ontario Hydro held a monopoly in that only their power could be sold within a forty-mile radius of the city. The Ontario Hydro-electric Power Commission monitored rates and set them according to the Standard Interpretation of Rates, looked after supply, and handled technical matters.<sup>45</sup>

The first step in Ontario Hydro's assuring the power supply for Port Arthur was

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<sup>45</sup>Port Arthur Treasurer's Reports, Copy of contract between The Kaministiquia Power Company and the Ontario Hydro-electric Power Commission, 1909, TBA.

to arrange for transmission and distribution of power from Kakabeka Falls. The first substation, which "stepped down" the voltage from the generators to the level required by consumers, was built by Ontario Hydro on High Street. A seven-mile transmission line linked the Kakabeka Falls generating station power lines to this substation.<sup>46</sup> The first power from Kakabeka Falls was delivered to Port Arthur under the Ontario Hydro contract on December 21, 1910.<sup>47</sup> This event marked the end of an era in Port Arthur's power development. The city would now deal with Ontario Hydro in a mutually beneficial relationship for power development. It now had a reliable, efficient, and cheap power source which could be offered to new businesses and used for industrial expansion. Power was still monitored and sold by the Port Arthur Public Utilities Commission to various customers but Ontario Hydro supplied the power.

Port Arthur and Fort William were now serviced by the same company, Kam Power, but under very different arrangements. In 1910, Fort William was not ready to join Ontario Hydro as a report in the Electric News indicated. The article stated that, although the city felt pressure to secure public power, it was not inclined to join Ontario Hydro since Kam Power provided an adequate supply.<sup>48</sup> These different arrangements

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<sup>46</sup>Clipping from Electric World, 8 December, 1910, p. 130, OHA 510.001.

<sup>47</sup>"Episodes in the History of Hydro Since the Creation of the Hydro-electric Power Commission of Ontario", 101, vol.3, N.D., p.12, OHA; also see Chandler, History of the Port Arthur PUC, p. 30.

<sup>48</sup>Clipping from the Electric News, July 1910, p. 71, OHA 510.001.

led to intense rivalry between the two cities, however, and began an erosion of good relations between Fort William and Kam Power. The advantageous relationship between Ontario Hydro and Port Arthur soon led to friction between the Kaministiquia Power Company and Fort William City Council. By 1911, it was apparent that power costs in the two cities would not be the same. Ontario Hydro was aware of the potential problem but felt that Kam Power should adjust to the new situation. The chief engineer of Ontario Hydro stated the facts:

Fort William buys 2200 v. from Kam Power at \$25/hp at a maximum 15 minute peak during that year [1910]. The city is not allowed to sell to users over 5 hp which was bought from Kam at \$25.00.

If Port Arthur adopts our method of sale, (power at Cost), there would be no question as to the ability of Port Arthur to greatly undersell the city of Fort William.<sup>49</sup>

Given the fact that Port Arthur would have to sell "Power at Cost", as stated in the contract, there was little doubt that a problem with rates was imminent. Although the Kaministiquia Power Company was the principal supplier, it was clear that the dynamics of the area had changed. Fort William no longer held the position of strength viz-a-vis power supply. This marked the beginning of a period of dissatisfaction with Kam Power in the city of Fort William. Port Arthur had earlier become dissatisfied with Kam Power over water rights, Fort William now became dissatisfied with power rates.

As stated earlier, Kam Power had favoured Fort William in power matters, so it

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<sup>49</sup>Fred Gaby to Adam Beck, 25 May, 1911, OHA.

was a serious problem when the city perceived discrimination in favour of Port Arthur by Ontario Hydro. The original contract between Kam Power and Fort William included a clause which assured Fort William of most-favoured status with the company. The clause stated:

No more favourable terms, conditions or rates shall be offered or given by the said parties in favour of any other municipality or place than those given to the town, nor shall any more favourable rates, terms or conditions be given by the first parties in favour of any person, party or corporations or any other municipality or place than those given in the town of Fort William.<sup>50</sup>

Although the rates at the Lakehead remained the lowest in the nation, the close proximity of the two cities created a situation where each was sensitive to any rate differences between them. Soon after the Ontario Hydro contract was enacted, Fort William began to realize that rates were significantly lower in Port Arthur.<sup>51</sup> Fort William wanted the Kaministiquia Power Company to reduce its rates in response to the lower price in Port Arthur, but the company denied any discrepancy and the issue was put to arbitration. Fort William contended that the "no more favourable terms" clause had been violated by Ontario Hydro's contract. The former manager of Fort William Hydro, Art Taber, gives an excellent account of this arbitration which took place in 1913-14:

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<sup>50</sup>Fort William city Clerk's file, Copy of the agreement between the Kaministiquia Power Company and Fort William, N. D., 1907, TBA 4159.

<sup>51</sup>Port Arthur Treasurer's Reports, J. J. Hackney, (Manager of the PUC), to Fred Gaby, 30 September, 1913, TBA. Although Fort William claimed huge discrepancies, Hackney pointed out that the Port Arthur rates were not as low as reported.

The charge was of course denied by the Kam Company and any preliminary attempts to settle the issue were unsuccessful principally because there was doubt about the exact rates being charged to Port Arthur. The Ontario Hydro conducted an investigation but it was unable to resolve the agreement. Kam Power and Fort William then decided that each should select an arbitrator in the hope that outside parties might be able to find a solution.

Fort William selected L. A. Herdt, a professor in Electrical Engineering at McGill University to act on their behalf. Kam Power retained the services of R. S. Kelsch.

These two gentlemen met in Montreal early in 1914, but after several sessions they agreed only to disagree. Thus the two arbitrators reported that possibly a third referee A. A. Dion of Ottawa should be called in. The latter promptly sided with the Kam Power representative in handing down a majority report, which the city just as promptly rejected. Despite the continuing disagreement about the exact rates charged to Port Arthur, it had become evident by now that the cost of power delivered to Port Arthur was somewhat lower than that being paid by Fort William. Also Fort William contended that certain other concessions in the power deal put Port Arthur in a somewhat more favourable competitive position.<sup>52</sup>

Kam Power refused to budge from its position, and this only strengthened the resolve of Fort William to win the dispute.

While the rate controversy raged in Fort William, Port Arthur continued to face the challenge of supplying more electricity to meet the growing demand. Grain elevators needed power to move the ever-growing shipments of grain.<sup>53</sup> In order to solve this problem, Ontario Hydro was given the job of meeting this new 1,000 hp demand outside

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<sup>52</sup>Taber, Electricity and Fort William, pp. 27-8.

<sup>53</sup>Livio DeMatteo, "Booming sector Models, Economic Base Analysis and Export-Based Economic Development: Regional Evidence from the Lakehead," Social Science History, forthcoming, winter 1993.

of its contract with Port Arthur.<sup>54</sup> This set a pattern of "system customers" who were serviced directly by Ontario Hydro. Later in the year the City of Fort William approached the City of Port Arthur for 600 hp to operate their street railway.<sup>55</sup> This revealed the deterioration in the relationship between Fort William and Kam Power. In order to meet a large demand, Fort William turned to Ontario Hydro rather than Kam Power for the first time. Obviously, the strained relationship would have a serious impact on Kam Power. Fortunately for the private power company, Ontario Hydro was not able to meet this demand due to the restrictions in its own contract with Kam Power. As a result, Kam Power filled the demand, but the damage had been done. For the remainder of 1913, the supply problem continued as each city made temporary contracts to meet growing demand.<sup>56</sup> Even with these supply problems, Ontario Hydro showed its determination to keep Kam Power isolated by stopping Port Arthur from depending on the private company to operate its street railway.<sup>57</sup> Ontario Hydro refused to be party to any arrangement, but was able to meet the demand from its own purchases. It

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<sup>54</sup>Port Arthur Treasurer's Reports, J. J. Hackney, Manager of the PUC to Mayor Oliver, 10 February, 1913, TBA.

<sup>55</sup>Fort William Hydro-electric Commission to J. J. Hackney, 1 December, 1913, TBA.

<sup>56</sup>Port Arthur Treasurer's Reports, J. J. Hackney to Fred Gaby, 20 December, 1913, TBA.

<sup>57</sup>Port Arthur Treasurer's Reports, Fred Gaby to J. J. Hackney, 10 December, 1913, TBA.

was clear, however, that a new power source was needed to meet the growing requirements.

In 1914 Port Arthur approached Ontario Hydro to solve the supply problem. Dog Lake, which the city had fought so hard to keep, was the area they wanted to see developed. To quote a joint statement by Mayor Oliver and Public Utilities Manager J.

J. Hackney:

Our present peak with the [Ontario Hydro-electric Power] Commission is 2600 hp and we will have approximately 1100 hp in prospect for this year added for power users. This does not include any that may be required for enlargements of our present industrial plants, and our own requirements in light and water, but I feel safe in estimating that during the next 2 years we will require easily 2500 hp in addition to our present peak. We have been in exceptionally good luck during the past 2 or 3 years on account of good water supply at Current River but if we should have a drought we would require another 2500 hp. This would practically use up our 5000 hp. If Fort William was to contract for 4000 hp this would potentially use up to 10,000 hp. It would take at least 2 years to develop Dog Lake so if Fort William undertakes a contract with the Commission it is very evident that something should be commenced on Dog Lake at the earliest possible moment.<sup>58</sup>

In the opinion of the Port Arthur Public Utilities Commission Kam Power could not meet the potential growth because the private company did not have water rights to Dog Lake. Kam Power did add the final units to their station in 1914 when they added two 7000-hp

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<sup>58</sup>Port Arthur Treasurer's Reports, Mayor Oliver and Manager J. J > Hackney to City Council, 9 March, 1914, TBA.

turbines which gave the plant a capacity of 35,000 hp.<sup>59</sup> This was the last addition to the Kaministiquia Power Company, their capacity remained at 35,000 hp until it was purchased by Ontario Hydro in 1950. Meanwhile, Ontario Hydro continued to study the power supply issue. The Commission had to decide if they were going to concentrate on the supply for the twin cities only or if the new plan would serve the entire area encompassing pulp and paper as well as the growing mining industry far away from the cities at the head of the lake. Dog Lake could fill the demand for Fort William and Port Arthur, but what of the growing industries elsewhere in the region?

By 1916, the previously-discussed arbitration had still not resolved the rate issue, but they did agree that Port Arthur had been favoured somewhat over Fort William.<sup>60</sup> Finally, the deadlock was broken. The Kaministiquia Power Company contract with the city was due to expire in 1917 and a new agreement would be needed. The private company did not accept the charges of discrimination against Fort William, but the city remained adamant that there was a discrepancy in costs between Fort William and Port Arthur. Fort William sent a strongly-worded report stating its position in the matter. The report argued that the city had stood by the Kaministiquia Power Company during the Dog Lake controversy and reminded the company that even though Port Arthur had

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<sup>59</sup>Taber, Electricity and Fort William, p. 17. This newly-generated power was transmitted from a newly-built substation at South Syndicate and Mary Streets.

<sup>60</sup>Taber, Electricity and Fort William, p. 24.

turned its back, Fort William remained loyal. Despite this record of faithfulness, the city paid higher rates for its power and suffered from less favourable rates than Port Arthur.<sup>61</sup> It became clear that the next agreement between the Kaministiquia Power Company and the City of Fort William would have to be very different from the previous ones.

There was a good deal of urgency in the rate matter since industrial expansion due to pulp and paper activities in the area seemed imminent. The Fort William Hydro-electric Commission felt it was imperative that the same conditions be created in Fort William as existed in Port Arthur.<sup>62</sup> Port Arthur had no desire to adjust its agreements with Ontario Hydro but, although the arbitration had failed to reach a decision, the Kaministiquia Power Company would have to accept less favourable terms from Fort William. Negotiations to replace the first ten-year contract began in 1916. The new agreement proved to be far more favourable for Fort William. The rate in the 1907 agreement was \$25/hp. The new rates were significantly lower: \$22/hp for 1916; then, \$21/hp for 1917; and finally, \$20/hp from 1918 to 1926. These new rates helped to equalize the rates in Fort William and Port Arthur. Secondly, the Fort William Hydro-electric Commission could enlarge its market. It could supply users under 25 hp, which

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<sup>61</sup>Fort William Treasurer's Reports, Kam Power Report by Morris and Babe, City Solicitors, 11 February, 1916, TBA.

<sup>62</sup>Fort William City Clerk's Files, Fort William Hydro-Electric Commission Report, N. D., 1914, TBA 4139.

was much better than the old arrangement which limited it to 5 hp and under.<sup>63</sup> There was no denying that the pressure of Ontario Hydro had brought about more favourable conditions for Fort William, nor could it be denied that the relationship between Kam Power and Fort William remained strained. Just as Port Arthur had been drawn towards Ontario Hydro because of its difficulties with Kam Power, Fort William was now going down the same path.

It was now Ontario Hydro's turn to alleviate fear in Fort William of unequal treatment for Port Arthur and to promote the idea of public power among the citizens of Fort William. In 1917, the City of Fort William issued a report stating its position with regards to public power. The city doubted that a level playing field with Port Arthur could be developed since it had to contend with Kam Power while Port Arthur had no competition for electrical customers in their city. The Commission reasoned that the city's hydro utility would have to absorb the cost of competition with Kam Power. Predictably, they felt rates in Fort William would be higher as a result.<sup>64</sup> Clearly, Kam Power was coming to be seen as a competitor in Fort William, not an ally as it had been earlier. Port Arthur's contract with Ontario Hydro put pressure on the Kaministiquia Power Company to make adjustments, which they did, but the damage had already been

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<sup>63</sup>Fort William City Clerk's Files, Kaministiquia Power Company Supplementary Agreement, N. D., 1916, TBA 4139, Folder #86.

<sup>64</sup>Fort William City Clerk's Files, F. R. Morris, City Solicitor to A. McNaughton, City Clerk, 2 April, 1917, p. 1, TBA 4139, Folder #183.

done. Kam Power was now seen as preventing the Fort William Hydro-Electric Commission from maximizing its potential. Added to the difficulties with Kam Power was the even lower price realized by Port Arthur from the operation of the Current River station which was used to keep the load factors down and which in turn led to lower power rates for the community.<sup>65</sup>

The Kaministiquia Power Company found itself in a very difficult position and, like some companies in Southern Ontario, could not save its relationship with the municipality.<sup>66</sup> Finally, on January 2, 1917, after much debate, a plebiscite was held and the Fort William voters were asked whether they wanted to go with Ontario Hydro or remain associated with Kam Power. The vote was 700 to 61 in favour of Ontario Hydro. Obviously, the promise of power-at-cost coupled with the long-standing rate controversy swung the vote.<sup>67</sup> Many differences could be solved if each city was supplied by the same agent, Ontario Hydro. Ontario Hydro secretary E. E. Pope put

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<sup>65</sup>Ibid., pp.1-2.

<sup>66</sup>H. V. Nelles, The Politics of Development: Forests, Mines and Hydro-Electric Power In Ontario, 1849-1941 (Toronto: MacMillan Canada, 1974), chapter 6. The Electrical Development Company was unable to deal effectively with Ontario Hydro and this led Toronto to join Ontario Hydro. Once the firm and Hydro developed an adversarial relationship the Commission managed to create a negative public view of the company which led the ratepayers to vote in favour of joining Ontario Hydro over the private company. Beck was a master at manipulating the press and the actions of the companies in Hydro's favour. Many private firms had a difficult time negotiating and co-existing with the public threat.

<sup>67</sup>Taber, Electricity and Fort William, pp. 31-2.

many of the fears of unequal treatment to rest in a letter to the Fort William Hydro-Electric Commission. As in Port Arthur, Ontario Hydro would still allow the municipality to sell power to customers, but it alone would supply power to the city. The standards set by Hydro would be beneficial in terms of contracts, operations, and financial concerns. Pope reasoned that many benefits would accrue if Fort William joined Ontario Hydro.<sup>68</sup> Hydro was not the only organization the City Clerk consulted, since he also wrote to American pressure groups which predictably had nothing good to say about public power. They reasoned that enormous debt would add up due to inefficient operations by Ontario Hydro. Also Hydro was encroaching on private enterprise with their exploits.<sup>69</sup> Finally, on September 19, 1917, the city of Fort William voted to join Ontario Hydro by a margin of 548 to 82. On October 9, 1917, By-Law #1815 was passed. Fort William would join Ontario Hydro as soon as the ten-year Kaministiquia Power Company contract had expired.<sup>70</sup>

As stated earlier, these utilities provided income for the cities and were able to pay for themselves. Although the data series available for Port Arthur are less complete

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<sup>68</sup>Fort William City Clerk's Files, E. E. Pope, Ontario Hydro Secretary to A. McNaughton Fort William City Clerk, 26 July, 1917, TBA 4139, Folder #103.

<sup>69</sup>Organizations such as the National Electric Light Association were well-known lobby groups opposing public power were consulted.

<sup>70</sup>Fort William City Clerk's Files, Copy of By-Law #1815, 9 October, 1917, TBA.

than those of Fort William, one can see important trends. Generally, just as in the previous era, Port Arthur earned far more revenue than Fort William from the sale of power.<sup>71</sup> Kam Power took up much of the market in the larger customer sector due to the ten-year contracts. Despite the difficulties and supply problems, the utilities were fairly successful as can be seen from the statements of the era.<sup>72</sup>

Given the position of Fort William vis-a-vis Kam Power, one can see the cost of the competition by comparing the statistics with those of Port Arthur. The differences are indicative of the problems created by Kam Power. Port Arthur always earned higher revenue than Fort William did. Obviously Kam Power took up much of the market, since the larger users represented a substantial part of the load. Secondly, the higher revenues for Port Arthur reflected the rate discrepancy; some of this was due to the increased consumption encouraged by the lower rates in Port Arthur.

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<sup>71</sup>See Chapter 1, Footnote 31.

<sup>72</sup>Port Arthur Treasurer's Reports, G. Gurney, City Treasurer to Fred Gaby, June 17, 1915, TBA.

Source: Fort William City Clerk's Files, Fort William: Electric Utility Performance, 1909-23, N. D., TBA folder #67.

Table 6.-- Port Arthur Light and Power Financial Statements

YEAR	REVENUE	EXPENSES CHARGES	FIXED-	PROFIT	LOSS
1909	N/A	N/A	N/A	\$52,442	
1910	\$118,353	\$ 78,753	\$ 28,498	11,301	
1911	146,183	101,644	31,769	12,769	
1912	140,682	111,311	35,691	43,680	
1913	174,733	66,869	37,556	70,307	
1914	179,297	99,602	40,489	55,238*	

\*Loss written off- Current River washout, \$16,032.

#### Fort William Light and Power

YEAR	REVENUE	EXPENSES CHARGES	FIXED-	PROFIT	LOSS
1909	\$ 66,762	\$ 45,862	\$ 15,294	\$ 5,605	
1910	76,936	49,562	18,626	9,348	
1911	86,733	52,663	20,761	13,309	
1912	99,310	57,485	20,729	21,075	
1913	111,307	64,074	23,130	24,162	
1914	115,617	66,484	31,181	17,951	
1915	100,335	65,633	29,882	4,831	
1916	93,942	62,882	30,245	810	
1917	96,348	66,869	20,192		\$ 512

This era began with the Kaministiquia Power Company holding a virtual monopoly in the area but, due to its failure to obtain additional water rights, this monopoly proved to be short-lived. Port Arthur battled hard to get the water rights to Dog Lake, even to the point of sacrificing potential power supply. This action effectively constrained the future growth of the Kaministiquia Power Company. By 1908, good relations between the

company and the City of Port Arthur had come to an end. This allowed Ontario Hydro to gain an advantage which they maintained in the face of the Ontario-Michigan Power Company threat.

Once Port Arthur held the water rights, it was only a matter of time before Fort William would have to find an alternative power source. After all, 35,000 hp would not go far in the new industrial climate. The Kaministiquia Power Company was in an extremely difficult position and, like private firms such as the Electric Development Company in Southern Ontario, was unable to deal effectively with city officials. These realities were further complicated by the rivalry between the two cities. Once Port Arthur joined Ontario Hydro, Kam Power was in a precarious position. Any difference in rates which appeared to favour Port Arthur would undoubtedly bring the private-public debate to a head. The isolation of the two cities compounded this fact which made the area even more sensitive to rate differences. The private company was placed in the paradoxical position of competing with its main customer, the provincial utility, for water rights and customers. By the end of the era, the two cities had joined Ontario Hydro and a new era began. Kam Power still had a role in the area but it was significantly less important in 1917 than it was in 1907.

## CHAPTER THREE

### Growing Pains

Once Fort William had joined Ontario Hydro in 1917, the major issues regarding hydro power had been settled for both of the Lakehead cities. The Ontario Hydro-Electric Power Commission would ensure adequate power supply, govern rates, bookkeeping and make capital expenditures. The local utilities were responsible for load-building and customer service. Although the Kaministiquia Power Company was still the largest power supplier in the area, it was clear that their position would soon be replaced by Ontario Hydro. The Fort William contract with Kam Power was due to expire in 1926, which provided an opportunity for Ontario Hydro to gain a virtual monopoly in the area when the city joined. From 1914 to 1930 the local utilities experienced tremendous, albeit uneven, growth in all sectors: domestic, industrial and commercial. The period witnessed much construction and many additions to the generating, transmission, and distribution capabilities at the Lakehead. Hundreds of customers used thousands of horsepower and kilowatts<sup>1</sup> of power which led to system growth. This development was essential to the economic growth of the booming 1920s. The pulp and paper industry relied heavily on hydro-electric power, and cheap power was one of the main considerations in mill location. Development of water power resources became crucial in the area. The demand was not constant as war-time conditions hurt growth and the later boom-and-bust nature of resource-based industries affected demand. Added to these problems, Ontario Hydro was under attack by the mid-

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<sup>1</sup>One kilowatt = 1 1/3 horsepower.

1920s for its large projects on the Nipigon River and Niagara Falls both of which provoked much criticism. The utilities in Port Arthur and Fort William were thrust into the middle of the debate. Local tensions were played out once more in the two main disputes of the era: the rate dispute and the dispute regarding the location of the Great Lakes Pulp and Paper Mill. This chapter outlines the material growth and demand challenges which the Thunder Bay system faced during these years.

So far as the local utilities were concerned, this era of involvement with Ontario Hydro did not get off to a good start. World War I brought a distinctive series of challenges and problems. Unlike some areas of Ontario, war production at the Lakehead did not lead to a great increase in load due to the fact that wartime production and demand growth was uneven. The war expended much material which put pressure on equipment supplies and the raw materials needed to expand the system. Some expansion had to be postponed until the end of the war. Transmission lines and hydro-electric stations were maintained as best as they could be, however, and it was to the credit of the local utilities that there was little evidence of power shortages. It made economic sense to postpone purchases until conditions improved. This was recognized as early as 1914 in both systems.

In January 1914, Fort William voters by plebiscite approved the expenditure of \$115,000 on a new substation on Walsh Street. This would supplement the one on Donald Street which was proving inadequate. Unfortunately, economic conditions worsened that year due to the recession of 1913-15 and the substation was in fact not built

until twelve years later.<sup>2</sup> Meanwhile, in Port Arthur, utilities manager J. J. Hackney cancelled orders for equipment as he wrote to a Winnipeg supplier: Owing to the unsettled situation due to the war, we have decided not to do any further construction work until things right themselves."<sup>3</sup> These new constraints did not disable the operations but they clearly delayed expansion. Although there were economic pressures, the Port Arthur utility obtained approval in August 1914 to build a new transformer station at a cost of \$44,660.<sup>4</sup> The construction of this Cameron Street substation was also delayed until 1928 due to poor economic conditions.<sup>5</sup> The war was clearly having a negative impact on the expansion of the local systems.

The war also put other stresses on the utilities. There was fear that the facilities of the electrical utilities would be a prime target for German sabotage. To cripple the power supply would undoubtedly interfere with industrial activity and create countless problems for the war effort. Not only that, but the public would suffer from a loss of electrical power in their homes and in the city streets. To prevent this danger, the dams and installations were carefully guarded, a clear testimony to the importance of hydro-electric development. The Port Arthur Public Utilities Commission declared:

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<sup>2</sup>Taber, Electricity and Fort William, P.29.

<sup>3</sup>Port Arthur PUC Files, J. J. Hackney to the Eugene Phillips Electric Works, (Winnipeg), 13 August, 1914, TBA 4161, microfilm reel #2.

<sup>4</sup>Port Arthur PUC Files, Fred Gaby, (Ontario Hydro Engineer), to J. J. Hackney, 7 August, 1914, TBA 4161, Microfilm reel #2.

<sup>5</sup>Chandler, History of the Port Arthur PUC, p.7.

The Dam [Current River] must be patrolled continuously across its whole distance, night and day. Guards will also keep a sharp lookout on the flumes between Cumberland Street and the Dam. They will challenge any person trespassing on the property, and if they [the trespasser] cannot give a satisfactory reason for being there, they will arrest the intruder.<sup>6</sup>

The dam reports by the guards stopped by 1916, which suggests that a threat was no longer perceived.

As the war dragged on, the material supply situation became more unsettled. Charges were based on prices at the time the order was filled which meant that the lag between the time from order to delivery could cause the final price to increase from what was originally quoted. To quote a circular sent by the Eugene Phillips Company: "due to uncertainty of supplies, orders filled are subject to prices at the time of shipment."<sup>7</sup> Even if a transaction seemed favourable, the city might get a nasty surprise when the final bill arrived. Due to these unsettled conditions, little construction or expansion was undertaken in the war years even though demand grew. As a result of the challenges created by the war, the municipal utilities were forced to operate in a very efficient manner. The fact that they did so was a credit to the managers, A. L. Farquharson of Fort William and J. J. Hackney of Port Arthur. Both systems were well-managed with a good degree of skill and these electrical utilities were recognized as being among the most successful in the Ontario Hydro system.

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<sup>6</sup>Port Arthur PUC Files, PUC to J. J. Hackney, N. D., 1914, TBA 4162, microfilm reel #2.

<sup>7</sup>Port Arthur PUC Files, Eugene Phillips Electrical Works, (Winnipeg), to the Port Arthur PUC, 3 February, 1915, TBA 4165, microfilm reel #4.

Consistent with the previous era, most of the municipally-owned operations encountered losses while the electric utility earned surpluses. In the Port Arthur statement for the year 1914, one can see the relatively poor performance of the street railway, waterworks and telephone departments compared to power:

Utility	Gains	Losses
Electrical	\$55,000	
Street Lighting	\$16,172	
Current River washout		\$16,300
Street Railway		\$32,324
Water Works		\$40,000
Telephone		\$ 5,000 <sup>8</sup>

Because of the difficulties encountered by the other utilities, it was decided that the Port Arthur Public Utilities Commission would operate all of the utilities under one management.<sup>9</sup> It was hoped that the utilities could be run more efficiently as one system. The operations would become more streamlined and this would allow a simplification of accounts and better cost control. By the end of 1915, it was reported that this streamlining had been a success:

Consequently we now have Electric Light, Telephone and Street Railway all under one head. Therefore, as we know and have seen for ourselves we

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<sup>8</sup>Port Arthur PUC Files, W. P. Cooke Papers, PUC to City Council, 3 February, 1915, TBA 4165, microfilm reel # 4.

<sup>9</sup>Port Arthur PUC Files, Copy of By-Law # 1311, 4 December, 1911, TBA 4163, microfilm reel #3.

have better service and better operations as a consequence.<sup>10</sup>

The waterworks were added to the system in 1916 so that all of the utilities in Port Arthur were under the control of the Public Utilities Commission.<sup>11</sup> This was only for operations however, since monies were still collected separately by the utilities as required by the Power Act. With this realignment completed, the Commission could concentrate on load building.

At the same time, the Fort William power utility operated as a Committee of Council.<sup>12</sup> but joining the Ontario Hydro system would eventually force it to adhere to the Power Act which required that a commission be established to operate the utility.

Despite the war problems already noted, the system grew in terms of horsepower consumed. Port Arthur experienced uneven growth in numbers of customers in this era as their number of customers indicates, (Table 7).<sup>13</sup>

Economic hardships forced some customers to discontinue hydro-electric service, while the population dropped due to war which caused the customer base to level

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<sup>10</sup>Port Arthur PUC Files, Report for 1915 by W. P. Cooke, Chairman of the Commission, to City Council, 17 December, 1915, TBA 4165, microfilm reel #5.

<sup>11</sup>Port Arthur PUC Files, Copy of By-Law #1431, 1 April, 1916, TBA 4166, microfilm reel #6.

<sup>12</sup>Taber, Electricity and Fort William, p. 41.

<sup>13</sup>Port Arthur PUC Files, Report of the Port Arthur PUC to City Council, 1913-1919, N. D., TBA, 4161.

off in these years.<sup>14</sup> Clearly, the war conditions affected both the demand and supply of power in Port Arthur. By 1918 the Port Arthur load was 6,000 hp far above the 4500 hp used in 1914.<sup>15</sup>

Table 7.-- Customers of Port Arthur Light and Power 1913-19

Year	Domestic Customers	Commercial Light	Power	Total
1913	2409	500	55	2964
1914	2969	550	55	3574
1915	2800	550	50	3400
1916	2701	481	46	3228
1917	2783	503	42	3328
1918	2807	535	42	3384
1919	2641	617	50	3308

It is difficult to compare the growth statistics of the two cities since the Fort William records are incomplete and the Kam Power load records are not available. Revenue statistics for the city are instructive, however, since they show a similar levelling off of sales just as Port Arthur experienced their number of customers as Table 8 shows.<sup>16</sup>

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<sup>14</sup>Port Arthur's population was 15,667 in 1915; three years later, it fell to 15,059; see Chandler, History of the PA PUC, p.26. The war was harder on the population of Fort William which fell from 27,100 in 1914 to only 17911 by 1918. See Fort William City Clerk's Files, N. D., TBA folder #67.

<sup>15</sup>Annual Report of the Hydro-Electric Power Commission of the Province of Ontario for the year ended 1918 (Toronto: L. K. Cameron, 1918), p. 145.

<sup>16</sup>Fort William City Clerk's Files, N. D., TBA, folder # 67.

Table 8.--Financial Performance of the Fort William Light and Power

Year	Revenue	Expenses	Fixed Charges	Surplus	Loss
1913	\$111,307	\$ 64,074	\$ 23,310	\$ 24,162	
1914	115,617	66,484	31,181	17,951	
1915	100,335	65,633	29,886	4,836	
1916	93,942	62,886	30,245	810	
1917	96,348	66,669	20,192		\$ 512
1918	105,764	69,526	28,960	7,268	
1919	122,764	81,246	25,449	11,986	

Despite some minor setbacks and difficulties, the utilities had survived the war in good condition.

Load building became an important activity in the operations of the two utilities. Inventors had applied electricity to many problems and chores, and soon innovations which used electricity made life easier in the household. By the time of the war, this new market, the household, was viewed as indispensable to a profitable utility. In order to develop this market, the Port Arthur Public Utilities Commission publicized the benefits of electrical cooking. Starting in 1913, the utility became progressively more involved in appliance sales. The main benefit for the electrical utility was the effect on load that cooking and heating appliances had in the city. In 1913, the load was twice as large during the day than it was at night; if domestic use of power could be tapped, the demand would become more evenly distributed between day and night. This would solve the problem of idle capacity at night.<sup>17</sup> The utility would achieve increased revenue, while

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<sup>17</sup>Port Arthur Treasurer's Reports, J. J. Hackney to the Public Utilities Commission, 23 August, 1913, p. 1.

the customer would benefit in economic terms. Electric power was cheaper than coal and, on the aesthetic side, it was cleaner and allowed "perfect temperature control" which coal stokers could not do.<sup>18</sup> The growth and use of electric power would build a mutually beneficial relationship. Despite these potential benefits, the Port Arthur Public Utilities Commission was reluctant to sell appliances itself and co-operated with local dealers instead. The utility bought the stoves from the dealers, however, and installed them in consumers' homes at cost.<sup>19</sup> The utility itself, however, did not stock or sell electric appliances.

In 1915 the inaugural Electric Stove Campaign took place in Port Arthur. This soon became an annual event. In a letter to the Daily News, the Commission stated that:

The PUC started their electrical cooking demonstration yesterday on the main floor of the Whalen Building. There was a splendid attendance and much interest was shown in the different styles of ranges exhibited by Mahon Bros., Westinghouse, Canadian General Electric and sundry others. All day long there was a steady stream of people showing great interest in all styles of ranges. "This is what we want," said Mr. Cooke, "we want people to see the cheapness and cleanliness of electric cooking." As he jocularly remarked : "A lady does not have to change her silk dress to cook on one of these ranges..."<sup>20</sup>

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<sup>18</sup>Ibid., p. 2.

<sup>19</sup>Port Arthur PUC Files, J. J. Hackney to Edward Howard., (Electrical engineer, Saskatchewan), 7 November, 1913, TBA 4161. Howard was inquiring about the different utilities and their operations. Hackney was writing a reply to a specific question about appliance sales posed by Howard.

<sup>20</sup>Port Arthur PUC Files, Port Arthur PUC to the Daily News, 27 July, 1915, TBA 4163.

Baking produced at the demonstration was sold, and the proceeds (\$40.00) were donated to the Knox Church. A piano player added to the festive atmosphere with musical selections. These displays proved to be successful and led to other larger demonstrations in successive years. These displays can be compared to programs across Ontario such as the "Beck Travelling Circus" (named after the Chairman of Ontario Hydro), which demonstrated the applicability of hydro-electric power to the daily lives of the people. This was an important step in the diffusion of technology as Ontario Hydro and its affiliates worked to create demand. Secondly, many suppliers of electrical equipment for the utilities also sold ranges and this intensified the relationship between the utilities and the suppliers.<sup>21</sup> By 1919 there were 217 electric ranges in the Fort William system.<sup>22</sup> Clearly these demonstrations were valuable in building electrical load and created another connection between the Commission and the general public.

It was also during this era that the industrial demand was growing to new heights. Previous to this era, most of the industrial load was taken by grain elevators<sup>23</sup> and by

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<sup>21</sup>Ibid., p.2.

The dealers who provided ranges for the Electric Stove Campaign included:

1. The Canadian Westinghouse Company
2. Mahon Brothers
3. A. C. Waltz
4. Canadian General Electric
5. Star Electric
6. Hughes Electric Company

<sup>22</sup>Taber, Electricity and Fort William, p.34.

<sup>23</sup>Di Matteo, "Booming Sector Models...", p. 22.

such manufacturers as the Canadian Car and Foundry Company in Fort William and the Port Arthur Ship Building Company in Port Arthur. In 1918, pulp and paper mills began to be built at the Lakehead. It quickly became apparent that the existing power facilities would not be sufficient to meet this new demand.<sup>24</sup> Kam Power was operating at maximum capacity and, unless more water rights were granted to it, Ontario Hydro would have to meet this demand.<sup>25</sup> The pulp and paper industry quickly became the impetus for increased power development at the Lakehead which took the form of the construction of the Cameron Falls generating station on the Nipigon River in 1920. The years 1918-24 represented a busy period of construction of pulp and paper mills in the area. The first mill opened in 1918 under the name of the Port Arthur Pulp and Paper Company. This mill immediately increased the demand for power by 1600 hp, (or roughly one third of power consumption), in Port Arthur.<sup>26</sup> It was no coincidence that the Nipigon River power development began that year.

The Port Arthur Pulp and Paper Company began as a newsprint producer but was soon transformed into a fine paper mill, producing paper for textbooks, which made it less susceptible to market downturns than a newsprint mill was. In 1920, another mill was built in the area when the Current River was chosen as the site for the Kaministiquia

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<sup>24</sup>"History of the Thunder Bay System," N. D., p. 11, OHA 101 vol.3.

<sup>25</sup>Port Arthur PUC Files, I. L. Matthews, Chairman of the PUC to A. C. McKay, Engineer, New York, 12 June, 1918, TBA 4175.

<sup>26</sup>Ontario Hydro Annual Report, 1918, p. 145.

Paper Company (later it became the Thunder Bay Pulp and Paper Company). Given the rivalry between the twin cities, it was not long before a mill was built in Fort William. The Mission River mill was opened in 1921. The opening of the Great Lakes Pulp and Paper mill in 1924 concluded the construction of new mills. As Victor Smith stated in 1987, "The expansive twenties gave way to the lean thirties."<sup>27</sup> Prosperity was linked to pulp and paper as the mills meant increased employment and accelerated economic activity in the area. It was not surprising that the communities struggled with each other to attract new mills. Power was at the centre of these debates. The well-established partnership between pulp and paper mills and hydro-electric plants was very important to the decisions regarding mill location.<sup>28</sup> A cheap and secure power source was one of the primary concerns of pulp and paper entrepreneurs considering where to locate a mill.

The growth of this industry, coupled with the economic upturn after the war, created a new set of conditions at the Lakehead. The demand for electricity grew at an exponential rate from previous levels in a relatively short period of time, but then the load levelled off. As the power supplier to the twin cities, Ontario Hydro had to act to

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<sup>27</sup>Victor Smith, "Factories in the Forest: A History of Pulp and Paper Mills in Northwestern Ontario", in The Engineering Heritage of Northwestern Ontario, Proceedings of a Super Conference in Celebration of the Canadian Engineering Centennial, 1887 to 1987,(Thunder Bay, March 1987), p. 88.

<sup>28</sup>E. B. Biggar, Hydro-Electric Development in Ontario: A History of Water Power Administration and the Hydro-Electric Power Commission of Ontario, (Toronto: Biggar Press, 1920), p. 32.

provide sufficient power to meet the increasing demand. The inter-city rivalry made it all the more difficult for Ontario Hydro to succeed in creating more power supply. In the end, Ontario Hydro often ignored these differences and viewed the area as one city with homogenous interests even though the each city viewed its local interests as primary. As far as Ontario Hydro was concerned, what was good for Northwestern Ontario was good for all in the area, not just to the benefit of Fort William or Port Arthur. This became clear in two separate instances: the location of the new generating plant to be built in the north and the battle over the location of the Great Lakes Pulp and Paper mill. In both cases, Ontario Hydro put the whole of this area's needs ahead of local preferences. This was not surprising since both cities had joined the Ontario Hydro system by 1917 and Adam Beck could not allow one community to be favoured over the other in dealings with Ontario Hydro.

The cities faced a paradox. On the one hand, they needed Ontario Hydro to develop the power resources. On the other hand, they wanted to maintain their independence. In this period, Ontario Hydro began to dominate power questions in the area as it planned, built, and operated generation sites. Early in the debate surrounding Fort William's entry into Ontario Hydro, Adam Beck made a telling statement to Fort William which showed the attitude of the Chairman toward the twin cities:

As far as future rates in Port Arthur are concerned they will be downwards and not upwards. The rates of Port Arthur I think are found now to be lower - in some cases not so low - but in most cases, lower for both light and power than given. That is an advantage not to be overlooked and a handicap which I do not think you will enjoy. YOU SHOULD BE ON

PARITY WITH YOUR SISTER CITY. You have an interest in common. YOU ARE TO THE OUTSIDE WORLD ONE COMMUNITY. The outside world does not recognize Fort William or Port Arthur; it recognizes these two cities at the Head of the Lakes; and whether industry rests in Fort William or Port Arthur depends on local conditions. I think it is only wise that cities placed like these should be in a condition of equality; that they would do well to pull together over matters which they would do well to pull together on. Being partners in the Hydro-Electric Commission scheme would undoubtedly allay some of the hard feelings which we find now and again. I think it would tend for its harmony and harmony is a wonderful thing; it makes for success which dissention does not.<sup>29</sup>

Beck viewed the area as one and he hoped that the municipalities would operate as one in an atmosphere of co-operation, not rivalry. The disagreements and struggles proved to waste much energy in the twin cities. Also, so far as power was concerned, these cities needed to co-operate in order to create conditions which would allow Ontario Hydro to achieve its potential at the Lakehead. The local utilities found themselves in a difficult position at this point since the local bias of the councillors and the goals of Ontario Hydro did not always coincide.

The reliance on Ontario Hydro expertise which eroded municipal independence can be seen in the Dog Lake controversy. In the Dog Lake episode, the views of the twin cities were set aside in favour of the view of Ontario Hydro. The prevailing attitude of the utility managers in these cities was to have Dog Lake Falls developed to meet the new industrial demand. In March 1916, the Port Arthur City Council resolved:

...That the letter of the Hydro-Electric Power Commission

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<sup>29</sup>Port Arthur PUC Files, Memo re: Power Situation in Fort William and re: Proposed Location of Great Lakes Pulp and Paper Plant on Mission, N. D., p.1, TBA 4194. [Emphasis in the original].

dated March 20th, to be received and filed, and that the Chairman and Secretary be authorized to prepare a resolution setting forth the facts re termination of our present contract and the necessity of the Government arranging the development of Dog Lake Falls in order that we may have a permanent power supply, and that a copy of the proposed resolution be forwarded to the City Council and Board of Trade asking for their co-operation and endorsement.<sup>30</sup>

The pressure to secure a new power source had intensified since a new power development would require three years of construction and the first ten-year Kam Power contract was due to expire in 1920. Later in that year, the cities sent a joint delegation to Toronto to discuss the development of Dog Lake. Mayor I. L. Matthews of Port Arthur and Mayor Cowan of Fort William led the delegation in an unusual illustration of inter-city co-operation.<sup>31</sup> Throughout the ensuing year, resolutions were passed and delegations sent to Toronto.

Although a new power supply was obviously needed, Ontario Hydro took much of this "under advisement" and delayed in making a decision. As Beck stated:

As far as making arrangements to defer development of Dog Lake, if it can be done to the advantage of these municipalities it will be done. There is no desire to spend a lot of money at this time. If the Kam Power were to come up with a proposition within reason we are on, but we are not going to let them hang us up. As far as the patriotic view is concerned we are not going to waste funds of this province on

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<sup>30</sup>Port Arthur PUC Files, Copy of Resolution 425, 28 March, 1916, TBA 4166, microfilm reel #5.

<sup>31</sup>Fort William City Clerk's Files, Clipping from Fort William Daily Times Journal, 2 October, 1916, TBA.

the high prices of machinery if we can avoid it.<sup>32</sup>

Beck was interested in developing Dog Lake only if it would be profitable. If it were not, he was prepared to allow Kam Power to gain water rights and develop power in the area. He did not see the Dog Lake issue as an ideological question of private versus public power; this decision would be made according to business criteria. Beck had his sights set on bigger developments than Dog Lake. The city officials of Port Arthur were concerned over the delay. After all, it had been only a decade since they had won the Dog Lake rights. They feared that Kam Power would obtain the water rights if Ontario Hydro failed to develop the Dog Lake Falls on behalf of the cities. Customers would soon need a new power supply, given the newly developing pulp and paper industry, and if Ontario Hydro relied on Kam Power to meet these new loads (as it had done in 1910), the Ontario government might grant extensive rights to Kam Power to fill the demand.<sup>33</sup> The city felt that development on Dog Lake would secure their rights, and they needed Ontario Hydro to build the power generation on behalf of the city.

Although Dog Lake would provide an immediate solution to the power situation and was geographically close to the twin cities, it was not the development that Beck was contemplating at this time. Given the possibility of mining and pulp and paper developments as well as growing domestic loads, Ontario Hydro would have to make a choice: to work with a piecemeal system, which was very localized, or to create one huge

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<sup>32</sup>Memo re: Power Situation at Fort William..., p. 5.

<sup>33</sup>Port Arthur Treasurer Reports, PA PUC to F. Gaby, 11 November, 1916, TBA.

power development to serve the area. In this case Ontario Hydro made their choice independent of the local utilities. In 1917, while the communities were still debating the development of Dog Lake,<sup>34</sup> Beck and his engineers began to plan the Nipigon Project. At this time Beck was interested in large power projects. He believed that once the generating sites were established, the power demand and economic development would soon follow. In this era there were two huge power projects: the Queenston-Chippewa for Southern Ontario and the Nipigon Development for the Thunder Bay System.<sup>35</sup> Beck felt that it would be much better to feed the growing demand in Ontario with large projects rather than a series of smaller local developments. The Nipigon project effectively gave Ontario Hydro a monopoly of water rights and power developments in the area only fifteen years after Conmee's "Grand Scheme" had failed; but this time it was public developers who would get the water rights, not a private firm.

The Nipigon Project was closely related to development of pulp and paper mills in this area, since this was where the Ontario Hydro -Electric Power Commission believed much of the initial demand would appear. The pulp mills which operated in the area received their power directly from Kam Power or, via Ontario Hydro, from the same private firm. Now, Nipigon would offer a new option. The Cameron Falls station

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<sup>34</sup>Fort William Treasurer Reports, A. McNaughton (City Clerk, Fort William) to T.F. Milne (City Clerk, Port Arthur), 14 May, 1917, TBA. The two city clerks discussed the need for this new development and the belief that Dog Lake would provide cheap service under public power as opposed to private power interests such as Kam Power.

<sup>35</sup>Denison, The People's Power, chapters 4 and 6.

was completed by 1920. It was extremely expensive, due to war-time construction costs as well as engineering problems. The first generator, bulwarks, and buildings cost \$5 million for a supply of 12,500 hp. This was \$500,000 in excess of the original estimates which led to much criticism, and culminated in a Royal Commission.<sup>36</sup> In an era of high expenses, it was not surprising that the local utilities, especially Port Arthur, approached the program with a good deal of trepidation. Members of the Council feared that they alone would have to bear the high costs incurred since Fort William was not scheduled to join until 1926 when the Kam Power contract was due to expire. On December 20, 1920, power was first delivered from Nipigon to the Bare Point water station, and then on to the High Street substation where the Port Arthur Public Utilities Commission took control of the power and looked after distribution.<sup>37</sup> This changed the power supply situation greatly in the city. Current River took on a lesser role as it became a back-up to Ontario Hydro power in case of emergency.<sup>38</sup> Kam Power was no longer used in Port Arthur either, since the load was all serviced by Ontario Hydro

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<sup>36</sup>Taber, Electricity and Fort William, p. 36. This topic will be discussed later in this chapter.

<sup>37</sup>Port Arthur PUC Files, M.M. Inglis, (Manager of PA PUC) to Mr. George Smith (Operator, High Street substation), 20 December, 1920, TBA 4179, microfilm reel #16.

<sup>38</sup>Port Arthur PUC Files, M.M. Inglis to Mr. Langworthy (City Solicitor), October 26, 1916, TBA 4167, microfilm reel #6.

With construction on dams and water diversions, Current River could produce up to 3000 hp at maximum production.

at Nipigon. All of the power used in the city was generated by Ontario Hydro and was bought and distributed by the PUC.

Because of the six-year lag in power supply from Nipigon to Fort William, the power situation once more appeared unequal since Port Arthur had an advantage over Fort William. Location of the substation made city officials in Fort William unhappy as Bare Point was located north-east of Port Arthur. A letter to the Hydro Commission stated:

We note that the Hydro-Electric Commission have started the erection of a large substation to the extreme North of Port Arthur, which we are creditably informed is to be the main terminal substation for Nipigon Falls [sic] Power.

In view of the additional costs of power to Fort William which locating the substation at the above point would represent, in view of the personal assurance of Sir Adam Beck that the main substation would be built at a point between the two cities, the council deserves to be informed why the original plan has been changed and why a substation is being built so far from the central power zone of the two cities.<sup>39</sup>

Fear of discrimination always existed in the minds of the citizens as they feared the sister city gaining an advantage. Any development received the closest scrutiny. It must be noted that the Fort William Council wrote to the other members of the three-man Hydro Commission rather than to Chairman Beck. Obviously, they did not feel that they were being treated fairly by Sir Adam and wanted to use his Commissioners to put pressure on him. In this case the city underestimated Beck's control because he dominated the

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<sup>39</sup>Fort William Treasurer Reports, Fort William City Council to H. Mills and Col. Carmichael (Ontario Hydro Commissioners), 9 October, 1920, TBA file POW 500.

affairs of the Hydro-Electric Power Commission, accepting little advice from either Commissioner Carmichael or Commissioner Mills.<sup>40</sup>

By the time Cameron Falls began generating power, there were two pulp and paper mills operating in Port Arthur and one in Fort William. Despite Beck's desire to have the communities act as a unified area, the inter-city rivalry once more came to the fore. The communities battled not only over the location of the generation station, but also over the location of the Great Lakes mill. The cities each hoped to receive the local benefits such as employment for their own city. (Because of the focus on electrical development, this chapter deals only with the power questions as they pertained to the location debate. Other issues were certainly debated, but they will not be recounted here.) It was immaterial to Ontario Hydro whether the mill was located in Port Arthur or Fort William so long as power was taken from the Nipigon Project. Two questions had to be answered: the rate to be charged and who would supply the power, Kam Power or Ontario Hydro. This created a competitive position with the private and public firms vying to win the power contract. Originally, since the pulp and paper mill was to be based on wood supply from the Black Sturgeon limits north-east of Port Arthur, it is not surprising that the Order-in-Council of November 1916 was entitled "An Agreement for

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<sup>40</sup>Denison, The People's Power. There are many references to the domination by Beck over the other commissioners.

a Pulp and Paper Mill to be Located In or Near Port Arthur."<sup>41</sup> Predictably, Fort William protested and the title was changed to "A Pulp and Paper Mill to be Located In or Near Port Arthur or Fort William," indicating that the question of where the plant was to be located was still open. Power was to be supplied to the company at a rate of \$17.50/hp regardless of where the mill was built.<sup>42</sup>

Given this course of events, Port Arthur was put on the defensive in protecting its interest as the prime location of the mill. The Port Arthur PUC pleaded with Ontario Hydro to help in the location of the plant by using similar arguments to those used in earlier debates; fear of discrimination, loss of potential economic gain, and unfair treatment by Ontario Hydro. A new argument was the fact that Port Arthur was already taking power from Nipigon whereas Fort William was not scheduled to fully join the system until 1926. The Port Arthur PUC feared that it alone would pay for the Nipigon development in the short term. A note from M. M. Inglis, PUC manager, to many prominent officials outlined the city's arguments:

That Fort William are only obligated to take 3000 hp and not until 1926 as compared to Port Arthur's 10000 HP as soon as the power is available. In other words, in the event of no other customer being found for Hydro, Port Arthur may be expected to carry the load until 1926 when it would be carried by Port Arthur or Fort William on a permanent basis.<sup>43</sup>

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<sup>41</sup>Port Arthur PUC Files, Memo re: Power Situation in Port Arthur and the Proposed Location of the Great Lakes Pulp and Paper Plant on Mission", 9 December, 1919, p. 4, TBA 4194, microfilm reel #36.

<sup>42</sup>Ibid., p. 5.

<sup>43</sup>Ibid., p. 7.

Although each city was concerned about location of the proposed mill, these arguments held little weight. As long as power was taken from Nipigon, Port Arthur would receive the benefit of lower rates, and the pulp and paper power demand would decrease the cost of power which would lead to lower rates. For Chairman Beck of Ontario Hydro, capacity achieved at Nipigon was the issue, not where the power was used.

The Great Lakes mill was finally located in Fort William. Beck had seen the area as one single unit and gave no thought to Port Arthur's or Fort William's benefits. Even if equal conditions of power supply and rates were not created, it was clear that local politics would have little impact on Hydro decisions. The pulp and paper companies, for their part, used one city against the other in negotiations for power contracts. If they were not guaranteed power at a low rate, they threatened to pull out and build elsewhere. The clearest example of this was the Kaministiquia Pulp and Paper Company. This company put tremendous pressure on the city of Port Arthur as demonstrated in a letter from C.D. Howe, (company spokesman), to the Port Arthur PUC:

We have previously been advised both by the Mayor of Port Arthur and by high officials of the Ontario Hydro-Electric Commission that there is no doubt that power is available at the specified rate, and further that the rate for power will not be increased during the life of our contract. On these assurances we have advanced considerably with negotiations for property in this city. In view of the fact that it is necessary for us to advise our Bankers definitely regarding the location of this project in order that we may place the bonds of the Company on the market immediately, we find that we must decide to locate this plant outside the limits of Port Arthur, unless we can receive definite assurance from your Commission that this

contract will be entered into.<sup>44</sup>

Power supply was critical in any discussion of location, after all the Kaministiquia Pulp and Paper Company deal depended on it. Pulp and paper mill development complicated the supply and management of power in the area.

These negotiations caused problems with the rates charged each of the pulp and paper mills for power. Each mill made its own "deal" with Ontario Hydro. For example, the Great Lakes deal was finally reported to be for 12,000 hp at \$15/hp.<sup>45</sup> This was \$10 less than each horsepower cost the city. The Nipigon development would lose money if the capacity were not used, and the mills were the biggest users. But who would cover this shortfall? Unfortunately, it was the local PUCs. The problems of rates, contracts and power users brought Premier E.C. Drury of the United Farmers of Ontario to the Lakehead in 1920 in order to sort out the issues. Drury felt that he was clearing up a mess left by Conservative Premier William Hearst who had negotiated many of the power arrangements for pulp and paper. His solution to these problems was to apply a flat rate to power users at the Lakehead, so that the same rate would apply to both Fort William and Port Arthur. To quote the Premier many years later:

If the principle of power at cost were applied, Port Arthur nearer to the falls would have a slight edge over Fort William, and speculators who had acquired land eastward along the shore of Lake Superior would have

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<sup>44</sup>Port Arthur PUC Files, C.D. Howe to the Port Arthur PUC, 24 June, 1920, TBA 4180, microfilm reel #17.

<sup>45</sup>Port Arthur PUC Files, Summary of Proposed Great Lakes Deal, 26 June, 1922, p. 2, TBA 4184, microfilm reel #23.

advantage over both.<sup>46</sup>

Drury believed that this flat rate would solve the problems of plant location, rate discrimination, and supply of power. All would be on a level playing field when they were charged the flat rate. In his plan, Nipigon power would be available to all in the Northwest at the same rate.<sup>47</sup> No area would have an advantage and all of the problems would be avoided. It is interesting to note that the flat rate was not used in Southern Ontario, due in part to a myriad of political problems encountered in that part of the province.<sup>48</sup> After all of these disputes and struggles, the rates finally charged proved to be very similar in all areas of Northwestern Ontario. No one area or pulp and paper mill enjoyed a significant power cost advantage over another. The Nipigon Fibre and Paper Company, located very close to the Cameron Falls development, was charged \$24/hp whereas Port Arthur paid \$25/hp for power from Nipigon.<sup>49</sup> Much of the controversy surrounding rates was eventually ended by market conditions, not legislation. These disputes never totally disappeared, however, since the rates were different for the pulp and paper mills and the grain elevators. (The rate problems reappeared during the

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<sup>46</sup>E.C. Drury, Farmer Premier: Memoirs of the Honourable E.C. Drury, (Toronto, Montreal: McClelland & Stewart Ltd., 1966), p. 128.

<sup>47</sup>Ibid., p. 129.

<sup>48</sup>Keith Fleming, Power at Cost: Ontario Hydro and Rural Electrification, 1911-58, (Kingston and Montreal: Queens and McGill Press, 1992), Chapters 4 and 10.

<sup>49</sup>Taber, Electricity and Fort William, p. 35.

Depression and they will be discussed more fully in the next chapter.)

Once the Nipigon development began to produce power, it had to be transmitted to Fort William. In Ontario Hydro's view, transmission over Port Arthur lines to Fort William would be the best solution as the cost of one transmission line would be cheaper than a duplication for two cities. The inter-city rivalry once more came to the fore. Port Arthur City Council placed the following conditions on the flow of power over Port Arthur lines to Fort William:

- 1) ... provided the rates in Port Arthur will not increase as a result.
- 2) ... provided it won't interfere with Port Arthur's supply.
- 3) ... provided Port Arthur obtained density benefits from Fort William customers.
- 4) ... provided any engineering features must be agreed on by Port Arthur, Fort William and Ontario Hydro.
- 5) ... provided Port Arthur gets a new line for its own use from High Street to Van Norman (Cameron Street), to Western Boundary of the City.<sup>50</sup>

Obviously Port Arthur, being closer geographically, wished to take a dominant position over Fort William so far as Nipigon River Power was concerned. With Ontario Hydro overseeing rates and operations, the conditions did not make a big difference. Port Arthur did not gain by allowing Fort William power over their lines. There would be density benefits (economies of scale) for both cities, due to increased sales, but the rates would not be affected since they were based on the total costs. Supply would be assured as lines could be added to transmission towers.

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<sup>50</sup>Port Arthur Treasurers' Reports, Box 4, Resolution 1593, 14 February, 1922, TBA.

By 1922 these disputes and difficulties at the Lakehead, coupled with controversies in Southern Ontario over Hydro activities, led to a government inquiry. The Gregory Commission, appointed by Premier E.C. Drury of the United Farmers of Ontario government, was given the task of investigating Ontario Hydro's activities and hopefully bringing the Commission under governmental control. Spending on power projects had often exceeded Ontario Hydro budgets, and Drury hoped to put a stop to this situation.<sup>51</sup> In the end, the Gregory Commission did not have a huge impact on Ontario Hydro. Ontario Hydro was vindicated of wrongdoing and the utility was reported to be financially sound and efficiently operated. For the purposes of this study, however, it is constructive to examine the testimony given at the Lakehead since it provided insights into the attitudes of the two local utilities toward Ontario Hydro.

The testimony was given in 1922, on June 14th in Fort William, and on June 15th in Port Arthur. Each city asked its officials to discuss the power situation in the area and their testimony dealt mainly with three topics: the rate problems, the Great Lakes controversy, and the Nipigon Project. Clearly, little had changed since 1910. Port Arthur was much more sympathetic toward, and far less critical of, Ontario Hydro than Fort William. The Fort William officials showed a sense of grievance regarding Hydro

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<sup>51</sup>Drury used commissions to investigate the large hydro projects (Gregory), the radials or electric trains (Sutherland), and the flat rate controversy (Lethbridge), all in the early 1920s.

See W.R. Plewman, Adam Beck and the Ontario Hydro, (Toronto: The Ryerson Press, 1947), chapter 32 for Sutherland's Commission and Chapter 36 for Gregory's Commission. Also see Fleming, Power At Cost, pp. 60-1 for a discussion of the Lethbridge Commission.

activities in the area. The proceedings in Fort William centred on the construction of the Nipigon Project.<sup>52</sup> The municipality had a much more basic problem with Ontario Hydro than Port Arthur did. They complained of a lack of consultation between themselves and Ontario Hydro before the construction of the Nipigon development was begun.<sup>53</sup> To Mayor A. H. Dennis, the failure to build a generating facility at Dog Lake Falls represented "a breach of trust by Hydro."<sup>54</sup> The basic problem with the Nipigon project was its distance from Fort William in relation to its distance from Port Arthur. It was thought that power rates would be significantly higher in Fort William due to the longer transmission lines required and the principle of power-at-cost. The inter-city rivalry appeared also when the Fort William officials argued that Beck had favoured Port Arthur in these dealings. So far as rates were concerned, he was not concerned about differences, and the Fort William officials felt that Ontario Hydro favoured Port Arthur just as Port Arthur felt that Kam Power had favoured Fort William a decade earlier. As Ontario Hydro developed power, it competed with Kam Power, which was close to the city of Fort William, both geographically and emotionally.<sup>55</sup> Fort William felt that there

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<sup>52</sup>Port Arthur PUC Files, Proceedings of the Royal Commission Held in Fort William, 14 June, 1922, TBA 4113, microfilm reel #24. Testimony was given by: Mr. Morris (City Solicitor), M.M. Inglis (Manager PA PUC), Mr. Bird (President of Kam Power), Mr. H. James (Fort William Committee), Mayor A.H. Dennis, ex-Mayor Murphy.

<sup>53</sup>Ibid., p. 14.

<sup>54</sup>Ibid., p. 12.

<sup>55</sup>Ibid., p. 8.

had been a good deal of coercion involved when they joined Ontario Hydro, and the promises had been broken since the Commission, in their eyes, never lived up to its obligations. Fort William City Council felt a real loss of independence and control over power issues. Decisions seemed to go against them, for example, regarding the flat rate on Nipigon Power, and they felt that their options were limited by the Ontario Hydro-electric Power Commission.

The hearings in Port Arthur had a far different tenor. There was far less animosity toward the Hydro-Electric Power Commission. The issues discussed, including the rate debate and the Great Lakes Mill problem, were far less controversial than the Nipigon Project.<sup>56</sup> On the issue of the Great Lakes Mill, Port Arthur officials argued that it should have been built in their city since the timber limits were close to Port Arthur but they did not blame Hydro for the fact that the mill had gone to Fort William.<sup>57</sup> Perhaps the best summary of Port Arthur's testimony was made by M.M. Inglis on the topic of Nipigon Power:

Well of course we have to provide for the future. As far as I'm concerned I think that we would be taking unnecessary risks in view of the fact that people contemplating locating here, and it is absolutely necessary for us to have power here before you can ask a man to locate here and supply him

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<sup>56</sup>Port Arthur PUC Files, Report of Sitting of the Hydro-Electric Commission of Port Arthur, 15 June, 1922, TBA 4183, Microfilm reel #24. Representing the city were: Mayor I.L. Matthews, F. Keefer (Solicitor), L. Blacquier (ex-Mayor), M.M. Inglis, H. James and Col. S.J. Ray (ex-Mayor).

<sup>57</sup>Ibid., pp. 3-4.

with power.<sup>58</sup>

Beck could not have said it better himself. It seems that the actions of Ontario Hydro had support with the Port Arthur City Council whereas they seemed to go against the position of Fort William.

From the testimony it is clear that each city had its own view of Ontario Hydro. In the end, although Nipigon was seen as a greater benefit to Port Arthur, this was not the fact. Both cities benefitted. Finally, in 1923, the Gregory Commission released its Interim Report regarding the Thunder Bay System. Ontario Hydro was cleared of any wrongdoing in the Nipigon Project. Although Fort William charged that there had been a lack of consultation before construction of Nipigon began, Hydro responded with valid reasons which were accepted by Gregory. Ontario Hydro simply could not publicize the Nipigon Project for fear of arousing challenges by the Kaministiquia Power Company or other private firms over water rights. Ontario Hydro feared that the project would be delayed or, worse yet, cancelled if lengthy debates occurred.<sup>59</sup> The Hydro-Electric Power Commission was criticized by Gregory for signing pulp and paper deals without municipal consent.<sup>60</sup> The report was far less damning than many had expected. In fact, it could be argued that it had actually benefited Ontario Hydro since the air had been

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<sup>58</sup>Ibid., p. 16.

<sup>59</sup>Port Arthur PUC Files, Gregory Commission Interim Report, 1923, p. 5, TBA 4163, microfilm reel # 24.

<sup>60</sup>Ibid., p. 6.

cleared and many issues and suspicions were put to rest.

As was his nature, Beck made a rebuttal to the Gregory Commission about the Nipigon Development. He reported that it had been undertaken for four reasons. First, it was the best place to generate power for the twin cities. Second, it allowed vast water rights to be kept under public control for public benefit. It also provided the best future source for power since the demand in the area was growing at a rapid pace. And, finally, it offered the best terrain for construction.<sup>61</sup> For Beck (and he was soon proven correct), growing demand would come to justify the construction.<sup>62</sup> Beck also criticized Premier Drury when he chastised him for lack of foresight and said that he could not see potential demand.<sup>63</sup> This time of trial for Ontario Hydro finally passed as many of the fears surrounding the Nipigon Development had been dissipated. The area enjoyed a new power source which would fill its needs for many years.

Despite these challenges and the time spent discussing the Nipigon Project and other disputes, the local utilities maintained their usual high standard of performance. Increasing municipal sales were essential, since the Nipigon power needed to be sold. Rates were reduced in order to not only create the new load but also to pass on cost

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<sup>61</sup>Port Arthur Treasurer's Reports, The Bulletin, Ontario Hydro Publication, 10, no. 12. (1923), p. 17, TBA.

<sup>62</sup>Ibid., p. 19.

<sup>63</sup>Ibid., p. 30.

savings to the consumers.<sup>64</sup> As demand and consumption increased, the communities were able to offer power at even lower rates when they were able to:

...reduce the Domestic & Commercial Electric Light rates which is possible and will also encourage consumers to use more energy and so increased the demand on the system. This will also assist the Commission in operations with other power sales to be able to sell all power on order from Hydro as far as Nipigon Power is delivered.<sup>65</sup>

The local Commission hoped the lower rates would increase demand and offset the unfavourable pulp and paper rates or, as it was labelled in the document, "other power sales".

The Nipigon Development, to all intents and purposes, ended the competition with Kam Power. By 1922, negotiations had commenced to interconnect the Kaministiquia Power Company and the Ontario Hydro system in order to better provide service and

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<sup>64</sup>Since the utilities operated differently, rate reductions were granted in different years.

Fort William:	<u>Consumption Charge (in cents)</u>	
1917	7	to 5
1923	5	to 4
1924	4	to 3

(Source: Taber, Electricity and Fort William, p. 41.)

Port Arthur:	<u>Consumption Charge</u>	<u>kwh charge</u>
1912	4/100 sq. ft.	3.5/kw
1915	4 " "	2.5 for 1st 3kwh/100 sq. ft., 1.5 for the rest
1918	3.2/kwh	

(Source: Chandler, History of Port Arthur PUC, p. 18)

<sup>65</sup>Port Arthur PUC Files, Electric Light & Power Department Annual Report, 1920, TBA 4175, microfilm reel #15.

safeguard power supply in the event of an emergency. If either Ontario Hydro or Kam Power was disabled, the other would supply the needed power supply. The interchange resolution read:

That this Joint Meeting of the PUC of Port Arthur and the Public Utilities Committee of Fort William held in Port Arthur June 6, 1922, do hereby recommend to the Ontario Hydro-Electric Commission of Ontario and the Kam Power Co. Ltd. Fort William, that reciprocal arrangements be entered into relative to 22000 volt, 3 phase, 60-cycle power in case or cases of emergency such that power primarily for municipal purposes can be supplied to either city and if additional power is available that the same be supplied to other power companies. The price for such power under emergency conditions to be charged for on a basis of the maximum demand and for power actually used, or on a straight kilowatt hour basis. The rate for such power to be mutually agreed on between the Hydro-Electric Commission and the Kam Power Co. Ltd.<sup>66</sup>

This "interchange" would be beneficial to each party since power supply would be assured as it never had been before. Each could compensate for any weakness in the other. Kam Power would reap the additional benefit of working with Ontario Hydro, which clearly controlled the area. The final step in this interconnection was taken in 1926 when a new tie-line was built from Kam Power directly into Fort William's distribution system.<sup>67</sup>

Many of the fears regarding the Nipigon Project were allayed by 1924 when the

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<sup>66</sup>Port Arthur PUC Files, Copy of Resolution #1593, 6 June, 1922, TBA 4180, Microfilm reel # 15. Also see: Ibid., L.M. Jones (City Engineer) to F. Gaby, 7 June, 1922. Also see: Ibid., W.R. Bird (Manager and Secretary of Kam Power Co.) to M.M. Inglis, 10 June, 1922. And: Ibid., Copy of Contract Between Ontario Hydro and Kam Power Co., N.D., 1922. And finally: Fort William Treasurer's Reports, W.R. Bird to A. McNaughton (Fort William City Clerk), 22 November, 1923, TBA.

<sup>67</sup>Taber, Electricity and Fort William, p. 46.

promised pulp and paper demand was finally realized. This load had two effects on the system: first, it lowered the cost per horsepower at Nipigon through increased consumption of power, and secondly, it entrenched Ontario Hydro's control of the local systems in contract negotiations. By 1924, the Kaministiquia Pulp and Paper mill was using 2000 hp, and the Provincial Papers mill took 10,000 hp which added 12,000 hp to Port Arthur demand from Nipigon. In Fort William, the Great Lakes mill used 10,000 hp while Thunder Bay Pulp and Paper took 12,000 hp.<sup>68</sup> This meant that pulp and paper mills used up to 36,000 hp from Nipigon and Kam Power and constituted the most important sector of power customers in the 1920s.

By 1924, due to this increased demand, and two years before the Kam Power deal expired in 1926, Fort William had not yet become a full-fledged member of Ontario Hydro, and power shortages in that city were predicted. As early as 1923, it was forecast that Kam Power capacity would be exhausted by 1926.<sup>69</sup> As demand increased, the situation became more acute. The year 1924 brought no relief. The Fort William Light and Power Committee were urged to join Ontario Hydro immediately, two years before schedule.<sup>70</sup> The citizens only had to look at their sister city to see that Port

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<sup>68</sup>R. T. Jeffrey, "Report of Survey of the History of the Thunder Bay System", 28 April, 1950, OHA GRR 202-1. The Kam Power supply for pulp and paper is not available which made up some of the load.

<sup>69</sup>Fort William City Clerk's Files, Clipping from The Mail-Empire, 5 December, 1923, TBA.

<sup>70</sup>Fort William City Clerk's Files, Clipping from Fort William Daily Times Journal, 11 June, 1924, TBA.

Arthur would have little difficulty in meeting demand. This crisis reached a climax in the summer when W.R. Bird, Manager of Kam Power, approached Ontario Hydro for help to meet the demand.<sup>71</sup> The 1922 building of the interchange would solve the problem for Kam Power with Ontario Hydro selling power to that company. This did not go unnoticed in Fort William. A Fort William Times-Journal editorial observed that the newly-created pulp and paper demand had overtaxed the Kam Power system.<sup>72</sup> The Fort William Light and Power Committee had to react to mounting fears in the city regarding power supply. Power was essential to industry and, if Port Arthur were in a better position, it would be disastrous for the economy of Fort William.

In order to solve the problem, Fort William began to move towards depending on Ontario Hydro for their power supply earlier than had been agreed upon. On December 1, 1925 the Fort William Power Committee was dissolved and replaced by the Fort William Hydro-Electric Commission.<sup>73</sup> This would have been ultimately necessary since the Ontario Power Act demanded that the utility be managed by a Commission. From that day until 1970, when Thunder Bay Hydro was formed, Fort William's power supply was managed by this Commission. As more power was delivered from Nipigon the crisis

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<sup>71</sup>Fort William City Clerk's Files, W.R. Bird to Ontario Hydro Power Commission, 23 July, 1924, TBA.

<sup>72</sup>Fort William City Clerk's Files, Clipping from the Fort William Daily Times Journal, Editorial: The Power Situation, 28 August, 1924, TBA.

<sup>73</sup>Fort William City Clerk's Files, Copy of By-law #2540, 1 December, 1925, OHA folder #183.

was averted. It was fortunate indeed for the cities at the Lakehead that Ontario Hydro had built Nipigon. Even the 35,000 hp Kam Power installation had proved to be too small, only 20 years after it was built.

The 1920s were a time of rapid expansion of the local system. In 1922, the City of Port Arthur purchased the High Street substation from Ontario Hydro. The city now had control of its entire distribution system and saved on transmission costs charged for the operation of the substation.<sup>74</sup> This completed the system in Port Arthur as Ontario Hydro generated the power and the local Commission took possession of the water station at Bare Point. The Fort William distribution system was expanded when the Walsh Street substation was built in 1926.<sup>75</sup> By 1928, Port Arthur had added the Cameron Street substation and the expansion delayed by war was finally completed.<sup>76</sup> As the system grew, the power loads also grew in the 1920s. The growth was substantial at first but levelled off after the middle of the decade as Table 9 shows.<sup>77</sup>

Table 9.--Peak load of Thunder Bay System (1923-1927)

<u>Year</u>	<u>October Peak</u>	<u>November Peak</u>	<u>Notes</u>
1923	11,204	16,958	

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<sup>74</sup>Port Arthur PUC Files, M.M. Inglis to Ontario Hydro, 22 April, 1922, TBA 4182, microfilm reel #23.

<sup>75</sup>Taber, Electricity and Fort William, p. 45.

<sup>76</sup>Chandler, History of Port Arthur PUC, p. 31.

<sup>77</sup>Annual Reports of Ontario Hydro 1923-27

1924	34,200	37,500	(FW = 12,000hp)
1925	44,080	49,044	
1926	40,977	45,690	
1927	43,603	42,332	

The Kaministiquia Power Company had to act in order to hold a reasonable share of the market. As their capacity was taxed, it became obvious that a new power supply was needed. Port Arthur had previously won the battle over Dog Lake and restricted the growth of Kam Power but, since a new source was needed, Kam Power looked toward Silver Falls. Once more Port Arthur came into conflict with the Kam Power Company over water rights. The city's position was difficult to defend, however, since it was unlikely that Silver Falls would be developed by Ontario Hydro in lieu of Nipigon. It was for this reason that Port Arthur City Council decided to defend its water rights on economic rather than ideological terms. They reasoned that, if Silver Falls were developed, it would "decrease the demand for power from the Nipigon River."<sup>78</sup> Port Arthur wanted to secure the Ontario Hydro monopoly and prevent any growth of Kam Power at the expense of local water rights. A strongly-worded Port Arthur resolution stated:

Therefore, be it resolved that the Council place itself on record as strongly opposing any alienation of power at Silver Falls but that as soon as the situation so demands the development of this power shall be made by the OHPC in the same manner in which Nipigon has been developed for the

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<sup>78</sup>Port Arthur PUC Files, Copy of Resolution #2055, (Regarding Kam Power), February 13, 1925, TBA 4189, microfilm reel #31.

common benefit of all municipalities and for the benefit of mining and other interests affected.<sup>79</sup>

If Ontario Hydro did not develop the power, nobody else would either. Clearly, the city was interested in building and maintaining the Ontario Hydro monopoly over any private development. Once more Port Arthur fought and defeated Kam Power, but this time Fort William was silent on the matter.

In the years 1914-26, Ontario Hydro took control of the generation of electricity in the Thunder Bay area. Many decisions about where to develop water resources were made in Toronto without much influence from the Lakehead, as in the case of Dog Lake. This eroded much of their independence and the control the communities had over power, although they still managed the distribution of power. The independence lost was compensated for by the secure power source on the Nipigon River. The Nipigon development caused much controversy about costs and rates but in the end, it only improved local conditions and did not lead to huge discrepancies in rates between the two cities. The rates did not vary greatly since most of the costs incurred were fixed costs spread over the communities, and the variable costs made up a relatively small portion of final price.

On the local level, the Kaministiquia Power Company lost its dominant position in Fort William. By 1924, a good deal of the power order came from Ontario Hydro as

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<sup>79</sup>Port Arthur Treasurer's Reports, Copy of Resolution #8159, 24 February, 1925, TBA.

Kam Power's capacity proved insufficient to meet the demand. Perhaps the last chance for Kam Power to regain its dominant position occurred in 1925 when the Silver Falls water rights came into contention, but the City of Port Arthur prevailed once more and Kam Power failed to gain a new water supply. Kam Power had become part of the Ontario Hydro System by 1922 through the interconnection and operated in that way until 1950.

Through it all, the use of power increased as home appliances increased the domestic load. It was also in the 1920s that pulp and paper mills were built in the area as the industrial mainstay. These developments created new opportunities and challenges for the local power Commissions. Not only was tremendous capacity added with the Nipigon Project, but the distribution systems grew with the addition of the Cameron Street substation in Port Arthur and the Walsh Street substation in Fort William. Hydro-electric power was more important than ever as an essential resource to ensure prosperity.

## CHAPTER FOUR

### The Great Depression: Adjustment and Stabilization

As the decade of the 1920s drew to a close there was a good deal of optimism for the utilities at the Lakehead. Demand for power grew at a rapid pace during 1929. In 1928, Port Arthur purchased 31,277.5 hp from Ontario Hydro: by 1929, this figure had grown to 38,659.3 hp, a 23% jump in demand. Fort William, meanwhile, experienced a much less spectacular and modest growth and was obviously still adversely affected by the competition of the Kaministiquia Power Company, which controlled much of the industrial load.<sup>1</sup> In 1929, the population of Fort William of 22,518 people was actually more than the population of Port Arthur, which was only 17,413<sup>2</sup>, yet the sales of the Port Arthur Public Utilities Commission were almost triple those of Fort William.<sup>3</sup> In order to keep pace with this new demand in the municipalities as well as the growing mining load, Ontario Hydro added the Alexander Falls Generating Station to its Nipigon system. This new installation, which opened in 1930, added two 18,000 hp units to the Ontario Hydro capacity.<sup>4</sup> As the generation potential in the area increased, the Port Arthur Public Utilities Commission made a major addition to their system to transmit

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<sup>1</sup>See Appendix 1. The Fort William growth went from 9226.8 HP to 9718.6 HP in 1929 which represented an increase of only 5%.

<sup>2</sup>Ontario Hydro Annual Reports #22, 1929, pp. 343 and 348.

<sup>3</sup>Ibid., p. 336. Sales in Port Arthur were \$1,036,592.08 while Fort William's were only \$351,591.88.

<sup>4</sup>Ontario Hydro Annual Reports, #23, 1930, pp. 45-6. Also see Taber, Electricity and Fort William, p. 48.

power to the Lakehead. A second circuit was added to the 110,000V steel tower line between Cameron Falls and Port Arthur.<sup>5</sup> This greatly increased the amount of power which could be transmitted from the Nipigon River to Port Arthur and on to Fort William.

The Port Arthur Public Utilities Commission made another major addition to the local system in 1930, which is still in use today. The Commission purchased the famous city landmark, the Whalen Building, to house its administrative headquarters. The Commission had first made an offer in 1913 to W.D. McLaren of Chicago to purchase the headquarters. The 1913 offer was of \$350,000 First Mortgage 6% Serial Gold Bonds. This fell well short of the \$690,000 valuation placed on the building in that year. But, as the Commission stated in 1930 on the topic of the value of the Whalen Building: The early expectations have not been realized, and the general opinion is that the building has been shown to be ahead of requirements.

Due to this fact, in 1930 the city offered \$175,000 in cash for the structure or \$190,000 of 5 1/2% Sinking Fund in City Bonds, to be retired by 10 annual payments of \$19,000 each.<sup>6</sup> The second offer was accepted and the Whalen Building became property of Port Arthur Public Utilities Commission in 1931. It still houses the administration of the city utility. Finally, the Port Arthur PUC had a permanent home.

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<sup>5</sup>Ibid., p. 107.

<sup>6</sup>Port Arthur PUC Files, Mayor and Aldermen of Port Arthur to Peabody, Houghteling & Co. Per W.D. McLaren (Chicago), 12 November, 1929, TBA 4190, microfilm reel #40.

Rather than intensifying the inter-city rivalry, the Great Depression that began in 1929, lessened it so far as electric power was concerned. The managers of the utilities as well as the Councils of the two cities had to adjust to the fact that, in power matters, the cities were not isolated. Any development which took place in the twin cities affected Hydro's operations in the entire area since the supply came from its Nipigon station. By the mid-1920s, the Cameron Falls station at Nipigon supplied power to a good deal of industrial development in the hinterland, and as an integral part of the Thunder Bay system the twin cities had to co-operate for the good of the entire area. Ontario Hydro erased any doubt that still might exist on this issue by 1929. The problem for the Port Arthur Commission was the power supplied to the Great Lakes Mill in Fort William. Ontario Hydro was supplying up to 24,000 hp, double the 12,000 hp contract already signed with Ontario Hydro to meet the growing demand of this company.<sup>7</sup> If this continued, the Port Arthur Public Utilities Commission feared that their power supply would be reduced due to the excessive load on the Nipigon line. This led to a strong response from Ontario Hydro. The Port Arthur PUC must operate not only for municipal needs but also with the good of the region in mind. The Nipigon development had been built for the whole area, not just for Port Arthur. Ontario Hydro Chief Engineer Fred Gaby was very clear about the matter:

You [the Port Arthur PUC] should bear in mind that the development at the head of the Lakes on the Nipigon River was established for the benefit of

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<sup>7</sup>Port Arthur PUC Files, Fred Gaby to T.W. Brackenried, 4 September, 1929, p. 3, TBA 4199, microfilm reel #41.

the entire district, and you will, no doubt recall that it was the urgent desire of your municipality that the Commission endeavour to secure additional customers in order to relieve Port Arthur as much as possible in connection with the carrying charges of this development.<sup>8</sup>

The Port Arthur Public Utilities Commission would have to adjust its thinking in hydro-electric power matters since inter-city competition was likely to be viewed as a hindrance to operations in the area.

Many of the issues which had previously provoked inter-city rivalry were pushed into the background by the Great Depression. From 1930 onwards, there were few cases in which either city Commission opposed the other on power issues. Due to Depression conditions, the system had excess capacity and the cities no longer had to vie for power supply. There was little industrial expansion in this era so there were no new plants or factories to fight over. Energy had to be directed towards taking measures which would help the municipalities fight the Depression: they could no longer afford to fight each other. Rather, much of their attention was drawn towards load building.

The need for customers for electricity was chronic and led to intensified efforts by the local hydro Commissions to build the customer base, both in the industrial class and among commercial and domestic customers. In the case of the industrial users, Ontario Hydro as well as the twin cities Chambers of Commerce produced pamphlets highlighting the advantages of locating at the Lakehead. One of the key attractions was the ample

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<sup>8</sup>ibid., pp. 1-2.

supply of cheap power available to firms.<sup>9</sup> Since the fortunes of the public utilities were closely linked to industrial activity in the area, it was not surprising that the utilities took a leading role in promotion of the district. This vested interest was reflected in the appointment of H.M. Garrison as "Industrial Commissioner and Power Salesman" for Port Arthur in 1930. He was initially paid \$300 per month for six months by the Light and Power Department.<sup>10</sup> Basically, it was his job to send letters to firms around the world extolling the virtues of Port Arthur as a possible industrial site. Various industries were canvassed, such as the well-known Krupp Iron and Steel Works in Essen, Germany, as well as smaller manufacturers such as cereal producers in North America.<sup>11</sup> There were a great many of these letters sent out by Garrison from 1930-2 as the electric Commissions began to take a more active role in promotion of the twin cities.

This direct approach to attracting industry was not a huge success in the circumstances of the Great Depression. In 1922, years before the Depression began, the major industries listed in an industrial survey for that year were grain elevators, flour and

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<sup>9</sup>There were many examples of this type of promotion. Perhaps the best by Ontario Hydro was called The Nipigon Hydro-Electric Power Development, Toronto: Ontario Hydro, 1922. This was an attempt to create a market for Nipigon power. There were many pamphlets produced annually by the Chambers of Commerce for both Port Arthur and Fort William.

<sup>10</sup>Port Arthur PUC Files, Copy of Resolution 2712, 5 June, 1930, TBA 4201, Microfilm reel #43. He began employment on June 1st of that year.

<sup>11</sup>Port Arthur PUC Files, L.M. Garrison to the President of the Krupp Iron and Steel Company (Essen, Germany), 25 January, 1931, TBA 4201, Microfilm reel #43. The papers of the PA PUC contain almost 100 such letters.

pulp and paper mills, the Port Arthur Shipbuilding Company, The Canadian Car and Foundry Company and coal importers.<sup>12</sup> By 1939, at the end of the Depression, no significant industry had been added to the area as the power survey for that year indicated.<sup>13</sup> It was not surprising that no new industry came to the Lakehead during the Great Depression.

The domestic load had been increased through aggressive marketing campaigns and promotions by both Ontario Hydro and the local Commissions. As early as 1932, the Ontario Municipal Electrical Association promoted aggressive marketing of appliances. The previously mentioned "stove campaigns" became annual events and highlighted the uses of electricity in the home.<sup>14</sup> During the thirties there were numerous electrical promotions. For example, in 1932, there was an electric refrigerator campaign<sup>15</sup> and in 1933, an electric water heater campaign was launched at the Lakehead.<sup>16</sup> The scope of these campaigns expanded as the electrical industry produced more and varied appliances. Electrical Demonstration weeks replaced the individual campaigns and

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<sup>12</sup>Ontario Hydro, The Nipigon Development, 1922, pp. 30-32.

<sup>13</sup>Port Arthur PUC Files, 1930-9, PA PUC to Dr. Thomas Hogg (Chairman of Ontario Hydro), 5 October, 1939, TBA 4223. This survey was completed in conjunction with a province-wide survey for the war effort.

<sup>14</sup>Port Arthur PUC Files, O.M.E.A. Annual Report, 1932, pp. 1 and 2, TBA 4209, Microfilm reel #54.

<sup>15</sup>Port Arthur PUC Files, C.B. Binder (News Chronicle) to T.W. Brackenried, 20 April, 1932, TBA 4206, microfilm reel # 51.

<sup>16</sup>Port Arthur PUC Files, W.W. Pope (Secretary, Ontario Hydro) to T. W. Brackenried, 21 February, 1933, TBA 4208, Microfilm reel #53.

became an annual event at the Lakehead with the utilities Commissions taking a leading role in the organizations of suppliers as well as the logistics of the demonstration. These efforts were rewarded as appliance usage in homes steadily, and often significantly increased even in the time of the Great Depression. For example, the number of electric ranges in the city of Port Arthur almost tripled from 1927 to 1936.<sup>17</sup> The ratio of electric ranges per household grew significantly in this decade and clearly demonstrated the success of these campaigns. In 1931, approximately 30% of the households in Port Arthur had electric ranges, by 1941 that ratio had increased to 47%.<sup>18</sup> Even during the Great Depression, electricity was becoming more indispensable than ever for the people at the Lakehead.

Besides the electrical appliance campaigns at the Lakehead, low power rates also attracted users to electricity and increased the domestic load. In Ontario power rates dropped in the 1930s from 2.5 cents per kwh set in 1921 to only 1.5 cents per kwh in 1935. These rates were excellent, especially when compared to those in New York State, where private utilities held sway there, the rates dropped from 9 cents per kwh to 5 cents per kwh in 1935 which still left them, over three times the Ontario rate.<sup>19</sup> In each case

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<sup>17</sup>See Appendix 2. The number of ranges in Port Arthur in 1927 was 665, and by 1936, this figure jumped to 1812 ranges.

<sup>18</sup>*Ibid.*, 1941, p. 5. In 1941 there were 2522 electric ranges and 5335 households in Port Arthur indicating that almost half of the households had electric ranges.

<sup>19</sup>Port Arthur PUC Files, Memorandum of Certain Comparative Costs of Electrical Service in Ontario and the State of New York, 15 November, 1936, TBA 4216.

the Ontario city had a significantly lower rate than its American counterpart, unfortunately, no comparison was made between the cities at the head of the lakes and an American counterpart.

Cost per horsepower to the municipalities of Fort William and Port Arthur was about average for the province, just over \$21.00 per horsepower for each city in 1938.<sup>20</sup> These rates, under the power at cost contracts, were reflected in the consumer rates charged in the twin cities, as recorded in a rate comparison written in 1941 which examined changes in rates between 1930 and 1940 in Port Arthur. In 1930 domestic rates in the city dropped by 31.5% as the rates were reduced from 1.3 cents per kilowatt hour to only .89 cents per kwh in 1940. Commercial users enjoyed a similar rate

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The cost comparisons for 100 kwh in cities in the U.S. and Canada were even more striking.

Toronto	\$1.44/100 kwh	St. Catherines	\$1.47/100 kwh
Buffalo	\$3.06/100 kwh	Lockport	\$3.70/100 kwh
Hamilton	\$2.04/100 kwh	Guelph	\$1.74/100 kwh
Rochester	\$5.00/100 kwh	Batavia	\$4.00/100 kwh

<sup>20</sup>Port Arthur PUC Files, Ontario Hydro Circular Regarding Power at Cost Rates, 22 November, 1938, TBA 4219

Power at Cost Rates:

City	Cost/HP
Ottawa	\$14.65/HP
Niagara Falls	\$19.15/HP
St. Catherines	\$20.08/HP
Port Arthur	\$21.03/HP
Chippewa	\$21.40/HP
Fort William	\$21.45/HP
Hamilton	\$21.73/HP
Dundas Township	\$22.87/HP

reduction as they fell by 32.4%, from 1.74 cents/kwh to 1.15 cents/kwh. Power users enjoyed a 19% decrease in rates.<sup>21</sup> In actuality, there were three rate reductions awarded to domestic users in this era. In 1931, the net cost/ kwh was 1.2 cents, in 1936 the rate was dropped to 1.14 cents/kwh and then finally in 1940 when the cost was .89 cent/kwh.<sup>22</sup> These rate reductions for domestic users helped prevent the demand from deteriorating due to the Depression.

It was also during the Great Depression that rural electrification made a significant addition to the power load at the Lakehead. The rural population increased significantly in the decade 1931-41. In 1931, the population in the rural area was 19,023 people,<sup>23</sup> and by 1941 that figure had grown to 27,210 people.<sup>24</sup> Given this population growth, it was not surprising that the rural demand would also increase. In this decade, the provincial government made it easier for rural users to obtain power through a series of loans and grants-in-aid given to the rural customers. For this reason the Great Depression was a time of much rural expansion in Ontario.<sup>25</sup> Predictably, rural

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<sup>21</sup>Port Arthur PUC Files, Report of Sam Ashton to PA PUC, 14 January, 1941, TBA 4224.

<sup>22</sup>Chandler, History of the Port Arthur PUC, pp. 18-9.

<sup>23</sup>The Seventh Census of Canada, 1931, vol.1, pp. 227-28.

<sup>24</sup>Ibid., 1941, pp. 182-3

<sup>25</sup>Keith Fleming, Power at Cost: Ontario Hydro and Rural Electrification, 1911-58, (Montreal and Kingston: McGill and Queen's University Press, 1992), pp. 154-56.

electrification also prospered at the Lakehead at this time. The first Rural Power District (RPD) was established in 1932 to service farms, hamlets, and cottages in the area.<sup>26</sup> As demand for rural power grew, the transmission lines spread into more and more of the area. In 1933, Oliver Township was added to Fort William's rural electrification network while Port Arthur incorporated Shuniah Township into its system.<sup>27</sup> In 1937 the Island Ward (Mission Island or Island #2), McGregor Township, McIntyre Township and MacTavish Township were all added to the RPDs at the Lakehead.<sup>28</sup> As new customers and districts were added to the system, the cost of distribution lines increased greatly due to the larger distances to be covered. In order to better administer the districts and spread costs over larger numbers of customers, the districts were merged into one in 1939.<sup>29</sup> Within seven years the rural load grew from 19.6 horsepower to 341.5 hp in 1939. The final development took place in 1939 when all were merged into one large Power District.<sup>30</sup> It was advantageous to merge the RPD's since the costs could be spread over many customers who reside in other districts which took pressure off the Thunder Bay System.

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<sup>26</sup>Ontario Hydro Annual Reports, #25, 1932, pp. 250-1. The original power district was composed of Neebing and Piagoonge townships for the Fort William Hydro-Electric Commission, while the Port Arthur Public Utilities Commission serviced a much smaller area.

<sup>27</sup>Ontario Hydro Annual Reports, #26, 1933, pp. 239-40.

<sup>28</sup>Ontario Hydro Annual Reports, # 30, 1937, pp. 272-3.

<sup>29</sup>Ontario Hydro Annual Reports, #.32, 1939, pp. 172-3.

<sup>30</sup>Ontario Hydro Annual Reports, #32, 1939, pp. 172-3.

These load building activities helped the local commissions survive the Great Depression in solid financial condition considering the times. The Port Arthur Light and Power Department experienced only one year (1933) from 1928 to 1937 when a loss was encountered from operations as Table 10 shows.<sup>31</sup>

Table 10.--Port Arthur Light and Power Profits 1928-37

Total				
Year	#Cust.	Revenue	Expenses	Profit/(Loss)
1928	4745	\$1,036,529.00	\$852,260.82	\$184,268.26
1929	4856	1,126,863.94		953,029.29 173,834.65
1930	4976	1,118,357.40		877,567.94 290,786.46
1931	4973	1,055,828.53		953,098.88 102,729.05
1932	4927	1,017,069.56		979,921.92 37,147.04
1933	4878	964,295.96	1,000,750.87	<36,454.91 >
1934	5129	938,711.01		894,690.16 44,021.50
1935	5194	935,183.03		852,573.09 82,609.34
1936	5306	959,961.33		874,172.77 80,789.06
1937	5360	964,564.16	919,806.22	44,757.94

Clearly, efficient operations and good management strategies kept the local utilities profitable even in the time of the Great Depression.

Managing the industrial power load at the Lakehead proved to be far more difficult than the domestic load. The Great Depression hit the main industries in the area as pulp and paper production and grain shipping each suffered greatly. Power sales to these two industries dropped significantly as a result. These industrial customers made up two

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<sup>31</sup>TBA, Port Arthur PUC Files, Report of the Light and Power Department, January, 1943, TBA 4232.

thirds of the power load, so any reduction in this demand would cut the power sold at the Lakehead significantly.<sup>32</sup> Port Arthur purchased 38,200 hp from Ontario Hydro in 1929 and in 1930 the power purchased dropped significantly to 33,080 hp. The level of sales in 1929 was not approached again until 1940.<sup>33</sup> Success for the local utilities had been closely related earlier to the expansion of the pulp and paper industry and the activity of the grain elevators. It became necessary for the local utilities and these industries to cooperate in fighting the Depression. As an important part of the economic infrastructure and as part of municipal services, the local Commissions found themselves in an important position. They were operating for the public good so they had a responsibility to minimize the effects of the Depression. In good economic times there was no need to, but in these tough times some of the industries at the Lakehead asked the local utilities for help in the Great Depression. It made good economic sense for the local utilities to keep these firms operating which would maintain the power demand.

In the boom year of 1929, there was a portent of potential trouble for the PA PUC. The Thunder Bay Pulp and Paper mill shut down in October and this action reduced the load for that month. The 1929 Annual Report it was stated that:

The shut down of the Thunder Bay Company Mill at Port Arthur on the 1st of October reduces the system load below that established in September.<sup>34</sup>

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<sup>32</sup>Taber, Electricity and Fort William, p. 49.

<sup>33</sup>See Appendix #1. Ontario Hydro sales to Port Arthur in 1929 was 38,299 hp, in 1930, it was 33,080 hp and in 1940, it was 39,798 hp.

<sup>34</sup>Ontario Hydro Annual Reports, #22, 1929, p. 33.



the Thunder Bay Pulp and Paper Company in operation. Power costs for the firm were one area which could be reduced since it was as much a variable cost like salaries and wages. Savings in this area could keep the firm profitable. By May, 1932 the company owed the Port Arthur PUC \$260,000 for power bills which were in arrears. The firm needed relief of some sort since the Depression had curtailed paper sales; meanwhile, the Port Arthur PUC could not afford to lose a vital customer for its power. Therefore, a new arrangement was struck to solve the problem and keep the Thunder Bay Pulp and Paper Company in operation. The solution was to refinance the debt. One half of the amount or \$130,000 was to be paid in instalments of \$16,250 each month that the mill operated until the amount was paid off. Payment of the remaining \$130,000 was deferred, half of it being carried by the Port Arthur PUC as a debt without interest and the other \$65,000 being cancelled entirely. This debt of \$65,000 was to be paid in monthly instalments during the year 1933.<sup>38</sup> For the Port Arthur Public Utilities Commission, it was better to take a loss than lose the mill. This arrangement would keep the mill in operation and provided much-needed employment for the city. T. W. Brackenried and the Port Arthur PUC took on a new role in the city. Although the Port Arthur PUC had to absorb a loss under this arrangement, it kept one of its most important customers in operation.

With the Thunder Bay Pulp and Paper Company still in operation, the Port Arthur

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<sup>38</sup>Port Arthur PUC Files, L.R. Wilson (Managing Director, Thunder Bay Pulp and Paper Company) to T.W. Brackenried, 28 April, 1932, TBA 4205, microfilm reel # 48.

Public Utilities Commission turned its attention to solving the problem of the grain elevators. The onset of depression meant a serious curtailment of grain shipped through the Lakehead. As a result, the contracts with the elevators had to be restructured to keep these firms profitable. The dangers resulting from a failure to restructure the contracts were illustrated in 1932 when one elevator run by the National Elevator Company of Winnipeg was closed after 17 years of operation in the area. In a strongly-worded letter R.H. Moore, the General Manager, confronted the Port Arthur Public Utilities Commission with the reason for the closure:

Sometime ago we endeavoured to point out to you the serious situation confronting us in the operation of our Plant, - but our representation, apparently, received little or no consideration. You continue to bill us for a minimum charge established when business was good, and our Plant operating from twelve to twenty-four hours per day. How do you expect any business to survive such treatment? The attitude adopted by your Commission, and a much similar stand taken by your Assessment Commissioner, are some of the contributing factors which have forced us to close the Plant and to transfer the operation where the business can be handled on a more economical basis, and where requests for release from unjust charges are likely to receive due consideration.<sup>39</sup>

In order to keep the other elevators in business at the Lakehead, the Port Arthur Public Utilities Commission established practice of billing based on the minimum peak for off-hours. The solution was simple: lower the power peaks billed to reduce costs for the elevators and allow more flexibility in the contracts by shortening their duration from five-year to one-year terms. After two years of prolonged negotiation, it was decided that

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<sup>39</sup>Port Arthur PUC Files , R.H. Moore (GM National Elevator Co.) to T.W. Brackenried, 26 January, 1932, TBA 4206, microfilm reel # 50. This firm moved to Winnipeg.

new contracts would contain the lower minimum charge arrangements. This reduced the revenue of the local utilities but it helped keep elevators in operation. All of the old contracts were cancelled in 1934 and replaced by ones which allowed lower minimum charges in times of inactivity and had a duration of one year which provided flexibility for the elevator companies.<sup>40</sup> This of course was pending approval from Ontario Hydro which was obtained shortly thereafter.<sup>41</sup> Despite the closing of the National Elevator Company two years earlier, the grain shippers were satisfied with the new power arrangement. The local utility had been receptive to the problems facing the grain elevators and acted to solve the problem.

The pulp and paper mills proved to be a much more difficult challenge for the utilities to handle as the Depression dragged on. The key element in power sales was the pulp and paper mills which were by far the biggest industrial users in the twin cities. By 1934, it became increasingly apparent that these mills needed help if they were to compete with mills in other areas of Ontario and in Quebec. It was reported that power

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<sup>40</sup>Port Arthur PUC Files, T.W. Brackenried to Port Arthur PUC, 9 January, 1934, TBA 4219, microfilm reel #60.

Twelve elevator companies were affected by the new arrangement:

Federal Grain Limited	Union Terminal Elevator Company
McCabe Brothers Grain Company	James Richardson and Son
Bawlf Terminal Elevator Co. Ltd.	Reliance Terminal Elevator Company
Parrish and Heimbecker Limited	United Grain Growers Limited
Manitoba Wheat Pool	Saskatchewan Pool Elevators (#4, 6, 7)

<sup>41</sup>Port Arthur PUC Files, Ontario Hydro to Port Arthur PUC, 13 January, 1934, TBA 4212, microfilm reel # 59.

costs at the St. Anne's mill in Quebec were \$17.00/hp to operate, while at Port Arthur the cost was \$21.00/hp to operate a similar machine.<sup>42</sup> If the Port Arthur mills were to compete, the cost of power had to be reduced. The task of the Port Arthur PUC was therefore to find a way to reduce the charges to a competitive figure.<sup>43</sup> If this could not be accomplished, City Council and the Public Utilities Commission were afraid that mills would close as production shifted to areas where power was cheaper.

The loss of a pulp and paper mill would undoubtedly have a devastating effect on the economy at the Lakehead and raise local unemployment to even higher levels. As Chairs of the respective Commissions, Chairmen H.B. Dawson (Port Arthur) and J.H. Irwin (Fort William) jointly wrote the Ontario Hydro-electric Power Commission in May 1934:

It must be realized that the pulp and paper industry is the largest at the Head of the Lakes, and prosperity of these cities is so linked with its success that any cessation or even curtailment of operations has a very serious effect. In this respect, we differ probably from any other municipality connected with the Hydro-Electric Power Commission Systems.

The electric utilities not only feared that pulp and paper load would drop if the mills closed, but that domestic demand would also fall due to the resulting unemployment.<sup>44</sup>

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<sup>42</sup>Port Arthur PUC Files, R.B. Chandler (General Manager of PA PUC) to T.C. James (Ontario Hydro), 31 July, 1934, p. 1, TBA 4212, microfilm reel # 59.

<sup>43</sup>Ibid., p. 2. The letter from Chandler suggested a reduction of \$5.00 to \$16.00 per hp for the local pulp and paper mills. This would give the area a cost advantage over the St. Anne's mill.

<sup>44</sup>Port Arthur PUC Files, H.B. Dawson (PA PUC Chairman) and J.H. Irwin (Fort William Hydro-Electric Commissioner) to the Ontario Hydro-Electric Power

Something clearly had to be done and a rate revision seemed essential.

The situation was difficult for the Commissions since any downward revision of rates, unless accompanied by increased consumption, would create deficits in the system.

As H.B. Dawson observed in his final address for 1934:

Severally and jointly with the Fort William Hydro Commission, we have discussed lower power rates for the pulp and paper industry with the Hydro-Electric Power Commission and expect to have further discussion at an early date, keeping in mind that the financial status of the Thunder Bay System be not impaired.<sup>45</sup>

In order to avoid potential deficits, the local Commissions put forward a plan to relieve the problems facing the pulp and paper mills at the Lakehead. They felt the cost problems of power could be solved as follows:

That the pulp and paper mills continue to pay annually an average annual amount of money as a minimum based on the past three years [1932-35] operations, and that any power taken in excess of this average, up to 25 percent increase, be granted them at no additional cost; in the event of them taking over this 25 percent of such excess, power to be sold at an average cost per HP of the 125% load...This means that the industry would pay \$16.80 per HP for all power taken in excess of the 25% allowance.

Rather than lowering the rate, which they viewed as risky, the Commissions had decided to apply the pricing principles in hydro-electric pricing. They decided that the "declining block" method, which provided rate reductions once certain minimum levels of power consumption were reached would give the pulp and paper plants cost reduction. In this case, the demand for power by pulp and paper firms would have to increase before any

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Commission, 19 May, 1934, p. 1, TBA 4212, microfilm reel # 59.

<sup>45</sup>Port Arthur PUC Files, H.B. Dawson to PA PUC, 24 December, 1934, TBA 4212, microfilm reel #59.

saving could be realized by the firms. This strategy was a safe one for the local Commissions, but it was unacceptable to the pulp and paper mills operators. Given the poor condition of pulp and paper markets, it was doubtful that demand would increase, so there was no real cost saving for the mills. The only acceptable solution was to lower rates. This would keep the mills open, but it would also cause problems for the local utilities.<sup>46</sup>

In February 1935, a conference was held in Toronto among the local Commissions, representatives from the city councils, and Ontario Hydro in order to arrive at an acceptable rate agreement. It was proposed that the new rate for the pulp mills be \$18.00/HP for 110,000-volt users and \$19.00/HP for 22,000-volt- users for power delivered to the mills. Although this would allow the pulp and paper mills to remain open, it would result in a loss of revenue in the Thunder Bay system. This created problems for the local utilities, which would have to absorb the loss, since Ontario Hydro was not prepared to make any rate reduction at Nipigon. The local utilities projected that this reduction would result in a loss for 1936 and 1937.<sup>47</sup> These projections illustrated how much the utilities depended on power sales to the local pulp and paper mills for their financial well-being. Given this projection, the local

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<sup>46</sup>Port Arthur PUC Files, Report of Ontario Hydro Engineers to the PA PUC and Fort William Hydro-electric Commission, 1 February, 1935, TBA 4212, microfilm reel # 59.

<sup>47</sup>Port Arthur PUC Files, Fort William Hydro-electric Power Commission and the PA PUC to J.E. Crawford (MLA Fort William) and Charles. W. Cox (MLA Port Arthur), 27 February, 1935, TBA 4210, microfilm reel # 55. These projections proved to be erroneous as 1936 netted a surplus of \$80,000 for PA while 1937 netted \$44,000.

Commissions would be opposed to a rate reduction without some form of cost reduction from Ontario Hydro to offset the loss. Clearly the Commissions were in a difficult position. Although the pulp and paper industry needed relief in the form of rate reductions, the rate decrease from \$21.00/hp to \$18.00/hp would have a devastating effect on the financial conditions of the local utilities.

In July 1935 informal discussions as well as two formal conferences were held to debate the possibility of reduced rates for pulp and paper in the twin cities. The formal meetings were held on Wednesday, July 3rd, and Monday, July 8th, at the Board Room of Ontario Hydro in Toronto. Various groups were represented including the local power Commissions, the City Councils, and Ontario Hydro representatives, and they met representatives from each pulp and paper mill in the area. The proposal was presented on Wednesday and discussions followed on Monday once all had had time to study it. The proposal incorporated the local Commissions' view on the matter. Once certain loads were purchased, usually the average load for the first half of 1935, the cost savings began to take hold. The new proposed rates were:

Company	Present Minimum	Present Rate	P r e s e n t Load
Great Lakes (FW)	9,000 HP	\$21.00/HP	12,000 HP
Thunder Bay Paper Co. (PA)	10,750 HP	\$21.00/HP	10,000 HP
Provincial Papers (PA)	9,000 HP	\$21.34/HP	9,079 HP

Once these levels were achieved, rate reductions were granted for all hp consumed over their present load.

The Great Lakes Mill would pay: \$21.00/hp up to 10,000 hp, then receive their

next 1,667 hp free, and pay \$18.00 hp for all their remaining load. The Thunder Bay Pulp and Paper Company would pay \$21.00/hp up to 10,000 hp, receive their next 1,667 free, then pay \$18.00 for the rest. Provincial Papers would pay \$21.00/hp up to 9,000 hp, receive 1,500 hp free, then pay \$18.00 for any hp consumed over 10,500 hp.<sup>48</sup>

Unfortunately, this scheme was rejected since it did not benefit the mills enough. The reduction was conditional since it required an increased demand to achieve benefits, and as the pulp mills did not expect any increase in power demand, they could not see any gain from the proposal. The replies at the Monday meeting reflected this reality. The Great Lakes mill was in the process of being sold and any more satisfactory arrangement would help the sale. But Provincial Papers and the Thunder Bay Paper Company objected, since the rate reduction was only for high demand loads. It was very doubtful that the loads would increase; in fact they were more likely to decrease.<sup>49</sup> The mills stood firm and continued to push for a real rate reduction while the local Commissions hesitated to offer any.

By the end of that summer, the situation had reached an impasse. The local mills insisted on a \$3.00/HP rate reduction whereas the local Commissions doubted the wisdom of such a strategy. Neither Commission favoured a rate reduction because of the risk involved in dropping rates, especially in these difficult economic times. Port Arthur General Manager R.B. Chandler, who had recently succeeded Brackenried in that post,

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<sup>48</sup>TBA, Port Arthur PUC Files, H.B. Dawson to Port Arthur PUC, 10 July, 1935, p. 2, TBA 4222, microfilm reel # 60.

<sup>49</sup>Ibid., p. 3.

wrote Fort William General Manager C.J. Moors as follows in August 1935:

This Commission feels that in as much as we have no assurance from the pulp and paper companies that their respective loads would be increased with the scheme in operation, changing of our present rate structure presents hazards too great for this Commission to assume. It is hoped that some alternative proposal may be worked out whereby the system cost of power might be reduced, or some definite assurance of increased system loads be forthcoming, as a result of reduced rates, from those affected by any such scheme, before a change is made in our present rates.<sup>50</sup>

For Ontario Hydro the situation was not so simple. Much of their expansion, especially at Alexander Falls, was dependent on the pulp and paper load. By 1935, almost half of the Thunder Bay System capacity stood idle<sup>51</sup> and this made an agreement with the mills very important for the financial health of the utilities in the district. Ontario Hydro consequently agreed with the paper mills and granted the \$3.00/HP rate reduction. This was their prerogative since Hydro controlled rates under the Power Act. Ontario Hydro could not grant a rate reduction for the two municipalities, however, since power was purchased under power at cost contracts. As it was, the interim rates of \$21.00 charged Port Arthur and Fort William, was barely enough to cover the costs of supplying the power for resale by the cities. The Thirteenth Power Bills, which were annual adjustments in costs from Ontario Hydro to the municipalities, shows the difference between the interim costs and the actual cost of power. Table 11 indicates that from 1931 until 1934 the bills show a deficit which means the interim rates were not even

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<sup>50</sup>Port Arthur PUC Files, R.B. Chandler to C.J. Moors, 23 August, 1935, TBA 4210, microfilm reel # 56.

<sup>51</sup>Taber, Electricity and Fort William, p. 49.

covering costs, then from 1935 until 1939 there was only a small surplus in the account.<sup>52</sup>

Table 11.--Thirteenth Power Bills for Port Arthur and Fort William (combined), 1930-40

1930	\$ 4,407.25	1936	\$31,529.31
1931	-44,814.76	1937	6,580.90
1932	-12,686.88	1938	-16,098.49
1933	-57,521.90	1939	6,672.01
1934	-55,501.03	1940	4,549.84
1935	2,770.25		

R. T. Jeffery, Municipal Engineer of Ontario Hydro, assured the Lakehead cities that there would be only a minimal loss resulting from the rate reduction. He argued that the mining load in the area would triple from 1500 hp to 5000 hp and that this would lower the cost of power supplied to the two municipalities from Cameron Falls and Alexander Falls. This cost reduction in power from Nipigon would offset much of the loss incurred by the rate reduction.

Once the precedent of rate reduction had been established, this became an annual event for the Commissions. On October 1, 1936, after much difficult negotiation, the rate was finally dropped by the \$3.00/hp as discussed in 1935, in 1937 it was dropped

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<sup>52</sup>Ontario Hydro Annual Reports, 1930-40.

by another \$1.00/hp, and it was decreased once more in 1938 by \$1.00/hp.<sup>53</sup> Overall, the power rate for pulp and paper had dropped from \$21.00/hp in 1935 to \$16.00/hp by 1938. In this case, Ontario Hydro imposed its will on the local Commissions and Councils. As Jeffrey stated in his history: "... despite a battle with the councils who opposed the rate reductions, Ontario Hydro prevailed."<sup>54</sup> The local Commissions now had to adjust to these reductions.

In all likelihood, these rate reductions kept the three remaining mills operating at the Lakehead; but the local utilities now had to absorb the lost revenue due to these reductions. Ontario Hydro hoped that the mining load would offset the loss, but could growth in that industry offset the loss of pulp and paper revenue? These promised cost savings were not reflected in the rates Ontario Hydro charged for Nipigon power. From 1926 to 1942 the rate remained constant at \$21.00/hp because of the cost of power.<sup>55</sup> By 1938, the municipalities were losing \$5.00 for each hp sold to a pulp mill. The mills stayed open, but the local power Commissions were bearing the costs. To make matters worse, the mining load had little impact since the cost remained unchanged from Nipigon to the twin cities. The projected losses for 1936 and 1937 never materialized, but by 1938 the lower rates began to create losses in the system. These losses were

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<sup>53</sup>Ibid., p. 49.

<sup>54</sup>R. T. Jeffery, History of the Thunder Bay System, 20 April, 1950, p. 2, OHA ORR202 vol.1

<sup>55</sup>Ontario Hydro Annual Reports, 1926-42 in the municipal statements for Port Arthur and Fort William.

undoubtedly due in some part to the rate reduction for pulp and paper. The Port Arthur Public Utility usually realized a surplus from operations, but in 1938, these surpluses stopped. From 1938 until 1941 the Light and Power Department lost money from operations, they simply could not cover the rate reductions from other power sales as Table 12 clearly shows.<sup>56</sup>

Table 12.--Financial Statements of Port Arthur Light and Power 1938-41

Year	# of cust.	Revenue	Expenses	Deficit
1938	5878	\$822,881.57	\$838,811.01	\$17,130.04
1939	5902	872,945.80	887,587.41	14,591.61
1940	6116	948,352.88	983,222.47	34,869.59
1941	6440	990,930.25	1,018,828.04	27,897.79

The losses suffered by the Port Arthur Public Utilities Commission could not be absorbed indefinitely. Something had to be done to relieve the city of the onerous burden of absorbing the losses from pulp and paper. As early as 1938, it was proposed that Ontario Hydro should assume responsibility for supplying power to the pulp and paper mills at the Lakehead. H.L. Sanborn of Abitibi expressed this hope to R.B. Chandler. From an operational standpoint the pulp and paper companies already dealt directly with Ontario Hydro in many matters, but the Port Arthur Public Utilities Commission acted as the middleman. The contracts were made with Ontario Hydro, the rates were handled

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<sup>56</sup>Port Arthur PUC Files, Report of the Light and Power Department, January, 1943, TBA 4232. The revenue dropped by about \$160,000 from 1937 and 1938 because of the pulp and paper rate revision.

by Ontario Hydro and the equipment was received from Ontario Hydro. He reasoned that, since Ontario Hydro handled most of the transactions with the pulp and paper companies, why not let them deal directly with Ontario Hydro?<sup>57</sup> In the rate reduction debates of the mid-1930s, it was apparent that the local Commissions' interests were not the same as the pulp and paper mills were. In fact, since it was Ontario Hydro that had finally stepped in to resolve the issue, it was not surprising that he felt it would be better for the mills to work with Ontario Hydro rather than the local Commissions.

Both of the local Commissions, mainly Port Arthur, stood to lose a huge section of their load if they lost the pulp and paper mills as a customer. A load analysis in the area revealed that the pulp and paper mills made up 59% of the industrial load, elevators made up 36.6% and small users took 4.4%.<sup>58</sup> This industrial load made up 54% of the power distributed to the community; the rest was made up of municipal, commercial, and domestic customers.<sup>59</sup> This would surely lead to a huge decrease in power sales by the Public Utilities Commission, but the lost revenue from the rate reductions would finally end.

In the end, Ontario Hydro assumed the power contracts with pulp and paper mills

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<sup>57</sup>Port Arthur PUC Files, H.L. Sanborn (Abitibi Paper Co.) to R.B. Chandler, 15 August, 1938, TBA 4219.

<sup>58</sup>PA PUC Files, R.B. Chandler to Ontario Hydro Rates Committee, 11 January, 1941, TBA 4224.

<sup>59</sup>The PUC of Port Arthur and the Hydro-Electric Commission of Fort William Print and Outstanding Story of Progress Resulting Primarily From the Development of Hydro-Electric Power, 1942, OHA, OR 402-8 .

as the following Port Arthur Public Utilities Commission resolution stated:

(That) local system paper mill power contracts between the Port Arthur PUC and the Thunder Bay Paper Company and Provincial Papers be transferred to the Ontario Hydro-Electric Power Commission as system customers, same to be retroactive to November 1, 1941 as agreed with Ontario Hydro.<sup>60</sup>

This was a monumental adjustment for the local power systems since the demand and load dropped significantly. In 1941, with the pulp and paper component, the load was 41,091.8 hp, and in 1942, after transfer of the load it fell to 16,456.2 hp.<sup>61</sup> Despite the loss of this business, however, the utility earned a surplus in 1942 and continued to do so as Table 13 shows.

Table 13.-- Port Arthur Light and Power Surplus 1942-1948:

1942	\$77,088.26	1946	\$54,919.48
1943	75,740.81	1947	40,764.01
1944	88,277.61	1948	24,321.69
1945	78,303.24		

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<sup>60</sup>Port Arthur PUC Files, Copy of Resolution 5185, 20 August, 1942, TBA 4227. Although the Fort William pulp and paper load was largely filled by Kam Power, the Great Lakes Pulp and Paper Company contract was transferred to Ontario Hydro. Many of the effects from the pulp and paper transfer were reflected much more in Port Arthur than Fort William.

<sup>61</sup>See Appendix 3. The horsepower each mill consumed in 1944 was as follows:

Provincial Papers	9450 HP
Thunder Bay Paper Co.	18009 HP
Great Lakes Paper Co.	24508 HP

Source: Port Arthur PUC Files, Chandler to PA PUC, Annual Report, 1944, TBA 4235.

The managers of the utilities could now concentrate on other matters than the pulp and paper rates and related problems.

During the period of the pulp and paper rate discussions, the Port Arthur utility adjusted domestic rates. Periodically the Port Arthur Public Utilities Commission paid rebates on power consumed by the domestic customers and this indicates a very profitable domestic load. Power sold to the domestic users could be priced to cover the costs, and surpluses resulted from sales in that sector. The rebates were credited to customers' accounts who, often had their first power bill for the next year cancelled. Of course the resolution had to be passed by Ontario Hydro as this example illustrated:

That subject to the approval of the Ontario Hydro-Electric Power Commission, the PUC rebate 20% of the 1937 net paid revenue to all customers of the Electric Light and Power Department except for pulp and paper mills and street railway, water and telephone, light and power services.

The proposed rebate to be credited to the customers current accounts and to be awarded as soon as the necessary Hydro-Electric Power Commission approval and the necessary information is completed.<sup>62</sup>

This rate rebate was available to domestic and commercial users and represented an attempt by the Public Utilities Commission to give some rate relief to their other consumers, especially given the pulp and paper negotiations. These rebates would keep rates lower and attract more domestic and commercial users without changing the rates which the Commission was adamant about maintaining. Table 14 shows that rebates were awarded five times, in the years 1930, 1937, 1938, 1939 and 1944, as a percentage of

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<sup>62</sup>Port Arthur PUC Files, Copy of Resolution 4423, 10 August, 1938, TBA 4220.

revenue.<sup>63</sup>

Table 14.--Rebates given by Port Arthur Public Utilities Commission to Domestic and Commercial users:

Year	% Rebate on revenue	Dollar value of Rebate
1930	8	\$87,188.03
1937	20	\$81,256.75
1938	20	\$71,186.34
1939	10	\$34,390.44
1944	20	\$111,500.00

It was much better to give a rebate than change the structure of rates given the instability of the pulp and paper load.

The outbreak of hostilities in 1939 had very little impact on the Lakehead as World War I had in 1914-8. As Taber wrote in his history:

The effects of world war two, disruptive as they may have been in all other aspects, actually were minimal on Fort William’s electrical utility. There was little if any surplus power to spare on the system but no actual shortage developed.<sup>64</sup>

There is surprisingly little material in the Commission documents relating to the Second World War. Restrictions on copper and steel supplies slowed down expansion in the area, but otherwise the effects appear to be minimal. Although 1942 represented a watershed year for the expansion of the physical assets of the utilities, most of the developments were not directly related the war. There were two significant events in that

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<sup>63</sup>Port Arthur PUC Files, Report of PA PUC by Sam Ashton (Commission Chairman), 14 January, 1941, TBA 4224. Also see Chandler, History of PA PUC, p. 7.

<sup>64</sup>Taber, Electricity and Fort William, p. 52.

year. The Fort William utility moved its headquarters, while the Port Arthur Public Utilities Commission retired its last debentures and became debt-free. The Fort William Hydro-Electric Commission, since its inception in 1926, had operated out of City Hall. As the role of the Commission and the system grew, it was clear that more space would be needed. Finally, a new home was secured in 1942:

The Commission bought and renovated a garage that was located directly opposite the city hall on the corner of May and Donald Street. The move was made in 1942. This building served as administrative centre, general operations office, meter service shop, vehicle garage, and warehouse for construction materials until it was later rebuilt in 1960.<sup>65</sup>

This building remained the home of the Fort William Hydro-Electric Commission until the amalgamation of 1970 when the headquarters were transferred to the Whalen Building.

While the Fort William Hydro-Electric Commission undertook this move in 1942, the Port Arthur Public Utilities Commission was retiring its last debenture. The debenture balance for the city reached its peak in 1915 when it owed \$568,758.70 to bondholders. These debentures had been used to finance system expansion as well as pay extraordinary bills such as repair the Current River washouts. Through astute business decisions and healthy sales this balance was reduced consistently until 1941 when only \$13,000 remained outstanding.<sup>66</sup> This was finally retired on January 1, 1942.<sup>67</sup> In that

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<sup>65</sup>Ibid., p. 53.

<sup>66</sup>See Appendix # 3.

<sup>67</sup>Port Arthur PUC Files, Report of Chairman Bengert, 21 April, 1942, TBA 4231.

year the Fort William balance was still \$250,000, since the smaller system had a much more difficult time paying off its debt. As Table 15 indicates, Kam Power competition of the Kaministiquia Power Company had clearly impeded the progress of the Fort William Commission.<sup>68</sup>

Table 15.--Comparison of sale of power to the Fort William Hydro-electric Commission and the Port Arthur Public Utilities Commission from Ontario Hydro.

Year	Fort William	Port Arthur	Year	Fort William	Port Arthur
1928	\$ 315,591.88	\$1,036,529.08	1936	\$ 358,816.87	\$ 935,183.03
1929	351,068.89	1,128,223.94	1937	343,891.78	964,564.16
1930	349,112.93	1,118,357.40	1938	347,704.28	822,681.57
1931	359,873.42	1,019,080.96	1939	358,047.63	872,995.80
1932	358,734.77	1,020,538.80	1940	379,235.77	948,352.88
1933	352,596.14	966,869.55	1941	431,573.42	990,930.25
1934	355,184.14	939,086.66	1942	481,363.17	583,571.90

Once the war ended, very much like the post-war experience twenty-six years earlier, there was an increase in demand and the system enjoyed another period of material additions. Ontario Hydro predicted this in its 1946 Annual Report:

The falling off of municipal load was due to reductions in load by war industries in Port Arthur, but present indicators are that greatly increased loads may be expected from new industries which have already applied for service. Good increases occurred in rural areas, but shortage of materials limited the construction of new lines.<sup>69</sup>

This expansion of the Port Arthur system took the form of new substations added to meet

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<sup>68</sup>Ontario Hydro Annual Reports, 1928-42.

<sup>69</sup>Ontario Hydro Annual Reports, #39, 1946, pp. 52-53.

the residential load. By 1947, the John Street substation and the Algoma Street substation had been added to the system.<sup>70</sup> This brought the combined capacity of the Commission's transformer stations to 15,000 KVA in that year.<sup>71</sup> The domestic and commercial loads sales began to compensate for the loss of the pulp and paper load. By 1948 the Port Arthur PUC was taking 26,196.5 hp from Ontario Hydro while the Fort William Commission took 19,327.1 hp.<sup>72</sup> The demand was starting to recover as the industrial load sales were beginning to be replaced by other sectors of the customer base.

The period from 1929 to 1945 was a time of change for the local utility Commissions. The Great Depression led to changes in this era to create the system which exists today. When the era began the most important load was pulp and paper but, by 1942, domestic and commercial users were the biggest group, as is still the case today.

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<sup>70</sup>Port Arthur PUC Files, Copy of Resolution 6246, June 26, 1947. TBA 4231. Also see Chandler, History of PA PUC, p. 31.

<sup>71</sup>Chandler, History of PA PUC, p. 31.

<sup>72</sup>See Appendix 1.

## CHAPTER FIVE

### New Realities, Rationalization, and Merger

Events in each decade of the twentieth century had a dramatic effect on the consumption of hydro-electric power at the Lakehead. In the first decade of the century, Kam Power was built and provided the first large-scale hydro-electric generation in the area. During the second decade, Port Arthur signed on with Ontario Hydro, and Fort William also moved in the direction of putting power development firmly in the hands of the public power interests. By 1930, the pulp and paper industry established in the area had greatly increased the industrial load and led to the construction of the Nipigon generating system to service the new demand. The 1930s brought economic depression which caused the local utilities to lower power rates for pulp and paper. By the early 1940s those lower rates led to the transfer of the pulp and paper industries to Ontario Hydro system customers. The local systems had to look toward domestic and commercial users of their capacity. The 1950s began with Ontario Hydro's purchase of Kam Power which finally brought the Lakehead under public control.

The decades of the 1950s and 1960s represented a period of modernization and rationalization of the power systems serving the twin cities. The end of the Second World War saw a surge in demand for electrical power which forced Ontario Hydro to undertake an extensive rebuilding program. Generating stations were added in most areas of Ontario to meet this new demand. In June 1953, the Ontario Hydro-Electric Commission decided to produce electricity by harnessing the atom and by 1958 the last

hydro-electric development by Ontario Hydro in Southern Ontario was completed as the focus shifted toward nuclear generation.<sup>1</sup> Although this decision had little impact in the North in this period, Ontario Hydro was entering a new era.

The Lakehead cities saw the demand for electric power grow at a steady and sometimes spectacular rate. In the twenty years from 1950 to 1970, the power purchased from Ontario Hydro more than doubled. The combined load increased from 53,148.9 hp in 1950 to 113,287.1 hp in 1970, the year Port Arthur and Fort William were amalgamated.<sup>2</sup> Both the Port Arthur Public Utilities Commission as well as the Fort William Hydro-Electric Commission were hard-pressed to meet this constantly growing demand. By 1950, it was evident that the domestic and commercial loads would not be as unstable as the industrial load had been. This simplified planning for growth and financing the expansion of the systems.

In order to deal with the growing post-war demand in Ontario, Ontario Hydro undertook a two-pronged plan of attack. First, large capital expenditures would expand the generation system and, second, a conservation program would lessen the demand pressures on the system. The proposed expansion was huge and encompassed the entire province. Table 16 shows the investment made by Ontario Hydro in the systems of

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<sup>1</sup>For an overview of Hydro activities since World War II see Bob Monroe, "Horses to Horsepower III: Electric Power in Ontario: Into High Gear", Press Clipping, The Kingston Whig Standard, 29 October, 1971, OHA.

<sup>2</sup>See Appendix 3. Each Commission experienced steady growth, by 1954, the load increased each year without exception.

Ontario. For the Thunder Bay System, the cost was quite substantial but it would greatly add to the generating potential in the region.<sup>3</sup>

Table 16.-- Capital Cost of Construction for Ontario Hydro 1947-1952  
(in millions of dollars)

System	1947-8	1948-9	1949-50	1950-51	1951-52
Southern Ont.	47.0	80.6	117.0	137.5	143.0
Thunder Bay	8.5	15.7	14.8	8.4	1.4
Northern Ont. Properties	7.8	15.4	21.5	15.1	10.6

Much of this capital would be used to add modern equipment to the Port Arthur, Fort William and Alexander Falls systems as well as to build Pine Portage on the Nipigon River (which was completed in 1950). This would add another 60,000 kw to the Thunder Bay system. In order to allow the transmission of more power, a new 115,000 kw line would also be built from Nipigon to the twin cities. Further to the east, the Aguasabon River would also be harnessed; by 1952 it had added 52,000 kw to the capacity.<sup>4</sup> Much of this new power would be used for industrial purposes at the Lakehead. By this time the generating systems had become regional in nature.

The second part of this two-pronged approach brought customers more fully into

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<sup>3</sup>E.B. Easson (Secretary) to George Gathercole (Chairman), 15 April, 1951, p. 142, OHA OR 102.111.vol .

<sup>4</sup>ibid., p. 5.

the process. During the preceding forty years, Ontario Hydro and the local Commissions had concentrated on load building in the area, but by 1947 the focus shifted to conservation. A circular sent by Secretary Osborne Mitchell stressed the need for conservation. The Hydro Commission asked for the help of customers in getting demand under control. They wanted users to concentrate on not wasting power.<sup>5</sup> This strategy applied more to Southern Ontario consumers where their capacity was being taxed more heavily by the users. The situation was not as serious in the North where the population was less dense, and usage was much lower. This campaign provides initial indication of what became commonplace as Ontario Hydro struggled to keep capacity ahead of demand.

The demand for power at the Lakehead grew at a steady pace which required additions to the distribution system. The power load had to be balanced from one area of town to the next in order to prevent one substation from being over-loaded, and as the residential areas grew, additional substations would be needed to transform the power into a voltage which could be used by the customers. This process began in 1947 with the addition of the John and Algoma Street substations in Port Arthur. The addition of substations continued throughout the era. In 1948, the Grenville Avenue substation was

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<sup>5</sup>Osborne Mitchell (Secretary) in a circular sent 27 October, 1947, OHA OR 102.1011; also see: *Ibid.*, 22 September, 1947.

added to service another residential area in the municipality.<sup>6</sup> At this time, the High Street substation also underwent renovations and modernization as 5,000 KVA was added to its capacity in 1949.<sup>7</sup> In the next year, 1950, the Current River substation of 3,000 KVA was added to the distribution potential of the city.<sup>8</sup> The increase in domestic load had a significant effect on the distribution system as the substations were added in the new and growing residential areas of the city of Port Arthur.

Along with the additions to the distribution system and load growth, the Port Arthur PUC took steps to minimize the load it took from Ontario Hydro. In 1948, the Current River generating plant was still in use, and operated daily for 16 hours in order to reduce the system peak load from Ontario Hydro. This plant could also serve as a benefit in the time of conservation since 3,000 hp of system load could be serviced by the PUC, rather than Ontario Hydro.<sup>9</sup> It was also in 1949 that the Quarter Century Club was formed. This organization honoured Hydro employees who had served the local utility for twenty-five or more years. This club is still in existence and had over 80 members in 1993.<sup>10</sup> By 1950 the Port Arthur system was experiencing significant

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<sup>6</sup>Port Arthur PUC Files, Copy of Resolution #6905, 1948, TBA 4249. This substation added 3,000 KVA to the system which relieved the other stations at peak hours. It commenced operation in 1949.

<sup>7</sup>Chandler, History of PA PUC, p. 8.

<sup>8</sup>Port Arthur PUC Files, Copy of Resolution #7035, 1 June, 1950, TBA 4250.

<sup>9</sup>Port Arthur PUC Files, R.B. Chandler to the PA PUC, 2 May, 1949, TBA 4256.

<sup>10</sup>Thunder Bay Hydro Quarter Century Club Members list, 1993.

development and growth.

The year 1949 proved to be a watershed year for the Fort William Hydro-Electric Commission. After years of struggling with the perpetual franchise granted the Kaministiquia Power Company in 1906, Ontario Hydro finally began to consider the purchase of the plant from the owners, the Abitibi Power and Paper Company. Like Port Arthur, Fort William's power load was based primarily on domestic and commercial uses but, in large part because of Kam Power competition, its loads lagged behind the Port Arthur's.<sup>11</sup> Meanwhile, the Kaministiquia Power Company was encountering problems of its own in 1949. Due in part to the pulp and paper rate reduction granted the private firms in the 1930s, there was an estimated loss of \$42,859.20 for the year 1949.<sup>12</sup> For the Abitibi Power and Paper Company, it was no longer considered to be economical to keep the generating station in operation. Kam Power had not grown since it was built due to its inability to secure additional water rights for expansion and by 1949 the inevitable finally occurred and the plant was sold jointly to Ontario Hydro and the Fort William Hydro-Electric Power Commission.

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<sup>11</sup>See Appendix # 1. The load purchased by the Port Arthur PUC in 1949 was 30,028.7 HP while the Fort William load was only 20,667.2 HP, almost fifty percent less.

<sup>12</sup>Fort William City Clerk's Files, C.W. Moss to the Fort William Hydro-Electric Commission, July 4, 1949.

Much of the loss resulted in Kam Power supplying the Abitibi mill on Mission Island. Rates had to be competitive with those charged by Ontario Hydro, therefore the private firm had to follow suit on the reductions.

The purchase of Kam Power created great benefits for both Ontario Hydro and the local utility. Ontario Hydro could finally establish its monopoly in the Thunder Bay District and achieve control of the Kaministiquia River watershed. With this control established the Commission could finally develop Silver Falls with no resistance from Kam Power. Perhaps more importantly, the Commission acquired a generating station with an output of 35,000 HP for only \$4,500,000. Given the prevailing labour costs and other expenses of building a new station, this purchase was a bargain.<sup>13</sup> For the Fort William Hydro-Electric Commission, the main benefit was the new customers added as well as the end of the perpetual franchise.<sup>14</sup> This transaction undoubtedly increased the power load as well as giving the municipality control of its streets and all customers except system customers in the system. The added 35,000 HP would make operations smoother since loads could be balanced better.

The benefits were attractive for all concerned: Abitibi would be ridding itself of a financial liability, Ontario Hydro could acquire a station at a good price and the Fort William Hydro-Electric Commission would finally be rid of the troublesome Kam Power competition. It is also significant that, in this era 1945-49, Ontario Hydro was

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<sup>13</sup>Port Arthur PUC Files, Sam Ashton (Chairman of PA PUC) to Ontario Hydro, 11 March, 1949, TBA 4249.

<sup>14</sup>See Chapter II for a discussion of the terms of the agreement between Kam Power and Fort William City Council. This franchise gave Kam Power the market of customers who consumed over 25 HP which restricted the growth of the Fort William Hydro-Electric Power Commission up to 1950.

completing the purchase of most remaining private stations in the province.<sup>15</sup> This purchase was one part of this strategy.

The Kam Power purchase was finally made on February 2, 1949, when the Abitibi Company agreed to sell the plant and holdings for \$5,000,000. Ontario Hydro would pay \$4,500,000 for the generating facilities and the Fort William Hydro-Electric Commission would pay \$500,000 for the distribution network. Much of the money was raised from the sale of debentures.<sup>16</sup> The physical components purchased were as follows:

Hydraulic works	\$318,000
Station and lines	\$618,000
Distribution system	\$455,000
Water rights	\$738,000

Unlike the Kaministiquia Power Company's losses from operations, Ontario Hydro did not expect to suffer losses, but rather generate a \$26,500 surplus.<sup>17</sup> About half of the load would simply be transferred to Ontario Hydro since the pulp mill would become a

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<sup>15</sup>John Negru, The Electric Century, p. 72. This process began in 1922 with the "clean-up" deals which saw Ontario Hydro purchase the MacKenzie-Pellatt-Nichols holdings in Toronto.

<sup>16</sup>See Appendix # 3. The debentures balance went from \$250,000 to \$690,000 to cover this purchase, the rest came from the surplus. These debentures were issued on the authority of Resolution #4343.

<sup>17</sup>Port Arthur PUC Files, the Ontario Hydro-Electric Power Commission to the PA PUC, 2 February, 1949, TBA 4249.

The load in 1949 for Kam Power was made up of:

16,500 HP	for industrial users
11,500 HP	for the City of Fort William
<u>6,000 HP</u>	for secondary users
34,000 HP	

system customer, and some of the 11,500 hp that was sold to the city previously by Kam Power would now be sold by Ontario Hydro at cost to Fort William. The city would undoubtedly add customers since Kam Power would no longer be meeting any demand.

It was not long before the benefits of the purchase became evident in the city. The Fort William Hydro-Electric Commission added to its distribution network when it took over the May Street substation from Kam Power.<sup>18</sup> All of the contracts in the city were transferred to Ontario Hydro as soon as they expired. This added to the Commission's customer base as well as standardizing contracts in the city. Finally, the purchase allowed the city to remove the old distribution lines from the city streets as the Kam Power system was dismantled. In an unrelated development in the same year, the Commission added the Brock Street substation and 4,000 KVA to the Walsh Street substation. This brought the system up to date and allowed the balancing of loads across the city.<sup>19</sup>

With the purchase of Kam Power, an era ended at the Lakehead. The plant had served the city for forty-three years under Kam Power and although it was troublesome competition for the Fort William Commission, it had played an integral part in the development at the Lakehead as the first large-scale generation plant in the area. It could be argued that the plant forced Port Arthur to join Ontario Hydro, since it was viewed

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<sup>18</sup>Fort William City Clerk's Files, J.P. Pattison (Commission Chairman), Report of the Fort William Hydro-Electric Commission for 1949, 21 December, 1950. This substation now houses "Dresswell Cleaners" on May Street.

<sup>19</sup>Taber, Electricity and Fort William, p. 57.

as a Fort William installation and Port Arthur needed a secure power supply. Kam Power became unable to acquire more water rights as Port Arthur blocked all attempts at expansion. It was only a matter of time before the plant would be purchased by Ontario Hydro which still operates it today.

The purchase of Kam Power had an immediate impact on the load taken at Fort William. By 1950, the city had purchased 25,873.3 HP from Ontario Hydro, an increase of over 5,000 HP from 1949.<sup>20</sup> Finally, after a long struggle, the Fort William Hydro-Electric Commission was on even terms with the Port Arthur PUC. Clearly the private firm had held back the development of power in Fort William by the municipality. The damage a private firm can inflict on a municipal utility is illustrated in this case. The demand for electricity in the twin cities provided by Ontario Hydro had finally become almost even by 1950.<sup>21</sup> The Annual Report of the Fort William Hydro-Electric Commission proclaimed the year 1950 as "the best year to date,"<sup>22</sup> no doubt due to the Kam Power purchase. Even with the addition to the Walsh Street substation, it was clear

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<sup>20</sup>See Appendix #1.

1949 load = 20,667.2 HP  
 1950 load = 25,873.3 HP  
           5,206.1 HP increase

<sup>21</sup>See Appendix #1. Demand in Port Arthur in 1949 was 30,028.7 HP but was only 20,667.2 for Fort William. In 1950, the Port Arthur load fell to 27,175.6 HP and Fort William jumped to 25,873.3 HP.

<sup>22</sup>Fort William City Clerk's Files, Annual Report of the Fort William Hydro-Electric Commission, 1950, p. 1.

that relief was still needed and the Hardisty Street substation was added in 1951.<sup>23</sup>

The Port Arthur PUC kept pace as its own demand grew. In only three years, the Port Arthur PUC added four substations with a transformer capacity of 11,750 KVA.<sup>24</sup> This rapid expansion of the distribution system allowed the city to service the residential areas without overloading any one substation.

In 1951, hydro-electric power was still far and away the largest revenue generator in the municipal system of Port Arthur. It accounted for over half, (54%) of the sales by utilities in the city:

Revenue for Utilities in Port Arthur, 1951

Light and Power Department	\$1,016,501.30
Transit	\$ 418,638.85
Telephone	\$ 249,141.45
Water Works	<u>\$ 181,759.50</u>
TOTAL	\$1,866,041.10 <sup>25</sup>

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<sup>23</sup>Ibid., Annual Report for 1951, p. 8. Also see Taber, Electricity and Fort William, p. 58. This substation operated at 8,000 KVA by 1952.

<sup>24</sup>Port Arthur PUC Files, R.B. Chandler to PA PUC, 15 November, 1951, TBA 4256.

Substations added:

August 1948	-John Street	3000 KVA
December 1948	-Algoma Street	3000 KVA
January 1950	-High Street	5000 KVA + 2750 KVA
August 1951	-Grenville Ave.	<u>3000 KVA</u> (2250 from High St.)
		11750 KVA

The Current River substation began operation in 1952.

<sup>25</sup>Port Arthur PUC Files, E. Vigars (Assistant General Manager) to G.A. Grant (Secretary of Chamber of Commerce), 14 March, 1951, TBA 4250.

As was true from the beginning of municipal utilities at the Lakehead, the Light and Power Department remained the biggest revenue producer. Little had changed on that front in 40 years of operation.

By 1952, Ontario Hydro had completed the first phase of its post-war expansion. The amount of horsepower produced had increased greatly and, if the program were to continue, it would increase much more. In 1945, it was estimated that the Ontario Hydro systems could produce 2,439,904 hp. Within 11 years, the Commission predicted that the figure would increase by 124% to reach 5,210,400 hp.<sup>26</sup> Undoubtedly, this doubling of capacity was necessary since the demand for electricity was growing at a phenomenal rate, but such an expansion would be very costly. After decades of extremely low costs, and a fixed rate of \$21.00/HP for Nipigon power, it became impossible to hold the rate steady given the escalation in costs involved in the construction of new generation. The 1949-50 rate increased to \$23.50/hp which was thought to be more closely related to the actual costs incurred.<sup>27</sup> In 1949, Ontario Hydro finally gave the reasons for and described the rate increases for the Thunder Bay system, (in fact, for all systems in Ontario):

The Commission is approaching the end of a period during which revenue/unit of plant has been abnormally high. This high load factor and the limitations on the maintenance and rehabilitation of existing plants have

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<sup>26</sup>Port Arthur PUC Files, Ontario Hydro News Release, 31 December, 1952, TBA 4214.

<sup>27</sup>Port Arthur PUC Files, E.B. Easson (Secretary of Ontario Hydro) to the PA PUC, 22 December, 1949, TBA 4249.

been important influences in stabilizing cost of power to date. However, as new plants are brought into service and desirable operating reserves become established, fixed charges on generation and transmission facilities will increase and it will be necessary to carry these reserves without a corresponding growth in revenue-producing load. These circumstances, together with the steep rise in labour and material costs will make an increase in the cost of power inevitable.<sup>28</sup>

Table 17 shows how fixed charges were increased which forced up the cost of power generation the cost of one HP in both the Southern Ontario and Thunder Bay systems.

Table 17.--Cost per generation of 1 HP:

Year	Southern Ontario System	Thunder Bay System
1947	\$20.82	\$18.49
1948	\$21.33	\$18.78
1949	\$22.61	\$19.91
1950	\$24.86	\$24.06
1951	\$26.11	\$25.26

The costs increased steadily from 1947 onwards. The biggest jump took place between 1949 and 1950 when costs rose \$5.00/hp within that year.<sup>29</sup> It was apparent that some of these costs would have to be reflected in the rates charged by the municipalities. As E.H. Banks warned the Association of Municipal Electric Utilities Conference in 1950:

All Commissions are warned that the new interim rates are much more

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<sup>28</sup>Port Arthur PUC Files, E.B. Easson to the PA PUC, March 31, 1951, TBA 4249.

<sup>29</sup>Port Arthur PUC Files, Address of E.H. Banks (Regional Manager of Ontario Hydro) to the Association of Municipal Utilities on Power Costs and Rental Rates, at a conference held at the Big Win Inn, Kenora, Ontario, June 9th and 10th, 1950, pp. 2 and 3, TBA 4256.

closely related to actual costs than formerly. Therefore refunds should not be anticipated. Bearing this in mind each municipality should immediately review its local rates.<sup>30</sup>

After years of low rates and rebates the Hydro Commissions had to deal with these increased costs. Much of the effort of the local Commissions in the 1950s was directed at keeping rates as low as possible while charging enough to cover increasing fixed costs.<sup>31</sup>

There were many reasons for the increased wholesale cost of power. First, wages and material prices had increased since the war and this had an obvious effect on the costs of the construction. Secondly, the cost of capital increased greatly as interest rates rose and this made improvements and new construction more costly. Thirdly, it was believed that the system was overloaded so that, even though the cost of expansion was high, Hydro felt this situation needed to be corrected. Finally, increased capacity was needed to respond to increasing dependence on electricity as a power source which made securing that source all the more important.<sup>32</sup> The reasons outlined would be repeated annually throughout the 1950s as the interim rates increased at a steady pace through this decade as Table 18 illustrates.<sup>33</sup>

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<sup>30</sup>Ibid., p. 4.

<sup>31</sup>Ibid., p. 6. The fixed cost/Hp in the Thunder Bay system amounted to 76% of the total cost while in Southern Ontario that cost ratio was 82%.

<sup>32</sup>Ibid., pp. 5 and 6.

<sup>33</sup>See Appendix # 1.

Table 18.--Rate/kw in the Thunder Bay System

Year	Port Arthur	Fort William
1950	\$23.50	\$23.50
1951	\$31.50	\$31.50
1952	\$31.50	\$31.50
1953	\$30.87	\$32.79
1954	\$29.04	\$30.95
1955	\$28.19	\$29.80
1956	\$30.92	\$32.33
1957	\$29.91	\$32.87
1958	\$30.80	\$33.43
1959	\$31.11	\$33.41

This left the Public Utilities Commissions scrambling to keep customer rates as low as possible.

For the local utilities at the Lakehead, these increased costs had to be absorbed by the Commission or covered by rate increases. Neither option was very attractive; after all, the pulp and paper episode of the 1930s illustrated the dangers of absorbing costs, although rate increases would clearly be unpopular. General Manager Ralph Chandler predicted these problems as early as 1949 when he argued that, if rates were not increased the operating surplus would be cut and the Port Arthur PUC would lack the capital needed to maintain their system.<sup>34</sup> To add to these problems, the local utilities

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<sup>34</sup>Port Arthur PUC Files, R.B. Chandler to the PA PUC, December, 1949, TBA 4250. Chandler argued that the higher cost of power from Ontario Hydro would result in an increased bill of \$17,730 which would reduce the surplus to \$21,270 for that year.

faced their own need to expand substations and to update the distribution systems. Since 1936, rates in the Port Arthur system had been lowered on several occasions.<sup>35</sup> In the early 1950s, Port Arthur could boast the lowest rates in the Dominion.<sup>36</sup> Predictably, the rates had to be increased in 1950 to the levels charged in 1936. E.A. Vigars outlined the rate structure over the past fifteen years and the increase for 1950:

Domestic Rates: Port Arthur, 1936-50

YEAR	First 50 kwh	Remainder
1936	2.0 cents/kwh	1.0 cents/kwh
1936-44	2.0 cents/kwh	0.8 cents/kwh
1945-49	1.9 cents/kwh	0.6 cents/kwh
1950	2.0 cents/kwh	0.8 cents/kwh <sup>37</sup>

The effect of cost increases on rates was also visible in the Fort William system.<sup>38</sup>

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<sup>35</sup>Chandler, History of PA PUC, pp. 24-5. Since 1936 the rates were dropped in 1936, 1937 and 1945.

<sup>36</sup>Port Arthur PUC Files, R.B. Chandler to the PA PUC, 10 May, 1949, TBA 4250. For towns in the North, Port Arthur had the lowest rates by far. Based on an average bill of 413 kwh, which equalled one month's usage, the utility reported that Port Arthur charged \$2.60 whereas Sault Ste. Marie charged \$3.55 and Kenora \$4.10.

<sup>37</sup>Port Arthur PUC Files, E.A. Vigars to R.B. Chandler, N.D. 1951, TBA 4255.

<sup>38</sup>Fort William City Clerk's Files, J.R. Pattison (Chairman of the Fort William Hydro-Electric Commission) Report, 1950.

General rate information for Fort William was unavailable, but the changes to flat rate water heaters reflect the upward trend.

1940	\$2.51
1943	\$2.30
1945	\$2.04
1947	\$1.84
1950	\$2.30

The rate trend follows that of Port Arthur; also see Taber, Electricity and Fort William, p. 77.

These increased costs started a new trend where it became more and more difficult to keep rates at a constant low level. Fortunately for the local Commissions, some of the increased costs could be absorbed by the rate stabilization fund established in 1932. The idea behind the fund had been to invest part of the surplus in a good year when rates were low and withdraw in periods of high costs. As Table 19 shows, this was done regularly in the 1950s and 1960s and delayed rate increases for consumers.<sup>39</sup>

Table 19.-- Withdrawals From the Rate Stabilization Fund

Year	HP Taken	Rate Stabilization withdrawal/ hp	Total Withdrawal
1950	0	0	0
1951	0	0	0
1952	55,054.1	\$1.00	\$55,054.10
1953	56,640.1	\$1.00	\$56,640.10
1954	57,618.1	\$1.00	\$57,618.10
1955	59,001.8	\$3.50	\$206,523.80
1956	63,303.8	\$3.00	\$190,151.40
1957	64,819.1	\$1.00	\$64,819.10
1958	68,095.3	\$4.00	\$64,819.10
1959	0	0	0

Given the increased costs and the potential effects on the systems, it was clear that

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Net Cost/kwh

1935 = .8 cents    1945 = .61 cents

1940 = .6 cents    1950 = .66 cents

This also demonstrates the tendency to drop rates, then increase them by 1950.

<sup>39</sup>Ontario Hydro Annual Reports, 1950-60

some type of restructuring was needed in the North. Costs were increasing, not only for customers at the Lakehead, but also for system customers further away from the municipalities. Experience with the Rural Power Districts (RPDs) showed Ontario Hydro that increasing the size of an administrative district allowed a better allocation of costs. It was known that rural rates were lower as a result of the larger RPDs since the number of customers spread costs over more ratepayers.<sup>40</sup> It was therefore not surprising that Ontario Hydro decided to merge Northern Ontario Properties (NOP) with the Thunder Bay system in 1951. The NOP had been serviced by Ontario Hydro since 1933. It had been created mainly because of the mining load which was significant enough to justify a system based on it. As Energy and Power Minister Bob McCauley stated in a 1961 report on RPD expansion in the North:

In 1933 Ontario Hydro and the Province entered into an agreement whereby Ontario Hydro undertook to administer all generation and distribution of power in Northern Ontario and the province agreed to re-imburse Ontario Hydro for any loss incurred.<sup>41</sup>

No losses were ever incurred from these operations but, by the 1950s, it was hoped that a merger with the Thunder Bay System would spread costs more equally over a larger number of customers and stabilize rates.

Any amalgamation of this type would involve both advantages and disadvantages

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<sup>40</sup>Keith Fleming, Power at Cost: Ontario Hydro and Rural Electrification, 1911-1958, Montreal and Kingston: McGill and Queen's University Press, 1992, p. 49.

<sup>41</sup>Bob McCauley, (Energy and Power Minister), Report on: Amalgamation of Systems of Ontario Hydro, Addition to Load and RPD Expansion in the North, 22 November, 1961, p. 2, OHA OR 101.vol 1.

for the areas. Unlike the southern areas of Ontario, the North had an imbalance of demand for power between industrial and municipal customers. Only 30% of power consumed in the North was sold to municipalities at cost; the other 70% was sold to various industrial customers at fixed rates. Given the pulp and paper rate problems experienced during the Great Depression, the danger of fixed cost contracts was clear. If the costs of power generation continued to increase, the local Commissions and Ontario Hydro would have to absorb the losses or negotiate rate increases which might drive firms out of the North. A second disadvantage was the financial risks involved. If the two systems were merged, the Commissions at the twin cities might see their surpluses eroded to cover costs further afield. Because of this fact, the yearly surplus would experience wild fluctuations. The question was simple: could fixed-cost power contracts be negotiated to provide for increasing costs? Finally, a merger of this sort would focus attention further north, from the Lakehead. Many customers in the new system would be far north or east of the twin cities and this would add to the problems of high cost as well as management.<sup>42</sup>

Fortunately, the advantages outweighed the disadvantages of the merger. Much of the status quo which benefitted the twin cities would be maintained in the new system. Port Arthur and Fort William would still receive power at cost from Ontario Hydro. This arrangement resulted in solid profits for the local utilities. The amount of power

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<sup>42</sup>Port Arthur PUC Files, Ontario Hydro Report to the PA PUC, 12 April, 1951, pp. 1-2, TBA 4255.

purchased would increase since the municipalities and NOP would co-operate in purchasing power. This new demand could reduce rates as the cost/horsepower would be spread over many more horsepower. There were safeguards for the municipalities since they had to be notified and agree to any additional customers joining the system. No system customers would be added if they adversely affected municipal status; therefore, the supply of power to the Lakehead was assured. Any equity added to the system by the municipalities would be credited to them; therefore they would maintain control of their capital.<sup>43</sup> Satisfied that each interest would be served, Ontario Hydro and the local Commissions completed the merger in 1952.<sup>44</sup>

With this merger the local Commissions took on a greater role in the Ontario Hydro system. This merger was the first step towards the creation of one large provincial system. This merger had a huge impact on the amount of power delivered to the new Thunder Bay system. Thousands of horsepower were being sold to companies in the North; in fact, by 1952, their loads dwarfed the municipal loads of Port Arthur and Fort William.<sup>45</sup> The Thunder Bay system finally became regional as it encompassed the

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<sup>43</sup>Ibid., pp. 2-3.

<sup>44</sup>Ontario Hydro Annual Report, #45, 1952, p. ix. Chairman Saunders stated that: "It will be noted in the Report that early in 1952 through agreements with the Provincial Government and the municipalities formerly served by the Commission's Thunder Bay System, that system was merged for financial and administrative purposes with NOP.

<sup>45</sup>Ontario Hydro Annual Reports, #43, 1951, p. 319 and #44, 1952, p. 321. The 1951 total for other customers (system customers) in the Thunder Bay system was 147,307.1 HP, in 1952 after the amalgamation that number grew 2 1/2 times to

whole North.

While these important administrative changes took place, the local utilities continued their material expansion and modernization. The distribution network for the RPD's was extended to encompass most of the rural residents. Many miles of rural lines were built and new customers added during the entire decade of the 1950s as Table 20 shows.<sup>46</sup>

In the cities the distribution system continued to be expanded to meet the ever-growing demand. In 1953, each local Commission added another substation to the system as Fort William built the Vickers Street substation<sup>47</sup> and Port Arthur added the McDonnell Street substation which added 4000 KVA to the potential in that city.<sup>48</sup> In this year, another tie line was added interconnecting the two systems even more closely and allowing a more stable load. The days of inter-city rivalry were fast becoming a thing of the past as far as hydro engineering was concerned. The annual additions to the systems continued; in 1954, the Fort William Hydro-Electric Commission added a further 4000 KVA to the Brodie Street substation.<sup>49</sup> In 1956, Port Arthur built the Balsam

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370,916.2 HP.

<sup>46</sup>Port Arthur PUC Files, Report to PUC by E.A. Vigars, 6 March, 1953, TBA 4284.

<sup>47</sup>Taber, Electricity and Fort William, p. 60.

<sup>48</sup>Chandler, History of PA PUC, p. 8.

<sup>49</sup>Taber, Electricity and Fort William, p. 60.

Street substation which added 4000 KVA to the system.<sup>50</sup> In that year Fort William also closed down the Mary Street substation after 50 years of operation.<sup>51</sup> That was the last vestige of Kam Power in the city. The station was no longer needed since the distribution system of Kam Power had been dismantled and the load to that station was transferred elsewhere.

Table 20.--Rural Electrification in the Thunder Bay District

Year	Farm Customer	Hamlet Cust.	Commercial Cust.	Summer Cust.	Power of line	Total	Miles
1948	777	1008	120	273	9	2187	329
1949	1273	1265	192	327	7	3064	530
1950	1435	1438	223	361	9	3466	592
1951	1650	1541	248	405	7	3859	657
1952	1733	1668	268	649	9	4327	715.5
1953	1827	1792	298	700	12	4629	738.5

Even with all of these additions to the distribution system, the local utilities had difficulty keeping up with demand. As the population increased and power usage with it, the distribution network was taxed to capacity as Table 21 indicates.<sup>52</sup>

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<sup>50</sup>Chandler, History of PA PUC, p. 31.

<sup>51</sup>Taber, Electricity and Fort William, p. 61.

<sup>52</sup>Port Arthur PUC Files, E.A. Vigars to the PUC, 19 February, 1956, TBA 4313.

Table 21.--Substation Capacity in Port Arthur 1956

Substation	Peak	Capacity	% Load
Cameron Street	7300	6000	122%
High Street	6000	5000	120%
John Street	3600	3000	120%
Algoma Street	3000	3000	100%
Grenville Avenue	3000	3000	100%
May (McDonnell) St.	4000	8000	50%
Windemere Avenue	4000	8000	50%
Balsam Street	2000	4000	50%

The older part of the city was most heavily taxed due to a combination of commercial and domestic loads that did not exist in the residential areas. This shortage of capacity led to another expansion program in the early 1960s. In rapid succession more capacity was added to the substations under the greatest pressure. In 1960, 4000 additional KVA was added to the McDonnell Street substation; in 1962 High Street was increased by 6667 KVA and in 1964 6667 KVA was added to Cameron Street capacity. This growth was amazing; after all in only thirteen years, the transformer capacity in Port Arthur had increased from 11,750 KVA in 1951 to 53,334 KVA by 1964.<sup>53</sup> Fort William predictably kept pace. Their fifth substation was opened on the corner of Donald and Ford Streets in 1957. In 1958, the Atlantic Avenue substation was opened and added 4000 KVA more to the system. In 1959, the corner of May and Home Avenue saw the seventh substation opened added the usual 4000 KVA to the system.<sup>54</sup> The scope and

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<sup>53</sup>Chandler, History of PA PUC, p. 31.

<sup>54</sup>Taber, Electricity and Fort William, pp. 61-63.

breadth of the expansion in the 1950s for the Fort William Hydro-electric Commission can be seen in Table 22 which lists the assets added to the system in that decade.<sup>55</sup>

Table 22.--The Fort William Hydro-electric Commission's Assets 1959

Asset	Value		\$ increase	% increase
	Jan. 1, 1951	Dec. 31, 1958		
Substations	\$437,000	\$932,000	\$495,000	113
Distribution system (lines)	\$651,000	\$943,000	\$342,000	53
Lands & Building	\$183,000	\$426,000	\$243,000	132
Transformer	\$206,000	\$411,000	\$205,000	99
Metering	\$172,000	\$271,000	\$94,000	55
Street Lighting	\$102,000	\$373,000	\$271,000	215
Total Assets	\$1,751,000	\$3,356,000	\$1,650,000	94

In most areas the assets doubled. The decade of the 1950s had been a period of unprecedented growth for the Commissions.

Not only was the distribution system greatly expanded, but generation also increased. In the Jubilee Year of Ontario Hydro, 1956, additions to Alexander Falls and Cameron Falls brought the generating potential up to 315,000 kw.<sup>56</sup> In 1959, Silver Falls was finally tapped. Originally, it was this site that the city of Port Arthur wished to have developed in 1918, but this was delayed as the Nipigon River was developed.

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<sup>55</sup>Fort William City Clerk's Files, Taber to S.H. Baker (City Administrator), 22 May, 1959.

<sup>56</sup>Port Arthur PUC Files, OMEA address by Richard Hearn (Chairman, Ontario Hydro), 27 September, 1956, TBA 4300.

Finally, forty years later, a 60,000 kw plant commenced operation and provided yet another power supply to the twin cities.<sup>57</sup> The coup de grace was yet to come, as the Thunder Bay Generating Station was announced in 1959. After a fifty-year hiatus, steam generation returned to the shores of the Kaministiquia River, this time in the form of a 100,000 kw plant.<sup>58</sup> The original Sprague Street steam plant produced 700 HP so one can clearly see how Hydro had grown. This plant was finally opened in 1961. Each year seemed to bring a huge development to the twin cities, either in terms of distribution or generation.

On October 1, 1959, the Thunder Bay system was interconnected to the Manitoba Hydro system. This interconnection allowed power to be transferred from one province to the other and better balanced the loads in times of shortage or surplus.<sup>59</sup> To keep pace with the demanding managerial tasks of this new huge system, the Fort William Hydro-electric Commission built a new office building to house the administration of the Commission. This structure cost \$679,000 to build, with \$250,000 being raised by the sale of debentures, and the rest coming from surplus funds. In 1962, the lighting system in Fort William was completely overhauled and modernized. This project had been

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<sup>57</sup>Port Arthur PUC Files, Ontario Hydro Report, 13 March, 1959, TBA 4312.

<sup>58</sup>Port Arthur PUC Files, Address of Richard Hearn to the OMEA, 1959, TBA 4312. This plant was completed in 1961 at a cost of \$27,000,000 dollars.

<sup>59</sup>Port Arthur PUC Files, Ontario Hydro Report, 13 March, 1959, TBA 4312.

ongoing since 1949 and had taken thirteen years to complete.<sup>60</sup>

With this outstanding material growth in both generation facilities and distribution capabilities, the power loads at the Lakehead also grew at a rapid pace as 1/3 was added to the load within the decade. In 1951, the load purchased from Ontario Hydro was approximately 51,000 hp to service the twin cities; by 1961, that figure had grown to 73,000 hp.<sup>61</sup> Each Commission experienced steady growth in the 1950s as hydro-electric power became a more integral part of people's lives. Ontario Hydro was still interested in load building, but the traditional appliance shows were bringing disappointing results. After 50 years of sales the market simply became saturated.<sup>62</sup> Growth in ranges was only 5% as most consumers owned electric ranges by 1959. Dryers, a relatively new appliance, had a much better showing, but still the growth was not outstanding. The Commissions had to develop new uses for electricity.

As was the case in earlier decades, Ontario Hydro would lead in terms of education and product. In 1960, Ontario Hydro did just that with the construction of a

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<sup>60</sup>Fort William City Clerk's Files, E. Easson to P.M. Mechia (City Clerk, Fort William), 25 January, 1960.

<sup>61</sup>See Appendix #1.

<sup>62</sup>Port Arthur PUC files, PA PUC to Ontario Hydro, 4 March, 1960, TBA 4324.

#### Appliance Data 1958-9

Appliance	1958	1959	increase
Ranges	7467	7842	375
Dryers	721	988	218
Water Heaters	-	5587	-

Gold Medallion Home in Port Arthur. This home was heated with electric space heaters which were economical (since hydro rates were still fairly low), and promised to make the furnace a thing of the past.<sup>63</sup> Hydro was competing with natural gas, as they always had in Southern Ontario, but uses of hydro were clearly increasing as more advanced marketing techniques were developed and new products sold. Perhaps the most attractive feature of a hydro-heated home was the low rates for electricity. As usual, the twin cities enjoyed very low rates compared to U.S. cities.<sup>64</sup>

A decade after the merger of Northern Ontario Properties and the Thunder Bay system, Ontario Hydro arranged for the final amalgamation, the creation of a single provincial system in which all systems became one. This idea was brought forward as early as 1958 by Chairman James Duncan<sup>65</sup>, and by 1962 the details had been worked out. Just as the earlier amalgamation was based on financial considerations, so this one was too. It was argued that a merger would stabilize the system for three reasons: 1)

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<sup>63</sup>Port Arthur PUC Files, Ontario Hydro to E.A. Vigars, 8 March, 1960, TBA 4223. The first Gold Medallion Home in Port Arthur was the Bradshaw home on Alberta Street. By December 12 of that year the Ripken home was added.

<sup>64</sup>Port Arthur PUC Files, Ontario Hydro Rate Comparison, 4 October, 1960, TBA 4323.

City	100 kwh	300 kwh	500 kwh
Duluth	\$4.42	\$9.76	\$14.76
Chicago	\$4.26	\$8.92	\$13.26
Port Arthur \ Fort William/	\$1.37	\$2.81	\$4.25

<sup>65</sup>Port Arthur PUC Files, James Duncan (Ontario Hydro Chairman) in a circular sent 15 November, 1958, TBA 4312.

increases in rates would be spread over millions of customers<sup>66</sup>; 2) the reserves on which Commissions could draw would be huge in the single system<sup>67</sup>; 3) and great economies of scale would be realized in Ontario.<sup>68</sup> An additional cost saving would result from economy of administration where duplication of service could be avoided and staff used better.<sup>69</sup> The possible cost saving in the North was very substantial as the January 9th Report of Ontario Hydro indicated:

	Cost/kw in Northern Ontario		
	1960	1961	1962
With Amalgamation		\$38.60	\$39.18
Under NOP	\$39.46	\$44.43	\$43.84 <sup>70</sup>

The cost savings involved were substantial and made the amalgamation very desirable in the North. The Hydro system became one single system with this merger in 1962. In 1910 there were seven systems, but the advantage of costs spread over more customers

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<sup>66</sup>Press Clipping: "Merger of Hydro Systems Seen as Stabilizing Rates", Fort William Times-Journal, February 13, 1962, OHA OR 102.1.

<sup>67</sup>"Brief Outline of the Proposed Amalgamation of January 1, 1962 of the Southern Ontario System and NOP Showing the Effects on Northern Ontario Customers, 9 January, 1962, OHA OR 102.012. vol. 1.

<sup>68</sup>Report of D. McCauley, "Amalgamation of Systems of Ontario Hydro: Addition to Load and RPD Expansion in the North", 1962, p.4, OHA OR 101.vol.1. The economies of scale were great in the North. In 1960, Hydro sold 417,637 kw to the Northern system, 502,404 kw to the North Eastern system and 40,544,100 kw to the Southern Ontario system.

<sup>69</sup>Ibid., p.3.

<sup>70</sup>"Brief Outline of the Proposed Amalgamation of January 1, 1962...". The actual rates turned out to be much lower than anticipated, but the cost saving was \$5.00/kwh for the North. The estimated cost of 43.84 was not approached until 1969 which illustrates the value of amalgamation.

led to amalgamation which culminated in the creation of one system in 1962.

The second half of the 1960s was a time of stabilization for the local utilities. The Hydro system had been set up in such a way that the situation solidified. Although the Commissions remained busy providing excellent service, their activities were not as frantic as in the previous decade, but there were still tasks which needed to be performed. The Current River Dam remained an integral part of the Port Arthur system since it was part of the dam system which supplied the water for that city's generation station which was still in operation.<sup>71</sup> After almost sixty years of service the dam needed to be rehabilitated. This meant replacement of the flumes and concrete on the original site which commenced on July 1, 1963.<sup>72</sup> Another and perhaps more significant project was also undertaken in that year. The Front Street Service Centre was built to house the equipment and service facilities for the Commission.<sup>73</sup> Meanwhile, in Fort William the eighth substation was added on James Street<sup>74</sup> which continued the modernization and expansion of the systems.

With all of these amazing developments and the growth of the power utilities at

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<sup>71</sup>Chandler, History of PA PUC, pp. 10-11. The Current River Watershed consisted of the Ray Lake Dam, built in 1906-7, the Onion Lake Dam (1902), the Hazelwood Lake Dam (1906-7) and the Boulevard Lake Dam, also known as the Current River Dam (1906-7).

<sup>72</sup>Port Arthur PUC Files, Report to PUC on the Rehabilitation of the Current River Dam, 8 March, 1963, TBA 4408. This project would protect Boulevard Lake and would cost the PUC \$142,000.

<sup>73</sup>Chandler, History of PA PUC, p. 31.

<sup>74</sup>Taber, Electricity and Fort William, p. 66.

the Lakehead, it is not surprising that their histories were written in 1966 as part of Canada's Centennial celebration. The studies written by long-time general managers R.B. Chandler for the Port Arthur Public Utilities Commission and Art Taber for the Fort William Hydro-Electric Commission provided an excellent overview of the eras and provided one of the bases for this history.<sup>75</sup> This illustrated the importance that Hydro had in the development of the Lakehead since it was included in the celebration of Canada's One Hundredth Birthday. After seventy-eight years of electricity at the Lakehead, the local Commissions had much to celebrate.

Traditionally the general managers of the Lakehead hydro Commissions had strong engineering backgrounds but as the situation of the electric utilities changed, so did the general manager's role. The system had been built up, the new focus became the customer and the quality of staff. In his 1967 address OMEA President Gordon Stacy described this shift:

During the past number of years, the functions of municipal Hydros have been changing the emphasis shifting from engineering and construction to marketing and training.<sup>76</sup>

The focus of the local utilities began to change in this era as better marketing efforts, new management styles and advanced staff training often developed by other industries were incorporated by the local utilities.

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<sup>75</sup>Port Arthur PUC Files, V.S. Wilson (Hydro Hall of Memory) to E.A. Vigars (General Manager PA PUC), 29 June, 1966, TBA 4444.

<sup>76</sup>Port Arthur PUC Files, Gordon Stacy (President of OMEA) Address, 10 April, 1967, TBA 4444.

In 1968, the Thunder Bay system was finally physically connected to the rest of Ontario by a tie-line. The North and South had been linked administratively and financially, in 1962 and six years later this transmission line completed the process. With this tie-line the Thunder Bay system which had been linked to Manitoba Hydro in 1959 was now linked to the rest of Ontario too. Besides obvious operational advantages, such as load management, this interconnection was advantageous in terms of cost savings.<sup>77</sup>

The watchword for this post-war era was expansion in all areas of electricity at the Lakehead. Numerous substations were added, including six new ones in Port Arthur, (with units being enlarged six more times), whereas the Fort William system had eight substations by 1968. Generation capacity was added with such projects as Silver Falls and Aguasabon as well as new stations on the Nipigon River. The highlight was probably the Thunder Bay Generating Station which produced 100,000 kw on Mission Island. This expansion made costs and financing a much more difficult proposition than before, but the Commissions worked hard to keep rates low, and did so with some success. In 1969, negotiations began to merge the two utilities as part of the amalgamation of Port Arthur with Fort William. By 1970, the two utilities would become one.

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<sup>77</sup>M. Ward (Director of System Planning) to A. Smith (Chief Engineer), 28 March, 1968, OHA OR 102.1.

Ward reported the savings as:

	Capital Cost	Annual Charges
isolated	\$203,300,000	\$218,400,000
connected	\$199,200,000	\$200,900,000

## CHAPTER SIX

### Operation as One Utility

On January 1, 1970, the Fort William Hydro-Electric Commission joined forces with the Port Arthur Public Utilities Commission as part of the city-wide amalgamation in that year. This was perhaps the most significant administrative change in the history of the two utilities since they joined Ontario Hydro. After eighty years of co-operation, and sometimes competition, the two utilities were re-organized into one large system, Thunder Bay Hydro. Both operational and administrative departments of the two had to be streamlined into one efficient system.

This period, especially the decade of the seventies, was the era when electrical power consumption increased the most in Thunder Bay. In each decade the combined usage in the two cities grew at a steady pace, as the following Table 23 indicates:

Table 23.--Peak Loads of the Thunder Bay System (by decade)

YEAR	POWER LOAD IN KW
1930	55,823
1940	67,675
1950	68,962
1960	72,852
1970	113,287
1980	207,783
1990	208,338 <sup>1</sup>

Since 1980 the power load has levelled off to around 220.000 kw, reaching it's height in

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<sup>1</sup>See Appendix #1.

1989 when it was 234,766 kw. Because of this levelling off of demand it is likely that the system growth for electricity has been realized, unless there is a structural change in the city such as a new invention requiring a significant amount of electric power to operate, or an additional industry added to the area. Unless something like that happens it is likely that the power load will remain stable at about 220,000 kw for the next few years. During the 1960s the focus of the Commissions at the Lakehead shifted from load-building to the efficient operation of the utilities under severe financial constraints, and this was true more in the modern era than ever before. The high inflation and high interest rates of the seventies and eighties, as well as the economic downturn at the Lakehead, have contributed to the levelling off of demand. Unfortunately for the local utility, the cost of power has increased, and since the load had stabilized, and pressure had been mounting on the Commission to cut costs or increase rates. The days of finding new customers to compensate for lost power load were long gone by the late 1970s. Added to the pressure of costs rising more than revenue were the annual rate increases by Ontario Hydro since 1970. In each of the last twenty-one years, to 1991, the Ontario Hydro wholesale rate has increased as shown in Table 24.<sup>2</sup>

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<sup>2</sup>Ontario Hydro Annual Reports, 1970-1991.

Table 24.--Ontario Hydro Rates for Wholesale Power to the Hydro-Electric Commission of Thunder Bay, (per kw):

YEAR	RATE	YEAR	RATE	YEAR	RATE
1970	\$46.74	1978	\$129.72	1985	\$236.02
1971	50.75	1979	142.44	1986	244.02
1972	52.94	1980	159.69	1987	258.68
1973	59.74	1981	168.91	1988	273.05
1974	65.10	1982	179.77	1989	286.96
1975	74.65	1983	201.22	1990	306.27
1976	90.11	1984	218.61	1991	316.12
1977	118.45				

With these challenges facing Thunder Bay Hydro, it became increasingly more difficult for the Commission to provide reliable and cost-effective service to its customers. This chapter will outline some of the activities of Thunder Bay Hydro from 1970 to 1993.

Once the decision to amalgamate was made, the utilities acted quickly to make the transition as easy as possible. As early as September 1969 the inventory for electric equipment in the two cities for the purposes of amalgamation had already been completed.<sup>3</sup> The operations had to be merged into one, so some assets had to be disposed of while others had to be equipped to handle their new duties. The new utility used the Ontario Hydro symbol, the stylized plug, as its symbol on trucks, letterhead etc.<sup>4</sup> This symbol was "borrowed" from Ontario Hydro until 1984 when the present

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<sup>3</sup>Port Arthur PUC Files, Minutes from the Inter-city Management Committee, 22 September, 1969, TBA.

<sup>4</sup>Minutes of the Hydro-Electric Commission of Thunder Bay, (hereafter called Thunder Bay Hydro Annual Reports), Special Meeting, 2 October, 1969, Thunder Bay Hydro papers, (hereafter called TBH).

windmill design was adopted by the Commission. The new organization consisted of six departments. They were: Finance and Control, Engineering, Operations, Industrial Relations, Customer Services and Staffing and Training.<sup>5</sup> All staff from both the Port Arthur Public Utilities Commission and the Fort William Hydro-Electric Commission were rehired by Thunder Bay Hydro. In all there were 181 appointments given beginning on January 1, 1970.<sup>6</sup> The new headquarters for Thunder Bay Hydro was the Whalen Building which by this time housed not only the Port Arthur utilities headquarters, but also Ontario Hydro's Northwest Regional Offices. The new hydro-electric Commission had one chairman, three commissioners and the mayor as the final member. The first commissioners were: James Currie, (Chairman), L. E. Danis, W.H. Spicer, and W. W. Laasko. The Mayor was Saul Laskin and E. A. Vigars was the first General Manager of Thunder Bay Hydro.<sup>7</sup> The residential rates set for the first year were: for the first 50 kw 4.0 cents; the next 200 kw 1.4 cents; the next 500 kw 0.6 cents and the balance 0.9 cents.<sup>8</sup> With the new commission in place and operating the utility had to face a period of re-adjustment as many matters had to be sorted out between Thunder Bay Hydro and Ontario Hydro.

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<sup>5</sup>The Annual Report of the Hydro-Electric Commission of Thunder Bay, #1, 1970, p. 2, TBH. These reports were eventually organized by the six departments, with each one filing a report on the years activities.

<sup>6</sup>Minutes of the Port Arthur PUC, 4 June, 1969, TBH.

<sup>7</sup>Minutes of the Hydro-Electric Commission of Thunder Bay, January 6, 1970.

<sup>8</sup>Minutes of the Hydro-Electric Commission of Thunder Bay, 28 November, 1970.

In the first year of operations under one Commission there were some basic problems which had to be dealt with by management. They were outlined in the annual report for that year and many of the same types of difficulties would reoccur throughout the history of Thunder Bay Hydro. As stated earlier, the staff from the two old systems had to be incorporated into the new utility, and the wholesale price of power was steadily increasing which created problems for Thunder Bay Hydro. Complicating the rate difficulties were the increasing material and labour costs which were putting additional strain on the finances of the utility especially in a time when the system needed some work to make the amalgamation work efficiently. Consumer rates could not be increased for two years as part of the amalgamation agreement, so the utility had to try to keep costs low to keep the operation solvent.<sup>9</sup> These factors combined to make operations difficult for the new Commission in the early years.

Added to the mounting expenses which created cost difficulties were the system changes which were made in the first few years of the single Commission. In November 1970, the Commission took over control of the Bare Point Pumping Station which took power from the Nipigon River generating station and transferred the power to the cities distribution system.<sup>10</sup> The City of Thunder Bay now controlled most of the distribution system within city limits. Perhaps a more important acquisition was made in January of

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<sup>9</sup>Thunder Bay Hydro Annual Reports, 1970, #1, Letter From the General Manager E. A. Vigars, p. 2, TBH.

<sup>10</sup>Thunder Bay Hydro Annual Reports, #1, 1970, Operations Report, p. 9, TBH.

1970 when Thunder Bay Hydro purchased the Rural Power District from Ontario Hydro. This area was quite large, 154 square miles in area and would require numerous power line additions to meet the growing rural demand. After months of negotiation, Thunder Bay Hydro purchased the RPD from Ontario Hydro with some financing supplied by Grants-in-aid from the Provincial Government.<sup>11</sup> The total purchase price was \$922,000 with 473,000 credited by Ontario Hydro and paid by the grants-in-aid entitlement. The balance was \$449,858 and paid by the city in cash to Ontario Hydro.<sup>12</sup> In order to distribute the increased power load both in the city and in the rural areas the distribution facilities needed to be expanded to meet the new demand. The Balsam Street Substation and the Mapleward Substation each had transformers added which increased the capacity of the stations. They could then better meet the demand, Balsam for one of the growing residential areas in what was once Port Arthur, and Mapleward for some of the newly acquired rural load northeast of the city.<sup>13</sup>

While the distribution system was expanded the generating station on the Current River was regarded as obsolete by the Commission who felt it best to close the plant down. There were three reasons for its closure. First, the chronic problem of lack of

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<sup>11</sup>Minutes of the Hydro-Electric Commission of Thunder Bay, February 10, 1970, Res. #56, TBH.

<sup>12</sup>"Rural Areas- 1970 Rural Construction Program in the Northeastern and North western Regions and Grant-in-aid - Application for Order in Council, 4 June, 1970, OHA.

<sup>13</sup>Minutes of the Hydro-Electric Commission of Thunder Bay, 13 May, 1970, Res. # 143, TBH.

water supply prevented the station from producing anywhere near its capacity. Second, it was only used as backup for the Waterworks Pumping Station, no longer for the entire city as had once been the case. Third, there was a need for maintenance and some rebuilding of both the Onion Lake Dam as well as the Current River Dam. Since the station had limited use in the city, the Commission reasoned that these were unnecessary expenses. It was simply easier to close the facility rather than spend the money needed for the repairs.<sup>14</sup> After seventy years of service the station produced its last electricity on September 21, 1971.<sup>15</sup> The equipment from the generating station was donated to a museum in Kitchener and has been on display there since 1973.<sup>16</sup> Control of the Thunder Bay Hydro land on the Current River was transferred to the City.

The distribution system was once more increased in 1972 to handle the rural load when a new substation was built on Broadway Avenue to meet the growing demand for electric power in the Neebing District. This became Substation # 19.<sup>17</sup> Ontario Hydro also built facilities in the city to handle the increasing power load with the construction of the Birch Street Station on Golf Links Road. Power was transmitted directly into this

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<sup>14</sup>Minutes of the Hydro-Electric Commission of Thunder Bay, Special Meeting, 12 November, 1970, TBH.

<sup>15</sup>Minutes of the Hydro-Electric Commission of Thunder Bay, 21 September, 1971, Res. # 71/123, TBH.

<sup>16</sup>Thunder Bay Hydro Annual Reports, #7, 1976, Engineering and Operations Report: The First Decade, p. 25, TBH.

<sup>17</sup>Minutes of the Hydro-Electric Commission of Thunder Bay, June 21, 1971, Res. # 73/70, TBH.

station and then transferred to the city's distribution system.<sup>18</sup> In 1974, the previously two manned control centres, one in Fort William, the Walsh Station and one in Port Arthur, the High Street Station were consolidated with operations moving to High Street.<sup>19</sup>

While the operations were being consolidated, in 1973 the duties of Thunder Bay Hydro were decreased when the responsibility for maintenance and additions to traffic lighting were transferred to the Public Works Department. Five years later street lighting was also transferred to the city after being under control of the utility for ninety years.<sup>20</sup>

The decade of the 1970s brought high inflation which made the expenses and the operational changes due to amalgamation more costly. Newly-appointed General Manager W. G. Dolman summed up one cause of the cash flow problems faced by the Commission in the 1974 Annual Report when he stated that revenue had dropped because of : "...the effects of energy consumption programs promoted by all levels of the government." Added to this problem were the increasing Ontario Hydro rates for wholesale power. The report went on to state that "...the system growth continues to accelerate and, of course, reflects substantially increased capital expenditure over the

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<sup>18</sup>Thunder Bay Hydro Annual Report, Operations and Engineering Report, #3, 1972, p. 15, TBH.

<sup>19</sup>Thunder Bay Hydro Annual Reports, 1976, Operations: The First Decade, p. 25, TBH.

<sup>20</sup>Thunder Bay Hydro Annual Report, #8, 1977, p. 15, TBH.

previous year..."<sup>21</sup> The utility faced pressures from both sides. On the revenue side, sales were dropping and on the expense side, costs were increasing steadily. It is not surprising that in the mid 1970s Thunder Bay Hydro had to borrow money to meet capital requirements. The issuing of debentures actually grew from 1972 until 1980.<sup>22</sup> It is important to note that the debentures owed in Port Arthur and Fort William had decreased each year in the nineteen sixties. Clearly the utility faced a cash flow crisis with little relief in sight unless they continued to borrow and build up debt which was very costly in the times of high interest rates.

The utility took two approaches to solve the cash flow crisis. First, in 1975, the rates charged to customers were raised twice in one year. This was an unprecedented event in the history of public power at the Lakehead. As W. G. Dolman reported in the 1975 Annual Report: "Bulk power rates from Ontario Hydro necessitated a rate change for the year which is a departure from previous late spring increases."<sup>23</sup> These rate increases, although necessary, were quite substantial: 13% in April and the second increase 22.6% in October.<sup>24</sup> These increases produced much needed revenue for the Commission. The second measure was to phase out the water heater rental program.

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<sup>21</sup>Thunder Bay Hydro Annual, General Managers Letter, #5, 1974, pp. 2-3, TBH.

<sup>22</sup>See Appendix #3.

<sup>23</sup>Thunder Bay Hydro Annual Report, General Managers Report, #6, 1975 p. 2, TBH.

<sup>24</sup>Minutes from the Hydro-Electric Commission Meetings, July 16, 1975, Motion # 75/62, TBH.

The Commission stopped renting out water heaters to customers, rather the customer was required to purchase their water heater. In 1976 Thunder Bay Hydro owned 11,188 heaters and the ending of these rentals meant a substantial cash savings for the firm.<sup>25</sup>

During the financial crisis much of the money freed by the phasing out of the water heater program was applied to rural electrification. Since that asset was acquired by Thunder Bay Hydro in 1970, additional lines were added annually to the system as illustrated in Table 25. In 1977 the miles of rural lines were expanded by 40% which added almost 4,000 customers to the service by 1978.<sup>26</sup>

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<sup>25</sup>Thunder Bay Hydro Annual Reports, 1970-75.  
Yearly Capital Expenditures for Water Heater Rentals:

YEAR	CAPITAL
1970	\$ 89,009.39
1971	96,711.42
1972	122,098.48
1973	140,086.88
1974	121,151.96

The total expenditure was \$722,670.36 for the five years since amalgamation which is about 50% of the average capital budget for each year. For example, the capital budget for 1976 was \$1,300,000. This illustrates the growth of the domestic customer base as well as the extensive rural electrification program undertaken by the city.

<sup>26</sup>Ontario Hydro Annual Reports, 1970-91. By 1991 the total miles of rural lines operated by Thunder Bay Hydro was 2,416 miles. There were only 134 farm customers left, while the constant customers increased to 12,551, the intermittent customers increased to 3,317 and the general customers increased to 2,512 for a total 18,514 customers.

Table 25.--Rural Electrification in the Thunder Bay System

YEAR	MILES OF LINE	FARM CUST.	CONSTANT CUSTOMERS	INTERMITTENT CUSTOMERS	GENERAL CUSTOMERS	TOTAL CUSTOMERS
1970	806	659	2,452	2,030	517	5,658
1971	814	611	2,532	2,152	536	5,831
1972	820	596	2,601	2,210	563	5,970
1973	1020	546	4,122	2,436	901	8,005
1974	1046	526	4,432	2,540	917	8,415
1975	1068	496	4,749	2,669	941	8,855
1976	1091	448	5,020	2,711	946	9,125
1977	1774	248	5,561	2,696	986	9,491
1978	2099	237	8,467	2,823	1,707	13,234
1979	2113	221	8,784	2,846	1,734	13,585

This was one of the main capital expenditures for Thunder Bay Hydro in the decade of the 1970s. Rural electrification is very costly since the customers were sparsely distributed over large areas. Furthermore, capital costs are relatively high and revenue realized relatively low compared to more densely populated the urban markets. Ron Fauvelle of Ontario Hydro's Northwest Region summed up this reality: "The difference between city hydro and rural hydro is that in the city we count customers per pole, while in the rural areas we count poles per customer."<sup>27</sup> Even with the difficult financing of the RPD, Thunder Bay Hydro was committed to providing service to the whole area with the rural load becoming the fastest growing in the system. Another addition to the power load in this era was the growth of electrically-heated homes in the

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<sup>27</sup>Quoted in an interview with Larry Hebert, General Manager of Thunder Bay Hydro, 6 January, 1994.

city. By 1978 there were 1,255 homes heated by electricity from Thunder Bay Hydro.<sup>28</sup>

The units which took the energy supply from the city were constantly being standardized in this era. By 1979, the tenth anniversary of Thunder Bay Hydro, the old 4 KV customer units were replaced by more efficient 25 KV units. This made the system more reliable and the power loads were transmitted with less waste. This process began in 1971 and by 1979 it was almost complete. A customer could keep their old 4 KV unit so long as it was in good operating order. The utility replaced these units gradually when the older 4 KV units needed to be replaced, they were by 25 KV units.<sup>29</sup>

By the early 1980s, Ontario Hydro added more generation capacity to the Thunder Bay Generating Station. The Ontario Hydro added two new units which were more efficient in their fuel consumption and quadrupled the electric output from the station. The units were described in an Ontario Hydro Brief in 1992:

Two additional units were brought into service in the early 1980s. These in-service units have a total capacity of 300 megawatts and are mostly fuelled by lignite coal from Saskatchewan.<sup>30</sup>

The prime interest of Ontario Hydro in this venture is to produce power as economically as possible with special attention to the environmental effects. This station has tested many different types of fuels which could prove to be more economical and reduce

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<sup>28</sup>Thunder Bay Hydro Annual Report, Customer Service section, #9, 1978, p. 18, TBH.

<sup>29</sup>Thunder Bay Hydro Annual Report, Operations Report, #10, 1979, p. 18, TBH.

<sup>30</sup>Ontario Hydro Briefing File, July 1992, p. 217.

adverse environmental effects.

In order to modernize control of the distribution system an important addition was made beginning in 1984. Thunder Bay Hydro installed the Supervisory Control and Data Acquisition System, (SCADA), to operate the system's power load. SCADA ensures reliable service and efficient load management since it monitors the power transmitted in the city.<sup>31</sup> This system has access to all 4 kv and 25 kv users, so their load can be monitored from the control centre. SCADA detects problems quicker and allows the operator to fix many of them from the control centre rather than sending out a work crew. In the next year this system and the entire control centre was moved from the High Street Substation, which had served as the control headquarters for Thunder Bay Hydro since 1974, to the service centre on Front Street which became the new control centre.<sup>32</sup>

Just as the electrical history of Fort William went full circle in 1961 when steam generation returned to the banks of the Kaministiquia River, in the form of the Thunder Bay Generating Station, privately-owned power returned to the banks of the Current River after one hundred years. In 1983, Robert Whiteside brought forward his proposal

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<sup>31</sup>Annual Report of the Hydro-Electric Commission of Thunder Bay, #15, 1984, p. 5.

<sup>32</sup>Annual Reports of the Hydro -Electric Commission of Thunder Bay, Operations Section, #16, 1985, p.2.

to generate hydro-electric power on the Current River.<sup>33</sup> He built a micro-hydro-electric project which produced power for sale to Thunder Bay Hydro to supplement Ontario Hydro electricity. He signed a forty-year contract with the Commission to supply power to the city at 90% of the Ontario Hydro rate.<sup>34</sup> Finally on May 7, 1987 the first Whiteside power was produced when his installation was officially opened. The power sold to the city, although minute compared to Ontario Hydro power, saved the city approximately \$5,000 in the first year of operation.<sup>35</sup>

By 1989, the three older systems had been rebuilt and modernized by Thunder Bay Hydro. The Port Arthur System, the Fort William System, and the Ontario Hydro Rural System all had old equipment replaced and new lines extended throughout the area. As a result, the utility became more efficient in providing more reliable service at the lowest possible cost.<sup>36</sup> The staffing level also dropped from 181 in 1970 to 128 in 1989 as the streamlining of operations continued throughout this era. In most cases the rates charged to the consumers were increased less than the rates charged for wholesale power by Ontario Hydro. In fact, after the cash flow crisis of the early 1970s there have been only

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<sup>33</sup>Minutes of the Hydro-Electric commission of Thunder Bay, September 21, 1983, TBH.

<sup>34</sup>Minutes of the Hydro-Electric Commission of Thunder Bay, 19 February, 1984, TBH. Also see *Ibid.*, April 2, 1983, Res. #83/258.

<sup>35</sup>Annual Report of the Hydro-electric Commission of Thunder Bay, Operations Section, # 18, 1987, p. 7, TBH.

<sup>36</sup>Thunder Bay Hydro Annual Reports, Operations Section, #20, 1989, p. 11, TBH.

three years from 1976 until 1993 when Thunder Bay Hydro's rate increase has exceeded Ontario Hydro's. Table 26 shows that in 1994, for the first time in the history of Thunder Bay Hydro, the retail rate for residential users dropped by 1%.

Table 26.--Rate Increases of Ontario Hydro and Thunder Bay Hydro

YEAR	ONTARIO THUNDER BAY HYDRO	THUNDER BAY HYDRO	YEAR	ONTARIO HYDRO
1970	6 %	0	1982	9.6%
1971	7 %	0	1983	8.2%
1972	8 %	16 %	1984	8.4%
1973	8 %	10 %	1985	8.6%
1974	7.5%	9 %	1986	3.9%
1975	12.4%	13 % April 22.6% October	1987	5.1%
1976	22 %	0	1988	4.7%
1977	30.3%	25 %	1989	5.8%
1978	1.8%	1.8%	1990	6.1%
1979	10.1%	8.5%	1991	8.8%
1980	16.4%	12.1%	1992	12.0%
1981	9.3%	11.0%	1993	8.2%
			1994	0 -1.0%

It is significant to note that 1994 was also the first year that the Ontario Hydro rate did not change, which undoubtedly contributed to allowing the local Commission to drop their rate.

The distribution system and other assets of Thunder Bay Hydro have had impressive growth since amalgamation. The system was modernized with SCADA, and

in 1993 there were 19 substations to serve the area's power needs.<sup>37</sup> The capital assets in the system have quadrupled (as seen in Table 27), from approximately \$17,000,000 in 1970 to over \$68,000,000 by 1990.<sup>38</sup>

Table 27.--Capital Assets for Thunder Bay Hydro: Five Year Intervals, 1970-1990

1970	\$17,133,541.59
1975	24,677,349.00
1980	33,844,740.00
1985	45,353,812.00
1990	68,731,801.00

This system has experienced impressive growth. Even with all of the capital needed to finance this impressive growth, Thunder Bay Hydro will be debt free by 1997, a truly remarkable accomplishment.

There are new challenges facing Thunder Bay Hydro in the 1990s. Part of Ontario Hydro's mandate announced in 1992 was: 'Advancing technology and public concern for

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<sup>37</sup>Substations as of January 1, 1994.

Station No.	Station Name	Station No.	Station Name
1	Walsh Street	13	John Street
3	Hardisty Street	14	Algoma Street
4	Vickers Street	15	Grenville Ave.
5	Donald Street	16	MacDonnell Street
6	McPherson Street	18	Balsalm Street
7	W. Mary Street	19	Broadway Avenue
9	Mountdale Avenue	21	Windemere Avenue
11	High Street	22	W. Brock Street
12	Camelot Street	23	Alice Avenue
		36	Mapleward Road

<sup>38</sup>Thunder Bay Hydro Annual Reports, Finance Section, various, TBH.

the environment and helping to improve the viability of many alternative power sources." The technologies which are being studied in particular are: wind power, photovoltaic (solar) power, and biomass (waste) fuel cells.<sup>39</sup> With this mandate there can be no doubt that the main supplier of power to the Lakehead will undergo many changes and these changes may well effect the operations of Thunder Bay Hydro. Other possible changes are more on the local level and involve the organization of the utility. There have been discussions regarding the privatization of Ontario Hydro which would greatly affect the local utilities since they would be dealing with private operators. Finally, there have been proposals brought forward which would create regional commissions, replacing the local Commissions which have served the community so well for over one hundred years. At the time of this paper it is unclear what the outcomes to these proposals will be, but suffice it to say, Thunder Bay Hydro and its predecessors have had a proud history, filled with many accomplishments and undoubtedly there are more to come.

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<sup>39</sup>Ontario Hydro Briefing File, July, 1992, p.3.

APPENDIX #1 (a)

**Power Loads 1926 - 1949 (in horsepower)**

Ref.	Year	Port Arthur	Fort William	Companies	RPD
204-5	1926	29,539.6	133.01	15,391.09	-
198-9	1927	26,527.5	7,194.3	12,958.9	-
214-5	1928	31,277.5	9,226.8	11,635.5	-
234-5	1929	38,659.3	9,718.6	18,194.9	-
240-1	1930	33,080.7	9,861.8	22,142.2	-
250-1	1931	33,628.1	10,511.3	17,117.6	-
239-?	1932	33,558.4	10,488.6	11,736.3	(a) PA - 14.2 FW - 5.4
258-9	1933	33,019.9	10,221.5	14,783.3	(b) PA - 38.1
252-3	1934	32,442.3	10,264.2	14,754.5	FW - 80.1 PA - 35.9
240-1	1935	32,967.0	10,289.5	16,745.5	FW - 95.2 PA - 44.9
266-7	1936	33,850.5	10,340.1	21,566.1	FW - 114.5 PA - 54.9
272-3	1937	38,515.6	10,538.0	29,569.9	(c) FW - 143.6 PA - 59.7
224-5	1938	33,268.2	11,454.8	30,185.4	RPD - 254.8
172-3	1939	35,888.3	12,113.0	28,511.4	341.5
172-3	1940	39,798.0	12,260.0	22,655.9	452.7
160-1	1941	41,091.8	13,644.3	25,189.9	570.7
162-3	1942	(d) 16,456.2	14,861.7	54,398.0	631.1
156-7	1943	19,935.1	14,780.4	56,173.3	656.1
160-1	1944	22,673.4	15,485.3	51,983.7	708.2
176-7	1945	24,310.7	16,683.6	52,959.4	804.1
188-9	1946	22,714.9	17,325.4	63,318.1	1,019.2
190	1947	24,432.6	18,514.7	69,937.0	1,248.3
206.7	1948	26,196.5	19,327.1	77,254.4	1,407.3
148-9	1949	30,028.7	20,667.2	111,994.0	1,725.0

Each reference lists the page numbers in the various Annual Reports from 1926 to 1949.

Load expressed in horsepower

a - FW = Neebing and Papooinge

b - Fort William = Neebing, Oliver, Papooinge

Port Arthur = Shuniah

c - FW = Island Ward, McGregor, McIntyre, McTavish, Neebing, Oliver, Papooinge, Shuniah

PA = Island Ward, McGregor, McIntyre, McTavish, Neebing, Oliver, Papooinge, Shuniah

d - Pulp and Paper = system customer for Ontario Hydro

**APPENDIX 1 (b)**

Ref.	Year	Power loads and rates 1950-69			
		Port Arthur	Fort William	Actual Rate/kw	
				Port Arthur	Fort William
291	1950	27,175.6	25,873.3	\$23.50	\$23.50
318-9	1951	26,748.9	24,877.6	\$31.50	\$31.50
320-1	1952	28,628.1	26,426.6	\$31.50	\$31.50
328-9	1953	29,571.2	27,068.9	\$30.87	\$32.79
334-5	1954	30,372.3	27,245.8	\$29.04	\$30.95
258	1955	31,761.0	27,245.8	\$28.19	\$29.80
254	1956	34,351.0	29,032.8	\$30.92	\$32.53
162	1957	35,228.3	29,590.8	\$29.71	\$32.07
168	1958	37,099.7	30,995.6	\$30.80	\$33.43
168	1959	37,687.4	32,056.7	\$31.17	\$33.41
142-3	1960	39,956.2	32,896.1	\$31.39	\$33.81
150-1	1961	40,166.9	33,100.1	\$31.07	\$33.32
120,116	1962	41,772.3	34,529.6	\$32.02	\$33.69
116,112	1963	44,948.4	36,804.6	\$33.67	\$35.85
110,104	1964	45,811.3	37,468.8	\$35.65	\$37.33
120,116	1965	46,211.5	38,080.4	\$36.45	\$37.82
130,124	1966	49,674.9	40,525.8	\$18.64	\$20.34 *
114,110	1967	50,994.9	42,079.7	\$21.06	\$22.76 *
120,114	1968	52,547.5	42,686.5	\$38.70	\$41.74
70,64	1969	56,831.7	44,455.9	\$41.98	\$44.15

\* No energy charge for 1966-7, rather the energy charge was based on the Mills Assessment. The actual rate/kw is the charge to the city utilities from Ontario Hydro. Much of the discrepancy in rates between the two cities was based on the economies of scale enjoyed by Port Arthur because the higher demand lowered the cost/hp for that city. This rate was held constant at \$23.50/kw until 1951 for power purchased from Ontario Hydro.

The companies section is not included on this page, (see page 1), because of the mergers with Northern Ontario Properties in 1952 which led to many companies far away from the Lakehead to be included in that figure. The demand by companies, (including system customers), is not indicative of activity at the Lakehead.

**APPENDIX #1 (c)****Power Load 1970-1991**

<b>Ref.</b>	<b>Year</b>	<b>Thunder Bay</b>	<b>Cost/kw</b>
64	1970	113,287.1	\$46.74
64	1971	120,510.5	\$50.75
68	1972	131,410.3	\$52.94
64	1973	132,754.1	\$59.74
66	1974	137,414.9	\$65.10
68	1975	147,214.3	\$74.05
66	1976	151,765.0	\$90.11
66	1977	151,852.0	\$118.45
72	1978	159,770.2	\$129.72
66	1979	165,371.0	\$142.44
68	1980	167,928.6	\$159.69
72	1981	167,928.7	\$168.91
70	1982	167,928.7	\$168.91
70	1983	168,632.7	\$201.22
76	1984	171,739.0	\$218.61
80	1985	174,258.8	\$236.02
82	1986	177,340.8	\$244.02
82	1987	174,556.8	\$258.68
78	1988	181,538.0	\$273.05
28	1989	182,239.9	\$286.98
28	1990	177,037.1	\$306.27
28	1991	182,770.6	\$319.12

APPENDIX 2

SELECTED APPLIANCE DATA (PORT ARTHUR) 1927-1947

YEAR	ELECTRIC RANGES	HOT PLATES	WASHERS	VACUUM CLEANERS	WATER HEATERS	IRONS	REFRIGERATORS	TOASTERS	RADIOS
1927	665	1800	426	554	540	1500	10	1400	N/A
1928	850	2238	734	604	660	3005	13	1684	N/A
1929	1079	2438	897	700	791	3226	38	1828	N/A
1930	1228	2588	997	748	878	3401	53	1888	N/A
1931	1349	2784	1133	800	978	3790	80	2054	N/A
1932	1449	2949	1212	839	1036	4408	117	2126	N/A
1933	1553	3125	132C	859	1086	4337	165	2322	N/A
1934	1610	3233	1595	911	1114	4700	220	2478	2805
1935	1674	3426	1973	1045	1144	5105	269	2648	3205
1936	1812	3792	2091	1173	1199	5440	346	2802	3657
1937	2006	3938	2363	1323	1296	5823	464	2987	4144
1938	2111	4481	2693	1503	1343	6313	664	3256	4775
1939	2226	4780	2978	1693	1395	6811	819	3567	5269
1940	2353	5091	3474	1132	1477	6595	1090	4094	6339
1941	2522	5605	3995	2014	1575	7140	1343	4413	7613

Source: TBA, Port Arthur PUC Files, Report Of Port Arthur PUC to Ontario Hydro, 1927-41.

**APPENDIX #3**

**Municipal Debentures for Electrical System**

**Port Arthur**

<b>Year</b>	<b>Debentures Paid (\$)</b>	<b>Debenture Balance (\$)</b>	<b>% of Debenture Balance to Total Plant</b>
1913	-	478,553.57	87.7
1914	48,431.70	533,068.30	80.9
1915	58,823.83	568,758.70	84.9
1916	66,696.29	559,403.71	82.8
1917	76,518.98	549,581.02	79.8
1918	86,832.83	539,267.17	78.1
1919	98,348.02	528,437.61	75.6
1920	110,833.02	520,149.52	73.0
1921	165,652.94	460,447.06	61.4
1922	181,767.40	444,332.60	58.6
1923	189,237.60	446,862.40	49.5
1924	193,323.84	442,776.16	47.1
1925	197,614.42	438,485.58	45.3
1926	200,000.00	436,100.00	44.3
1927	200,000.00	436,100.00	42.4
1928	200,000.00	436,100.00	36.5
1929	215,000.00	421,100.00	32.7
1930	218,000.00	418,100.00	31.0
1931	218,000.00	418,100.00	25.8
1932	236,178.87	405,921.13	24.4
1933	280,934.72	361,165.28	21.5
1934	344,203.36	297,896.64	17.5
1935	389,085.43	253,014.57	14.8
1936	457,381.60	184,718.40	10.7
1937	517,692.58	124,407.42	6.9
1938	557,019.11	85,080.89	4.6
1939	598,361.97	43,738.03	2.4
1940	598,721.97	43,378.03	2.3

1941	629,100.00	13,000.00	0.7
1942	642,100.00	-	
1943	642,100.00		
1944	642,100.00		
1945	642,100.00		

Year	Debentures Paid	Debenture Balance	% Debenture Balance to Total Plant
1946	642,100.00		
1947	642,100.00		
1948	642,100.00		
1949	627,246.73		
1950	626,317.40		
1951	626,317.40		
1952	626,317.40		
1953	626,317.40		
1954	626,317.40		
1955	626,317.40		
1956	626,317.40		
1957	626,317.40		
1958	626,317.40		
1959	626,317.40		
1960	626,317.40		
1961	626,317.40	-	
1962	641,317.40	335,000.00	6.1
1963	657,317.40	319,000.00	5.2
1964	674,317.40	302,000.00	4.6
1965	692,317.40	284,000.00	4.1
1966	711,317.40	265,000.00	3.6
1967		245,000.00	
1968		224,000.00	
1969		201,000.00	

Reference: Ontario Hydro Archives, 510-001 General History of Port Arthur.  
The debentures 1967-9 come from Thunder Bay Hydro financial statements.

Fort William

Year	Debentures Paid (\$)	Debenture Balance (\$)	% of Debenture Balance to Total Plant
1927	196,150.00	471,500.00	71.7
1928	221,150.00	446,500.00	64.9
1929	221,150.00	446,500.00	63.1
1930	252,150.00	415,500.00	57.2
1931	252,150.00	415,500.00	54.1
1932	252,150.00	415,500.00	52.7
1933	252,150.00	415,500.00	54.2
1934	367,650.00	300,000.00	38.7
1935	367,650.00	300,000.00	38.2
1936	367,650.00	300,000.00	37.9
1937	367,650.00	300,000.00	37.1
1938	367,650.00	300,000.00	35.1
1939	367,650.00	300,000.00	34.0
1940	417,650.00	250,000.00	26.4
1941	417,650.00	250,000.00	25.0
1942	124,209.11	250,000.00	34.4
1943	124,209.11	250,000.00	33.8
1944	124,209.11	250,000.00	32.5
1945	124,209.11	250,000.00	31.4
1946	124,209.11	250,000.00	29.9
1947	124,209.11	250,000.00	26.8
1948	124,209.11	250,000.00	23.0
1949	124,209.11	250,000.00	21.0
1950	124,209.11	690,000.00	39.8
1951	140,209.11	674,000.00	37.1
1952	156,209.11	658,000.00	33.6
1953	173,209.11	641,000.00	29.3
1954	190,209.11	624,000.00	26.6
1955	208,209.11	606,000.00	24.2
1956	476,209.11	338,000.00	12.8
1957	495,209.11	319,000.00	11.0
1958	515,209.11	299,000.00	9.1
1959	535,209.11	279,000.00	7.5
1960	556,209.11	508,000.00	12.8
1961	584,209.11	480,000.00	11.1
1962	614,209.11	450,000.00	9.7

1963	644,209.11	420,000.00	8.8
1964	676,209.11	388,000.00	7.9
1965	707,138.63	355,000.00	6.9
1966	742,138.63	320,000.00	5.7

Reference: Ontario Hydro Archives, 510.001, History of Fort William.

The debenture issues for 1967-69 are not available at this time for the city of Fort William.

Debenture Balances for Thunder Bay Hydro, 1970-97.

YEAR	DEBENTURE BALANCE	YEAR	DEBENTURE BALANCE
1970	\$ 790,858	1983	\$3,456,249
1971	556,872	1984	3,151,773
1972	1,292,322	1985	2,726,296
1973	1,159,157	1986	2,486,023
1974	1,854,992	1987	2,443,043
1975	2,624,827	1988	2,101,255
1976	3,327,661	1989	1,776,815
1977	3,104,496	1990	1,400,346
1978	3,552,330	1991	1,110,711
1979	3,230,000	1992	856,417
1980	4,763,496	1993	577,435
1981	3,852,615	1994	270,472
1982	3,502,132	1995	199,472
		1996	71,000
		1997	0

Source: Annual Reports of the Hydro-Electric Commission of Thunder Bay, 1970-92. For the 1993-97 the source was the financial department of Thunder Bay Hydro.

## APPENDIX #4

### The Historiography of Ontario Hydro

There are few residents of Ontario who do not have strong opinions regarding Ontario Hydro. This corporation and the resource it produces have touched nearly everyone in the province, so it is not surprising that many historians have written on the subject. The historian who studies a local municipal utility must put the various works on the subject of hydro history into some order. This essay presents a framework within which the historian can draw on these works.

The administration of hydro-electric power in Ontario has developed into a three-tiered system. Actions at the upper level of the system have had a huge impact on the lower levels. The first level is the provincial government level. The province sets the policy for Ontario Hydro<sup>1</sup>. The Legislature of Ontario provides the capital needed for the projects and sets the legal framework for development. Thus, it can be said that the province sets the limits within which the Ontario Hydro-Electric Power Commission has to operate. On the Ontario Hydro level, day-to-day operations are the responsibility of the Commission. This organization has the technical expertise to create the most efficient system within the parameters set by the provincial government. This system has created a new set of boundaries under which the lowest level, the municipal commission, operates. It is the task of the municipal commission to apply the goals and strategies of Ontario Hydro to the local area. Together these three tiers make up the Ontario Hydro

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<sup>1</sup>For the remainder of this paper, the Ontario Hydro-electric Power Commission will be referred to as Ontario Hydro, its more commonly used name.

system. This structure provides the historian with an excellent framework within which the literature on Ontario Hydro can be studied.

Over the years, the federal government has allowed Ontario to develop its own electrification program. Christopher Armstrong explored the complex federal-provincial relationship which allowed Ontario to have control over its power policies. Provincial jurisdiction over many developments, including hydro-electric power, was gained by the successive premiers who followed the compact theory of federal-provincial relations.<sup>2</sup> Armstrong shows how the province, not relying on federal money, was able to act without much federal interference, although there were cases of "friction" between the two. Federal politicians did not use the power of disallowance even when they disliked the actions of the provincial government. Even in 1910, when Prime Minister Laurier felt the formation of Ontario Hydro was an error, he did nothing beyond stating that "...the remedy is purely in the hands of the people of Ontario."<sup>3</sup> In the history of Ontario Hydro, there were only two cases where the federal government had influence over the policy of the provincial government. Both cases involved foreign policy: the export of power to the United States and the development of the St. Lawrence River for

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<sup>2</sup>Christopher Armstrong. The Politics of Federalism: Ontario Relations with the Federal Government, 1867-1942, (Toronto: The University of Toronto Press, 1981), p. 4.

<sup>3</sup>ibid., p. 65.

power production.<sup>4</sup> In both cases Armstrong shows that the federal government was an obstacle to development in the eyes of the province. Some of this independence of action was gradually surrendered by Ontario when it accepted federal subsidies, thus giving the federal government more influence in the province. Armstrong nevertheless shows clearly how electrical development has remained firmly in the hands of the provincial government.

On the provincial level, some historians have taken a dim view of the developmental policies followed by the Ontario government. These works deal with general economic development but contain much valuable information regarding Ontario Hydro. In all of these cases, hydro-electric power is seen as a precursor to economic development and a vital part of the economic infrastructure. Although the path of resource exploitation was effective in the short run, it has had disastrous long-term effects. Much of the wealth from the resources has been taken out of the province. The question is: were other options for development available in the early twentieth century?

Perhaps the most important study of this development strategy in Ontario was provided by H.V. Nelles in his landmark work, The Politics of Development: Forests, Mines and Hydro-electric Power in Ontario, 1849-1941. He built a very solid framework to show how mining was controlled by the government by the granting of mineral rights and logging by timber limits. These were relaxed or tightened as the government wanted

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<sup>4</sup>ibid., pp. 68-85 for the discussion regarding the export of power, and pp. 160-197 for an account of the St. Lawrence Seaway debate and its eventual resolution.

to encourage or discourage development. In the case of hydro-electric power, the government saw cheap power as one of the most important resources needed to attract industry to Ontario. The government acted as a promoter for Ontario by providing the infrastructure used to attract business to the province.<sup>5</sup> In addition, the government used its control over water rights to create public ownership of power facilities and avoid the perceived dangers of a private monopoly of these resources.<sup>6</sup> Unfortunately for the province, business was still the main beneficiary of these policies, and it was they who benefitted the most.<sup>7</sup> Nelles saw that hydro-electric power was needed to build the economy based on staple production and economic development in Northern Ontario. This work shows the impact of hydro in the North and on staples production, as well as ensuring great municipal advancement for Southern Ontario.

Using the framework created by Nelles, Marsha and William Chandler examined Ontario policies since the Second World War, to cover the period beyond Nelles' study. They demonstrated a continuity between the two eras since the main goal of the government remained that of stimulating the private sector in resource exploitation.<sup>8</sup>

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<sup>5</sup>H.V. Nelles, The Politics of Development: Forests, Mines and Hydro-Electric Power in Ontario, 1849-1941, (Toronto: MacMillan of Canada, 1974), ix.

<sup>6</sup>Ibid., p. 226.

<sup>7</sup>Ibid., p. 493.

<sup>8</sup>Marsha and William Chandler, "The Politics of Resource Exploitation", in The Government Policies of Ontario, Donald C. MacDonald ed., (2nd ed.), (Toronto: Van Nostrand Reinhold Ltd., 1980), p. 363.

They agreed with Nelles' assessment of the abuses and errors of the provincial government as well as those of Ontario Hydro. In the last three decades, however, particular criticisms have changed. First, as the capital costs of the system have increased, rates have also increased to the point that they bring into question the idea of cheap power. The mega-projects of the sixties and seventies have been very costly ventures indeed.<sup>9</sup> Second, nuclear power has led to many environmental concerns. The environmental lobby has become more vocal and has received much attention.<sup>10</sup> This has led to mounting criticism of Hydro from many areas of society.

Ian Drummond has presented the most sceptical view of the policies of the provincial government. In his book, Progress Without Planning, he stated: "...Nor can one detect the sort of foresighted integration of needs, possibilities, policies and programs which would nowadays be called planning."<sup>11</sup> He described how Ontario Hydro aided agricultural development, mining, pulp and paper and manufacturing in the province. There was a boom in electrical power after 1898 when the technology was applied to Ontario. Utilities were set up as local franchises serving only one community, therefore the utilities tended to be small, local concerns to provide street lighting for communities

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<sup>9</sup>Ibid., p. 367.

<sup>10</sup>Ibid., p. 380.

<sup>11</sup>Ian Drummond, Progress Without Planning: The Economic History of Ontario from Confederation to the Second World War, (Toronto: University of Toronto Press, 1987), p. 17.

as well as industrial development.<sup>12</sup> Drummond argued that Ontario Hydro had little significant impact on the piecemeal electrical system of Ontario. Power was generated in the province through a mixture of private, municipal and Ontario Hydro-operated stations. It took thirty years to build a power grid with all the stations operating on 60-cycle generation.<sup>13</sup> With these facts in mind, it is difficult to argue that Drummond is incorrect in his "progress without planning" theory depending on what one defines as planning. Surely, by the second decade of the twentieth century, Ontario Hydro was involved in large-scale planning with the construction of their mega-projects such as the Queenston/Chippewa or the Nipigon Projects.

Historians have attacked the government on two issues dealing with the general issue of Hydro development and resource development. First, they argue that the government has been ineffective in its policies pertaining to resource development, as Nelles would assert. Second, as Drummond argued, there was little economic planning done in Ontario. Since the general involvement of Ontario Hydro in politics is very complex, it is necessary to examine the specific policies followed by the various provincial governments of Ontario.

It is also useful to examine how Ontario Hydro compares to other provincial utilities. H.V. Nelles has done some work in this field in comparing Ontario and Manitoba and, (with Christopher Armstrong) Ontario and Quebec. Nelles found that

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<sup>12</sup>*Ibid.*, p. 137.

<sup>13</sup>*Ibid.*, p. 147.

there were important structural differences which allowed public power to succeed in Ontario while it failed in Manitoba before the 1930s. In Manitoba, the support for public power was relatively small since there was only one major population centre, Winnipeg, in the province.<sup>14</sup> In Ontario, much of the municipal power movement was centred in the communities of Southwestern Ontario which feared a Toronto monopoly of power from the Niagara development.<sup>15</sup> Second, the federal government had much more sway in Manitoba in terms of controlling water rights, whereas in Ontario, it had very little influence. The federal government did not always like the concept of public power, which further inhibited its development in the prairie provinces.<sup>16</sup> Nelles also gives Adam Beck much credit for the success of the movement and sees Winnipeg as lacking a leader of this calibre.

On the topic of electricity and Manitoba, Manitoba Hydro has published a pamphlet which present the main developments in its history. There is little analysis of the facts, but it provides an excellent chronological interpretation of that provincial utility.<sup>17</sup>

With his writing partner, Christopher Armstrong, Nelles also studied the

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<sup>14</sup>H.V. Nelles, "Public Ownership of Electrical Utilities in Manitoba and Ontario, 1906-1930", Canadian Historical Review, 47, 1976, p. 464.

<sup>15</sup>Ibid., p. 484.

<sup>16</sup> Ibid., p. 473.

<sup>17</sup>Manitoba Hydro, A History of Hydro-Electric Power in Manitoba, N.D.

experience of Montreal. They wrote about the structural differences between the two provinces. Private ownership prospered in Montreal at the turn of the century. According to the authors, the private power interests were much stronger and more unified than in Ontario until 1930. These firms were able to provide power to Montreal in the short term and so the necessity of public power was not as important as it seemed in Ontario.<sup>18</sup> In Quebec, hydro-electric power was much more widely accessible since there were more power sites than in Ontario where power came largely from the Niagara development and had to be transmitted to the communities at huge capital costs which private firms were not prepared to meet.<sup>19</sup> These studies are important as they illustrate the significance of place in these developments. The physical environment in which these utilities were developed had a huge impact on the creation of the utility.

John Dales has also examined electrical development in Quebec. He discussed the private power development and explored the impact it had on the economy of Quebec. He found that the large firms who enjoyed a monopoly did not directly affect the economy as much as the smaller firms.<sup>20</sup> Most of the effects were indirect. In the Eastern Townships, where there was not a power monopoly such as in Ontario, the firms

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<sup>18</sup>Christopher Armstrong and H.V. Nelles, "Contrasting Development of the Hydro-Electric Industry in the Montreal and Toronto Regions, 1900-1930", Journal of Canadian Studies, 18, Spring, 1983, p. 14.

<sup>19</sup>Ibid., p. 24.

<sup>20</sup>John Dales, Hydroelectricity and Industrial Development: Quebec 1898- 1940, (Cambridge, Massachusetts: Harvard University Press, 1957), p. 156.

actively promoted industrial activity in the area. Since they had no monopoly they needed to develop markets. These industries were examples of a direct impact on the economy of Quebec.<sup>21</sup> This book provides a framework within which to study the impact of Ontario Hydro on the economy of Ontario because it introduces an economic model and applies it to historical data.

The works on the careers of the individual premiers provide insights about how Hydro was dealt with by the various political figures. Some had their political fortunes linked to Ontario Hydro. In order to understand this relationship, it is important to study the careers of the individual premiers to examine how their parties' policies were shaped by, and in turn shaped Ontario Hydro. Hydro-electric power has been an integral part of provincial politics in Ontario since the early twentieth century. Conversely, the politicians have also had some impact on the development of Hydro. There is a good deal of information to be gleaned from the works regarding the individual premiers. There are clearly several stages of development in the Ontario Hydro/provincial government relationship. At the turn of the century, the key concern was creation of the organization of Hydro and setting up of the administrative framework. George Ross (Liberal, 1899-1905)<sup>22</sup> was the one who had to deal with the setting up of the organization. By 1900 it was clear that the electrical industry needed to be regulated.

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<sup>21</sup>Ibid., p. 136.

<sup>22</sup>The dates in the brackets represent the dates of the premiership of the politicians in Ontario.

Private firms had been acquiring water rights for years and the government had to act in order to secure some power resource for public development. Faced with the challenge of private power, Ross proved to be resistant to the public power forces. He was concerned with the debt that a provincially-funded development would incur. His goal was to keep the province out of power production and allow the municipalities to assume the debt while government legislation protected the private concerns. This was expressed in the Ross Act of 1903, which allowed municipalities to build lines with only limited co-operation from the province.<sup>23</sup> Margaret Ross was too sympathetic towards her husband as she glossed over his failure to "read" the voters.<sup>24</sup> They were clearly in favour of a public power development. They saw Ross as an obstacle to public power and this feeling became one of the reasons for the Whitney victory of 1905.

Premier James Pliny Whitney (Conservative, 1905-14), has been portrayed by Charles Humphries as a political opportunist who was able to seize the moment and win political power in Ontario. Originally, Whitney tried to walk the line between the public power lobby and the supporters of private ownership. It was his government, however which created Ontario Hydro and installed Adam Beck as chairman. Unlike Ross, Whitney was ready to borrow money and help the municipalities acquire public electric

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<sup>23</sup>Margaret Ross, Sir George Ross: A Biographical Study, (Toronto: Ryerson Press, 1923), p. 110.

<sup>24</sup>At the time of writing this paper, the volume by Robert Page on the life of Ross for the Ontario Historical Studies Series had not gone to press. Perhaps this will shed some further light on Ross' role in electrical power development.

power. He saw the relationship between public power and potential support for his party. This was one of the big reasons why Whitney supported Hydro.<sup>25</sup> Humphries argued that Whitney was not entirely opportunistic and that he also wished to protect industry and the general public from monopolistic control by huge private firms such as the Electric Development Company and the Ontario Power Company, both generating power at Niagara Falls.<sup>26</sup> His motto was: "the government at the switch, not the corporations." It is significant that Whitney enjoyed a good relationship with Beck, but this was because he allowed Beck a good deal of independence of action. This tendency of Whitney's had repercussions in the future.

The next two premiers, William Hearst (Conservative, 1914-19) and E. C. Drury (United Farmers of Ontario, 1919-1923), were faced with mounting spending by, and the growing debt of Ontario Hydro. They both attempted to get control of Beck, who, by this time was spending money as he saw fit without the prior approval of the Legislature. By the time Whitney had left office, there was little doubt that Ontario Hydro was an important aspect of Conservative political power in Ontario. In an article, Peter Oliver has shown the important role that Adam Beck played in the collapse of the Conservative Party in Ontario in 1919. Beck had alienated Hearst in both the Queenston/Chippewa power development and the radial (electric trains) controversy. The Queenston/Chippewa

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<sup>25</sup>Charles W. Humphries, Honest Enough to be Bold: the Life of Sir James Pliny Whitney, (Toronto: University of Toronto Press, 1985), p. 151.

<sup>26</sup>*Ibid.*, p. 61.

power development experienced huge cost overruns as it grew in capacity and size, far beyond the original plans. This development was closely tied to the radial scheme, since Beck hoped the radials would use much of the power produced by the mega-project.<sup>27</sup> Hearst wanted to gain control of costs and he instituted the McGarry Act which placed a spending check on, and required an annual audit of Ontario Hydro.<sup>28</sup> As a result, Beck "left the fold" and this made Hearst's leadership of the splintered party even more shaky than it already was.<sup>29</sup> Oliver clearly showed how important Adam Beck and his grassroots support was to the Conservatives.

Brian Tennyson has revisited this election and the role of Beck in the collapse of the party. He is in agreement with Oliver that Beck did not cause the fall of Hearst but made the divisions in the party more pronounced.<sup>30</sup> Beck did not want Ontario Hydro aligned to one political party. According to Tennyson, Beck had the opportunity to form an independent Hydro party, or even to take the leadership of the United Farmers, but he refused since he did not want Hydro to be politicized.<sup>31</sup> This proved to be the height of Beck's power. Where Hearst had not been strong enough to battle the Hydro

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<sup>27</sup>Peter Oliver, "William Hearst and the Collapse of the Ontario Conservative Party", Canadian Historical Review, 53, 1972, p. 26.

<sup>28</sup>Ibid., p. 32.

<sup>29</sup>Ibid., p. 42.

<sup>30</sup>Brian D. Tennyson, "Sir Adam Beck and the Ontario General Election of 1919", Ontario History, 58, 1966, p. 160.

<sup>31</sup>Ibid., p. 118.

chairman, the next premier, E.C. Drury, proved a much more formidable opponent.

In 1919 the United Farmers of Ontario assumed control of the government of Ontario. Two works which outline Drury's actions are his own memoirs about his years in power and Charles Johnson's biography for the Ontario Historical Studies Series. Both accounts trace the strained relationship between the premier of Ontario and the chairman of Ontario Hydro. The problem of controlling Beck had not been solved by Hearst, and this fact would dominate the relationship between Hydro and the new Ontario government. Within three years of the start of the Queenston/Chippewa project in 1918, it had grown from a capital investment of \$10,000,000 to generate 100,000 horsepower to \$89 million for 350,000 horsepower.<sup>32</sup> Drury could not allow the costs to escalate but, when he tried to control them, Beck became hostile to him claiming that the government was interfering in Ontario Hydro. In order to gain some control Drury formed three Commissions to study Ontario Hydro activities in the province. He formed the Lethbridge Committee in 1920 to study the flat rural rate question, the Gregory Commission in 1922 to examine the costs of the Queenston/Chippewa and Nipigon projects, and the Sutherland Commission, in that same year, to study the radial question. In 1922, the radial question had been defeated by a public vote, and, bitter over the loss, Beck blamed Drury for this defeat.<sup>33</sup> In Johnson's biography, Drury is given more

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<sup>32</sup>Farmer Premier: Memoirs of the Honourable E.C. Drury, (Toronto: McClelland & Stewart Ltd., 1966), p. 139.

<sup>33</sup>*Ibid.*, p. 118.

credit than he took for himself. Johnson argued that Drury's actions saved the province millions of dollars by applying the brake to Beck's spending.<sup>34</sup> This was true only in the short term. The capacity of the Queenston/Chippewa generators was soon used up by the customers of Ontario Hydro which served to justify the project. Johnson is probably correct in the case of the radial scheme, however. Facing fading support, the United Farmers lost the 1923 election to the Conservatives.

Much of the struggle between the government and Hydro subsided after 1923 as the new premier, Howard Ferguson (Conservative, 1923-30) maintained a more cordial relationship with Beck. Ferguson has been portrayed by Peter Oliver as a premier whose main concern was to keep the development and extraction of resources moving forward with less concern about the cost than his predecessor had felt. This was quite different from the strategies of the United Farmers of Ontario government. According to Oliver, Ferguson was less concerned about controlling Beck and saw him as a key element in keeping political power in Ontario. For this he was willing to co-operate as witnessed in the censoring of the Gregory Commission in 1923.<sup>35</sup> In order to stimulate economic growth, Ferguson turned his attention to electrifying Ontario, especially in the resource-rich North and the eastern part of the province. Oliver asserted that Ferguson perceived Ontario Hydro as a huge benefit for the central part of the province but as not large

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<sup>34</sup>Charles M. Johnson, E.C. Drury: Agrarian Idealist, (Toronto: University of Toronto Press, 1986), p. 204.

<sup>35</sup> Peter Oliver, G. Howard Ferguson: Ontario Tory, (Toronto: University of Toronto Press, 1977), p. 34.

enough to serve the rest of Ontario.<sup>36</sup> It is significant to note that, even with the construction of the Niagara projects, there was still not enough power to meet the demand in Ontario, a situation which led to the negotiation of the Gatineau Contracts for power purchased from Quebec.<sup>37</sup> Perhaps the most important event in the Ferguson government, as far as Hydro is concerned, was the death of Adam Beck in 1926. Oliver argued that the new chairman, Charles McGrath, used a different approach, bringing a more business-like demeanour to his dealings with the government. The days of exciting municipal campaigns and battles with private power interests had ended. Ontario Hydro was no longer under Adam Beck's control and a new era had begun under the leadership of McGrath.

Unfortunately, there is no biography of Conservative Premier George Henry (1930-34). In the election of 1934, the Conservative hold on power was broken once more, this time by the Liberal, Mitchell Hepburn (1934-42). Once more Hydro was brought to the centre of Ontario politics. Neil McKenty explored the election of 1934 in an article in the Canadian Historical Review. Henry had damaged his chances for victory by using government funds to keep the Abitibi Power Company in operation. Unfortunately, this was a company in which he owned stock.<sup>38</sup> McKenty suggested that

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<sup>36</sup>Ibid., pp. 125-129.

<sup>37</sup>Ibid., pp. 174-189.

<sup>38</sup>Neil McKenty, "Mitchell Hepburn and the Ontario Election of 1934", Canadian Historical Review, 45, 1964, p. 296.

this was not intentional, but reflected the naivete of the premier.<sup>39</sup> Whether he as naive or not, the fact remains that Hepburn used this action as a central point of attack in the election campaign of 1934.

McKenty also wrote a biography of Hepburn (1934-42). He portrayed Hepburn as an agent of change who tried to make significant alterations to the structure of Ontario Hydro. There were two main reasons for these attempts to change the utility. First, McKenty argued that Hepburn desired to "de-conservatize" Hydro. He did this by firing many Conservative appointees and old trusted employees of Hydro, such as Fred Gaby who had served as the Chief Engineer for many years. This was a huge loss for Hydro as Gaby had designed much of the system. Hepburn also installed Stewart Lyon as the Chairman of Hydro to replace John Cooke.<sup>40</sup> In both cases, Hepburn felt he was ridding Hydro of the Conservative element. Second, because of the Depression demand for electricity slumped which compelled him to force the cancellation of the Gatineau Contracts.<sup>41</sup> He labelled the contracts unnecessary and criticized the Conservatives for signing them. Unfortunately for Hepburn, but fortunately for the people of Ontario, the courts did not allow him to cancel these deals.<sup>42</sup> The contracts were re-adjusted and

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<sup>39</sup>Ibid., p. 303.

<sup>40</sup>Neil McKenty, Mitch Hepburn, (Toronto: McClelland & Stewart Ltd., 1967), p. 44.

<sup>41</sup>Ibid., p. 82.

<sup>42</sup>Ibid., p. 90.

soon the excess capacity(which was much less than Hepburn thought) was being used in Ontario or exported to the United States.<sup>43</sup> Hepburn can be credited (or discredited) with placing Ontario Hydro in the middle of politics. McKenty also shows that continuity was needed to effectively manage power supply. The Gatineau Contracts were needed to meet the ever-increasing demand in the province. McKenty did not criticize Hepburn for the obvious waste of talent and resources while he tried to break the "Conservative" control of Hydro or the cancellation of the Gatineau Contracts.

For the premiers following Hepburn there is a gap in the biographies. It would be of value to see how the premiers dealt with both the challenge of World War II and the expanding economy of the post-war world. The next premier described in a biography is Leslie Frost (Conservative, 1949-61). Frost's main concerns were the stimulation of resource exploitation by further development of the infrastructure through new sources of power to meet the post-war demand. In 1949, the hydro environment in Ontario had not really changed. The main challenge was still the question of the equalization of rural and urban rates just as it had been in the 1920s. Frost's main concern was ensuring that electrical supply remained ahead of the anticipated demand. It was Frost's administration that saw Ontario Hydro build a single grid to service the province standardizing all of the electricity from 25 cycles to 60 cycles, and building

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<sup>43</sup>Ibid., p. 146.

thermal power plants.<sup>44</sup> Frost benefitted from an era of new technology which changed the production of Hydro. Perhaps his greatest accomplishment was the final settlement of the negotiations for the harnessing of the St. Lawrence Seaway for electrical generation.<sup>45</sup> Frost was a pragmatic politician who was able to steer Ontario to prosperity in the boom period of the 1950s.

John Robarts (Conservative, 1961-71) is also the subject of a recent political biography. Unfortunately for the student of Hydro, there is little in the volume on Robarts and Ontario Hydro. He seems to have followed Frost's expansion program and enjoyed overall prosperity in the province. McDougall, the author, does suggest that mounting criticism of Hydro was an important concern for Robarts.<sup>46</sup>

The final biography to be dealt with is a journalistic view of the Conservative, William Davis (1971-85). Davis is viewed as a premier who gave Hydro too much freedom of action during his leadership.<sup>47</sup> It was also in this era that the strategies of Ontario Hydro based on consumption of power were replaced by strategies of conservation of electricity.<sup>48</sup> The problems of gauging demand still existed after 80

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<sup>44</sup>Roger Graham, Old Man Ontario: Leslie Frost, (Toronto: University of Toronto Press, 1990), p. 211.

<sup>45</sup>Ibid., p. 359.

<sup>46</sup>A.K. McDougall, John P. Robarts: His Life and Government, (Toronto: University of Toronto Press, 1986), p. 207.

<sup>47</sup>Claire Hoy, Bill Davis, (Toronto: Methuen, 1985), p. 254.

<sup>48</sup>Ibid., p. 333.

years of operation. These political biographies, while they are not meant to represent histories of Ontario Hydro are useful nonetheless since they can provide the provincial political context for the histories which will be discussed in the next section.

The political history of Ontario has been greatly influenced by Ontario Hydro. In the early stages, Ontario Hydro was a critical aspect of political power which was used quite effectively by the Conservatives. There have always been problems between the two levels of administration as the management of Ontario Hydro. Given the necessary technical expertise and the nature of the resource, Ontario Hydro has needed some freedom of action to operate most effectively in the province. But how far could this go? The mounting costs of servicing the province have led to increasing rates which have produced much friction between the government and Ontario Hydro. Hydro needs the government for legislation to borrow money to complete projects. This makes Hydro vulnerable to political pressure.

On the Ontario Hydro level, there have been some attempts at corporate histories, that is to say, writing about the day to day operations as well as the developments in the utility. This is an extremely complex task since there are so many factors which govern the operations of Hydro. In Ontario Hydro histories, many of the authors choose one aspect and write from that perspective. Often this choice has been shaped by the historical circumstances prevailing at the time of the work, as can be seen in the writings during the Hepburn years when vast changes were being attempted in Hydro at the direction of the premier. Other examples include a focus on the private/public power

debate, the nature of technical developments and the establishment of rural electrification. Clearly, a history which considers all aspects of Ontario Hydro would be a welcome addition.

In the early era of Ontario Hydro, there was a good deal of writing by the Chairman, Adam Beck. These are primary sources but must be included in this essay because they are important interpretations of the early history of the Commission. Beck wrote two types of these "descriptions". The first involved pamphlets of a promotional nature such as the one on the Nipigon Power Project.<sup>49</sup> They were designed to attract industry to specific areas of Ontario. There was some doubt as to whether the development at Cameron Falls on the Nipigon River was needed since the demand did not yet exist. Beck actively pursued new business for Northwestern Ontario to build the industrial load of Ontario Hydro and thereby justify Cameron Falls. The booklet contains what were perceived as the advantages of this area in the 1920s.

The second type of writing by Beck involved answering his critics. When Drury's Commission reports of the 1920s were made public, Beck was quick to act. He wrote a booklet, which in a point-by-point analysis, attempted to answer the Gregory Report.<sup>50</sup> Beck doggedly defended Hydro against any criticism.

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<sup>49</sup>Adam Beck, "The Nipigon Hydro-Electric Development Constructed and Operated for the Municipalities of the Thunder Bay District by the Hydro-Electric Power Commission of Ontario", (Toronto: Ontario Hydro, 1922).

<sup>50</sup>Adam Beck, "Misstatements and Misrepresentations Derogatory to the Hydro-Electric Power Commission of Ontario, examined and related by Adam Beck", (Toronto: Ontario Hydro, 1923).

Historical interpretations of Hydro have developed over time, but the progress has not been steady. There have been "lags" between the works and some of the works retell what has already been said in the past without adding much to our understanding of Ontario Hydro. In the early era, the studies were concerned mainly with the public/private debate. It does not take a reader long to discover the point of view of each author. They were either proponents or opponents of public power. The next stage in the writing, although still concerned with the ownership debate, begins in 1960 with the official history of Hydro. This work, and the others which followed it described the progress of building Ontario Hydro into the largest public power utility in the world as the demand grew and generation capacity was added. It is not until the 1980's that the planning function is criticized. But this later criticism is politically motivated, meant to expose the problems with Ontario Hydro. Clearly, there is need for a history which considers the day-to-day operations of the utility and the changes in these operations over time. In order to show this the next part of this paper surveys the writers on Hydro in chronological order.

E.B. Biggar completed a history of Ontario Hydro after only a decade of operation. He hoped to show that Ontario Hydro was "a new adventure in the field of economic legislation."<sup>51</sup> He presented a very hopeful view of the utility since he saw Ontario Hydro as a source of revenue and a means of allowing the public control over

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<sup>51</sup>Emerson B. Biggar, Hydro-Electric Development in Ontario: A History of Water Power Administration and Hydro-Electric Power Commission of Ontario, (Toronto: Biggar Press, 1920), p. 3.

the resource.<sup>52</sup> His judgements proved to be premature as the reality turned out to be quite different. He hoped that the that the Commission would be paid by municipal rates.<sup>53</sup> But the problem of huge capital costs incurred in the "mega-projects" of the 1920s ensured that the rates would never be sufficient to cover the costs. Although written in 1920, this book had some aspects which became part of a "standard" interpretation of Ontario Hydro. Biggar saw two groups in the Ontario Hydro movement, small businessmen who wanted cheap power for manufacturing and urban reformers who wanted to make their municipality better with the new technology.<sup>54</sup> Unfortunately, this work could not predict the future course of Ontario Hydro but it is still a valuable work.

In the 1920s some critical books on Hydro were financed by the American private power lobby. At this time there was a debate in the United States regarding the Tennessee Valley and public power. The proponents of the movement used Ontario Hydro as an example of a successful public power organization. In retaliation, the private power lobby hired writers such as James Mavor to expose the "abuses" of Hydro. Mavor's view, in his work of 1925, was that "[the] Hydro Electric Power Commission is not an experiment in public ownership, but an attempt by a few politicians to establish

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<sup>52</sup>*Ibid.*, p. 23.

<sup>53</sup>*Ibid.*, p. 65.

<sup>54</sup>*Ibid.*, p. 46.

an industrial monopoly to keep themselves in power."<sup>55</sup> Predictably, this is the most cynical work regarding Hydro but, given the reasons behind the work, it may be taken with a grain of salt. In actuality the "truth" about Ontario Hydro in the early decades probably lies somewhere between Biggar's exuberance and Mavor's cynicism.

Eleven years later, A. Brady wrote a retrospective piece on the first twenty-five years of Ontario Hydro. This paper was written at a time when Hepburn was trying to change Hydro. Brady attempted to find the reasons for the problems encountered in the early 1930s. He found that the planning was most concerned with the short term rather than the long term which led to confusion in the system.<sup>56</sup> Added to this problem was the fact that Brady felt that the Commission did not act appropriately, since they already had a monopoly in Ontario. They battled too much for control against the provincial government on issues such as the Gatineau Contracts and rural electrification. Ontario Hydro also suffered from bad publicity which tended to needlessly irritate its opposition.<sup>57</sup> Many of these problems stemmed from the "politicization" of Hydro. This article gives a reasonably objective assessment of Hydro as it deals with policies in the historical context of the times.

Similarly, Irene Biss wrote an article regarding the Hydro Contracts in 1936, when

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<sup>55</sup>James Mavor, Niagara in Politics: a Critical Account of the Ontario Hydroelectric [Sic] Commission, (New York: E.P. Dutton & Company, 1925), p. 240.

<sup>56</sup> A. Brady, "The Ontario Hydro-Electric Power Commission", Canadian Journal of Economic and Political Science, 2, 1936, p. 343.

<sup>57</sup>Ibid., pp. 344-347.

Hepburn was attempting to have them cancelled. She supported Hepburn in his attempt to cancel these contracts. For her, the problem was in the rigid structure caused by the contracts. There was no adjustment which could be made if demand slumped as it did in the Depression.<sup>58</sup> This excess capacity could only be solved by political action, which vindicated Hepburn.<sup>59</sup> This is a short term view as, in the end, the drop in demand was a product of the Depression and eventually the Depression ended leading to a growth in demand. Luckily for Ontario, the courts forced Hepburn to keep the contracts.

William Plewman wrote a biography of Adam Beck in 1947. This is an example of the "great man" approach to Ontario Hydro. Plewman used the firsthand knowledge he had, as an alderman of Toronto and a journalist, to give the reader valuable insights into the life of Beck which might not be brought out in archival research. Much of the work deals with the private/public debate which consumed much of Sir Adam's life. He viewed Beck as an honourable warrior who gave all he could for the utility. The book provides accounts of battles with the Electric Development Company, the American private power lobby and the premiers of Ontario, especially E. C. Drury.<sup>60</sup> Plewman did a good job of keeping the life of Beck in the context of Hydro developments and

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<sup>58</sup>Irene Biss, "The Contracts of the Hydro-Electric Power Commission of Ontario", The Economic Journal, 46, 1936, pp. 549-50.

<sup>59</sup>Ibid., p. 553.

<sup>60</sup>William Plewman, Adam Beck and Ontario Hydro, (Toronto: Ryerson Press, 1947).

provided a balanced appraisal of Beck's life, while focusing on the main issues Beck faced as the Chairman of Ontario Hydro.

In 1960, Merrill Denison wrote The People's Power: The History of Ontario Hydro to describe what the Power Commission did. He stated in his preface that he was a proponent of public power and wrote his history from this chosen perspective.<sup>61</sup> He spent the first half of the book describing in great detail the battle for public power along similar lines to Plewman; he presented the rest of the history of Ontario Hydro as a steady march of expanding capacity to meet the growing demand in the system. Denison stressed lack of co-operation between the private and public interests. Whitney had formed commissions to investigate public power. These commissions needed rate and other information from the private firms but these firms refused to give any details since they wanted to protect their "sacred" right to secrecy of operations. They also feared that the new commission would simply undercut their established rates to force them out of business. Any way one looks at it, it is clear that the private firms were in a "no-win" situation.<sup>62</sup> The book suffers from a lack of analysis. What do many of these events mean? There is much detail in the first half, but as the book progresses past the Second World War, the detail falls off noticeably. Despite its shortcomings, this book does serve as the standard history of Hydro and any historian who studies the topic must read

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<sup>61</sup>Merrill Denison, The People's Power: The History of Ontario Hydro, (Toronto: McClelland & Stewart Ltd., 1960), preface.

<sup>62</sup>*Ibid.*, pp.71-91.

this volume.

Richard Lowitt has examined the interest in, and attack upon, Ontario Hydro during 1925.<sup>63</sup> He traced the attempts of Senator James Norris to use Hydro as an example of successful public power in order to achieve governmental control of the Muscle Shoals development on the Mississippi River. Private firms thus attacked Hydro by using paid propagandists; as has been explored earlier in the paper. Lowitt traces the tenuous relationship between the American lobby groups and Ontario Hydro. The Ontario Hydro did not want anyone, friend or foe, to study their operation since they feared the publicity which would follow. If a positive piece was written, it would soon be followed by a critical piece from the private power lobby.

In 1981, Ontario Hydro hired journalist and filmmaker Gordon Donaldson to write a history of the origins of the Commission. He provided the established interpretation on the public power development struggle in central Ontario. Perhaps the most interesting discussion in the pamphlet involved the changes Donaldson saw between the Beck and McGrath chairmanships of Ontario Hydro.<sup>64</sup> In 1926, after McGrath became chairman the whole climate of Hydro changed from being populist in the Beck tradition to a more business-like demeanour under McGrath. This pamphlet has one weakness, it is entitled Sausages, Schnitzels and Public Power, which suggests a focus on central

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<sup>63</sup>Richard Lowitt, "Ontario Hydro: A 1925 Tempest in an American Teapot", Canadian Historical Review, 40, 1968.

<sup>64</sup>Gordon Donaldson, Sausages, Schnitzels and Public Power: A Brief History of Ontario Hydro's First Fifty Years, (Toronto: Ontario Hydro, 1981), p. 9.

Ontario where people of German descent, such as Adam Beck, Daniel B. Detweiler, and E. W. B. Snider, fought the battle for public power. With this as the focus, much of the history, including that of Northern and Eastern Ontario is neglected.

The next work on Hydro was a dramatic departure from the earlier works. Paul McKay criticized the policies of Ontario Hydro in an attack on the utility as "a juggernaut out of control."<sup>65</sup> Not since Mavor had such an attack been launched. His main criticism of the Commission involved the growth strategies employed by Ontario Hydro.<sup>66</sup> From the earliest history, the policy of Hydro has been to encourage demand. Rates were charged on the basis of blocks of power usage, with lower rates reflecting higher consumption of power. Beck had his "Travelling Circus" to build the rural load. The Live Better Electrically campaign was launched in 1956 in order to increase domestic use of hydro-electric power.<sup>67</sup> Ontario Hydro was attacked as a symbol of the modern age. The "Gold Medallion" campaign launched in 1958 operated along the same lines, of building power consumption. By the 1970s the demand spiral began. As demand increased capacity had to be increased and this put pressure on Ontario Hydro to borrow money at the increased interest rates of the 1970s. The steady growth of demand, much of this promoted by Hydro itself, caused the utility to expand until it was over-producing

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<sup>65</sup>Paul McKay, Electric Empire: The Inside Story of Ontario Hydro, (Toronto: Between the Lines, 1983), preface.

<sup>66</sup>Ibid., p. 23.

<sup>67</sup>Ibid., p. 33.

power.<sup>68</sup> Desperate to meet the demand, Ontario Hydro invested in nuclear power which has created environmental concerns for Ontarians. These projects were often the first of their type, so costly adjustments had to be made to keep them operating to the current technological standards. Much of the nuclear program has proven to be a "white elephant" for Hydro.<sup>69</sup> In order to solve these problems McKay proposed a program of conservation and co-operation with the suppliers of more economical fuel sources.<sup>70</sup> He argued that Hydro must develop smaller hydraulic systems to meet the demand. These would be independent concerns with local managerial control.<sup>71</sup> This is opposite to the view of Drummond, who disliked the patchwork attempt at electrifying Ontario, but very similar in emphasis on the planning aspect supply. McKay's work is important since he looked at the policies of Hydro, not just the growth of the system. However, it is important to note that Ralph Nader wrote the introduction and that this book was written for the Public Interest Research Group, which gives us a clue to the author's possible bias. McKay's clear intention was to present the negative aspects of Ontario Hydro. Even if the reader feels that this was done with the public interest in mind or just an unnecessary attack on Ontario Hydro, this source is still a useful description and critique of the program Ontario Hydro followed.

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<sup>68</sup>Ibid., Chapter 5.

<sup>69</sup>Ibid., pp. 50-60.

<sup>70</sup>Ibid., p. 237.

<sup>71</sup>Ibid., p. 212.

A technical interpretation of Hydro was presented by John Negru in a book for the 100th anniversary of the Canadian Electrical Association.<sup>72</sup> This book put Ontario Hydro in a national context and showed how this utility developed, compared to other provinces electrical development. His main thrust was the technological advances and how they led to the development and growth of the electrical industry in Canada.

Perhaps the most important work on Hydro was completed by Keith Fleming. His book discusses the many obstacles Ontario Hydro faced in the Rural Electrification Program. This book fills the need for analysis of the period from 1926-1958. He spent little time retelling the public/private power debates. Rural electrification has continued to be a challenge and this makes it a good framework for a study of Ontario Hydro. He showed how the struggle to finance rural electrification forced Hydro to abandon the principle of "Power at Cost."<sup>73</sup> The creation of Regional Power Districts spread the costs over more rate- payers. In this system the rates were equalized over larger areas. "Power at Cost" was no longer a reality in Ontario. The Commission faced rising costs of transmission lines, economic uncertainty and material shortages, but it eventually succeeding in electrifying rural Ontario.<sup>74</sup> Fleming describes how Ontario Hydro used price wars to safeguard their monopoly and the surround the markets of private

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<sup>72</sup>John Negru, The Electric Century: An Illustrated History of Electricity in Canada, 1881-1991, (Toronto: The Canadian Electric Association, 1991).

<sup>73</sup>Keith R. Fleming, Power at Cost: Ontario Hydro and Rural Electrification, 1911-58, (Montreal and Kingston: McGill and Queen's University Press, 1992), p. 11.

<sup>74</sup>Ibid., p. 16.

companies in Walkerton, Orillia, and Kemptville which prevented them from growing.<sup>75</sup> This book accomplishes exactly what Fleming intended to provide a systematic study of one of Ontario Hydro's main policies from 1911 to 1958. One can hope that other authors will pick up where Fleming left off and study the progress and problems Hydro faced in other periods.

Overall, the one criticism that should be made of these corporate histories is their failure to discuss electricity in the North. Basically, Ontario Hydro developments in this area are treated as afterthoughts and the activities are not incorporated into the histories. The Nipigon development was a critical part of the Ontario Hydro system which influenced, and was influenced by, the Southern districts. This must be corrected for any comprehensive history of Ontario Hydro.

The final area to be discussed in this paper is the municipal level with emphasis on the Lakehead. With renewed interest in local history over the past few decades, there undoubtedly will be more published and, as the centennials of the utilities occur, even more research will be done. Most of the histories of local hydro-electric utilities have been written by managers of the utilities. The Lakehead is no exception. The histories of the Port Arthur and Fort William Public Utilities Commissions were written in 1967 as part of Ontario Hydro's Hall of Memory. The history of the Port Arthur Public Utilities Commission provides the reader with a basic overview of the technical

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<sup>75</sup> Ibid., see chapter 3 for the struggle over Kemptville, chapter 5 for Orillia and chapter 6 for Walkerton.

advancements of the utility. This work followed the same structure as Denison's history of Ontario Hydro. Chandler was concerned with the municipal struggle in the first part of the work and after 1909, (when Port Arthur is "switched on" to Ontario Hydro) reverts to the developmental idea in tracing the increase in capacity of the system.<sup>76</sup> Former General Manager of the Fort William Hydro-Electric Commission, Art Taber also wrote a book set up in a similar fashion, but he did a better job of providing the reader with historical context for the developments. For example, he divided his history into eras such as the Depression, the post-war era, etc.<sup>77</sup> Both are commendable works and each author deserves much credit for the quality of his book. The major drawback of both of these works is the absence of documentation.

There are still many gaps in the historical writing about Ontario Hydro. The writing seems unbalanced, with much attention being paid to the formation of the utility and the struggle surrounding it. There is a gap in the research from 1926 until the modern era which must be filled before an authoritative history can be written. It is time for this project to be undertaken since Denison's work is now 30 years old. With renewed interest in local history there will be many works on the local utilities completed and a volume examining the entire history of Ontario Hydro should follow.

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<sup>76</sup>R.B. Chandler, The History of the Port Arthur Public Utilities Commission, (Port Arthur Public Utilities Commission, 1966).

<sup>77</sup>Art Taber, Electricity and Fort William, Fort William Public Utilities Commission, 1967.

## **APPENDIX #5: Thunder Bay Hydro: A Chronological Approach**

- 1888** G. E. Dorman sets up the first lighting plant Port Arthur. Generator located in the Woodside Brothers Foundry to light up Caleb Sheara's store, "The Right House."
- 1889** The Port Arthur Water, Power and Light Company operated a generator from the Conmee Planing Mill to light up the commercial district in Port Arthur. The first lighting system in the city was for 60 lights for municipal purposes, as well as various commercial and domestic customers. This system was the Heisler System of Incandescent Lighting.
- 1891** One of the first municipal enterprises in Canada was built by the city for the Port Arthur Street Railway. At its peak 210 hp were produced by the steam plant.
- 1894** T. A. Bell editor of the Fort William Daily Times Journal, has a line strung from the street railway power lines to his editorial offices. First electric lights in Fort William.
- The Port Arthur Water, Power and Light Company's generator is burned in a fire at the Conmee Mill. This marks the end of privately-owned utilities in Port Arthur until the mid 1980's.
- 1895** The remnants of the Port Arthur Water, Power and Light Company are sold to the city.
- By-Law 447 is passed putting a three-man Electric Railway and Light Commission in charge. This Commission operated the utility until 1915 when it was replaced by the Port Arthur Public Utilities Commission.
- 1896** Port Arthur's electrical system is expanded with 1,000 incandescent lights added. This expansion is finished in 1897.
- 1898** The town of Fort William installs a electric steam plant on Sprague Street. The capacity of this plant was 150 hp and serviced 35 municipally-owned and 690 privately-owned lamps. First power delivered on March 12.
- 1900** By-Law 572 authorized \$30,000 in debentures to produce hydro-electric power on the Current River which produced 700 hp by 1901.
- 1902** Port Arthur begins another huge building campaign of street lights. Completed in 1904. Onion Lake Dam is built.

- 1903** The street railway and electric light utilities in Port Arthur are separated into two organizations.
- 1904** The Fort William utility replaces the 150 hp unit at the Sprague Street station with new equipment to triple capacity to 450 hp.
- 1906** The Kaministiquia Power Company begins operations producing 35,000 hp at its peak from Kakebeka Falls. A company-owned substation is built on the corner of Syndicate and Mary Street to handle power from the falls.

In Port Arthur the Current River Dam is rebuilt, and dams built on Ray Lake, Hazlewood Lake as well as the enlargement of the Onion Lake Dam is undertaken by the city.

- 1907** C. J. Moors is the first general manager of the Electrical Department of Fort William.
- 1908** Port Arthur cancels power contract with Kam Power over the Dog Lake dispute. Only signs temporary contracts with the company to supply power.
- 1910** Port Arthur joins Ontario Hydro for delivery of 1100 hp produced by Kam Power. Ontario Hydro builds the High Street Substation.
- 1913** Fort William begins to feel frustrated with Kam Power over paying higher wholesale rates than Port Arthur.
- 1914** Port Arthur passes By-Law 1311 which establishes the Port Arthur Public Utilities Commission. This organization operates the local electric utility until 1970 when Thunder Bay Hydro takes over the operations.
- 1917** Ontario Hydro wins over Kam Power in the polls. Fort William will sign on with Ontario Hydro as soon as the present ten-year contract with the Kaministiquia Power Company expires.
- 1918** Pulp and paper mills begin to appear in the area with the Port Arthur Pulp and Paper Company being the first. This industry became the most important power load until 1942.
- 1920** The first power generated on the Nipigon River, at Cameron Falls, is delivered to the Lakehead. Current River power is used as a backup for Ontario Hydro power.

**1924** The Port Arthur PUC purchases the High Street Substation from Ontario Hydro. The city now owns its entire distribution system.

**1925** The Fort William Hydro-Electric Commission is formed. This organization operated the utility until the amalgamation of 1970.

**1926** Ontario Hydro power is delivered to the Fort William as the Kam Power contract expires. Combined power bought from Ontario Hydro from the twin cities is 29,672.6 hp.

**1928** Alexander Falls, on the Nipigon River is added to the generation capacity in the Thunder Bay system.

Port Arthur builds the Cameron Street Substation.

**1929** The Fort William Hydro-Electric Commission builds the Walsh Street Substation.

**1930** The first Alexander Falls power is delivered to the area.

The first rate rebate is awarded to the ratepayers. This rebate is based on total revenue from domestic customer load and is applied to the first power bill in the next year. Other rate rebates were granted in 1937-40.

**1931** The Port Arthur PUC purchases the Whalen Building to serve as its headquarters.

**1932** The first Rural Power District is operated in the Thunder Bay System.

**1936** Rate reductions are awarded to the pulp and paper companies by Ontario Hydro. Rates decreased by \$3.00 in 1936, and by \$1.00 in both 1937-8.

**1939** The capacity at the Cameron Street Substation is doubled to 6,000 Kva.

The Rural Power Districts are merged into one unit for administrative and cost saving purposes.

**1941** Power purchased from Ontario Hydro by Port Arthur is 41,091.8hp.

**1942** The Fort William Hydro-Electric Commission moves its offices from City Hall to the corner of Donald and May Street.

The Port Arthur PUC pays off its last outstanding debenture as the city utility is

now debt free. Fort William still owes \$250,000.

Ontario Hydro assumes responsibility for the pulp and paper load in the Port Arthur. Power purchased drops to 16,456.2 hp.

**1947** Port Arthur builds the John Street substation and the Algoma Street Substation to handle distribution of the ever-growing domestic load.

**1949** Kam Power is purchased by Ontario Hydro and the Fort William Hydro-Electric Commission. The city assumes control of the substation on Mary Street as well as the distribution system. Ontario Hydro purchases the generation station and produces the power. The city utility also adds the Brock Street Substation to better handle the power load.

Port Arthur further expands its distribution system with the construction of the substation on Grenville Avenue and adds 5,000 Kva to the High Street Substation.

**1950** The Pine Portage Generating Station is added on the Nipigon River which increases the generated power in this area by 60,000 kw.

Ontario Hydro's wholesale power rates are increased for the first time by \$2.00 to \$23.50 per hp. This rate will increase each year from this year onward.

**1951** Fort William adds a third substation on Hardisty Street.

**1952** Northern Ontario Properties are merged with the Thunder Bay System by Ontario Hydro for cost-saving purposes.

Fort William builds the Vickers Street Substation.

**1953** MacDonnell Street Substation is added to the Fort William system.

**1954** The Brock Street Substation 4,000 kva added to its capacity.

**1955** The Port Arthur PUC builds the Windemere Street Substation.

**1956** The Mary Street Substation is closed as one of the last vestiges of Kam Power is removed from the city.

**1957** Fort William adds a new transformer station at Donald and Ford Street.

**1958** Windemere Street Substation is doubled in capacity. Balsalm Street Substation is built.

Fort William adds a new service centre on Vickers Street. Builds a sixth substation at Atlantic Avenue.

**1959** Fort William builds substation # 7 on the corner of May and Home Avenue.

Ontario Hydro begins to generate 60,000 hp from Silver Falls as Dog Lake is finally developed.

**1961** The Thunder Bay Generating Station produces 100,000 hp as steam generation returns to the shores of the Kaministiquia River.

A second unit is added to MacDonnell Street Substation by the Port Arthur PUC. Port Arthur adds a third unit to the Cameron Street Substation.

**1962** The High Street Substation has another unit added.

Ontario Hydro merges NOP with the rest of the system and one large system is built which spans Ontario.

Fort William adds new units to Donald, Vickers, and Mary Street Substations.

The Port Arthur PUC builds a new service centre on Front Street.

**1964** The Fort William Hydro-Electric Commission adds another unit to the substation on Vickers Street.

**1965** Combined capacity of the substations in Port Arthur reaches 53,335 kva.

A second unit is added to the substation on May Street and Home Avenue.

**1970** The Port Arthur PUC and the Fort William Hydro-Electric Commissions merge to form Thunder Bay Hydro.

Thunder Bay Hydro completes the purchase of the Rural Power District from Ontario Hydro.

Maximum peak of power used in Thunder Bay is 138,000 hp.

Operations at the Current River Generating Station are discontinued.

**1973** The Current River Generating Station is dismantled and sent to a museum in Kitchener, Ontario.

Traffic light work transferred to the city.

**1974** High Street Station is used as the Operations Control Centre for Thunder Bay Hydro.

**1975** Two rate increases are charged consumers in order to offset the rate increases from Ontario Hydro. This is the first time that rates have been raised twice in one year.

**1976** Thunder Bay Hydro phases out the rental of water heaters to customers. Necessary step to needed to avert possible cash-flow crisis.

Massive rural electrification construction is completed as the miles of line increases from 1091 miles to 1774 miles in one year.

**1978** Street Light work transferred to the city.

**1984** The SCADA, (Supervisory Control and Data Acquisitions System) is installed in the city. This system is still in the process of being completed at the time of writing this thesis.

**1985** The SCADA system and control centre is moved from High Street to the Service Centre on Front Street.

**1987** Robert Whiteside generated power on the Current River for sale to the city.

**1990** Total value of capital assets of Thunder Bay Hydro is \$68,731,801.00.

**1991** Cost per kw from Ontario Hydro is \$316.12. The system reaches its highest maximum peak on record 224,000 hp.

**1992** Total number of customers served by Thunder Bay Hydro is 46,543 consuming 214,797 hp.

**1994** After 22 years of rate increases for domestic users, rates are decreased by 1%.

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