The Parkland Institute • The University of Alberta

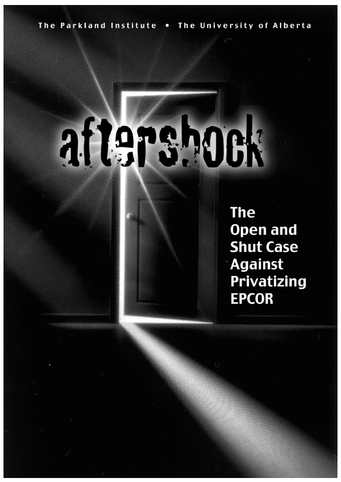
aftershock

The Open and Shut Case Against Privatizing EPCOR

Kevin Taft, Ph.D.
Taft Research and Communications

Professor Myron Gordon, Ph.D.
Faculty of Management, University of Toronto

Executive *Summary*



Kevin Taft, Ph.D.,
Taft Research and Communications
with
Professor Myron Gordon, Ph.D.,
Faculty of Management,
University of Toronto

PARKLAND INSTITUTE
University of Alberta

July 1999

Faculty of Arts
University of Alberta

The study presented here is a business analysis of the issue of whether or not Edmonton City Council should proceed with the sale of EPCOR. It focusses on key financial questions, and on an assessment of some crucial variables in EPCOR's business environment. It is intended for the use of Edmonton City Council; business and interest groups; and the citizenry of Edmonton. This study comes to several clear and definitive answers which overwhelmingly argue against the sale of EPCOR.

1. An investment fund created from the proceeds of the sale of EPCOR will not sustain a payment to the City equal to the dividends that EPCOR will earn. If the proposed investment fund attempts to equal EPCOR's dividends, that fund will go broke. This is the case whether all of EPCOR is sold, or only a portion of it.

2. The resale value of EPCOR (without Aqualta) can be expected to rise from $1.3 billion now, to $2.2 billion in ten years, to $3.6 billion when the PPA system expires in the year 2020. None of these gains will be enjoyed by the City if EPCOR is sold.

3. The dividend gain from the sale of EPCOR is entirely short-term. In the medium and long term, EPCOR will pay the City dividends much higher than an investment fund.

4. An investment fund earning a long-term return of 7.4% above inflation, while cashing out an annual payment equal to EPCOR's dividend, will need to accept significant risk. This is likely higher than the risk presented by continuing to own EPCOR.

5. EPCOR's dividend pay-out rate to the City is low by industry standards, and City Council can reasonably consider raising it.

6. EPCOR, like the entire utility industry, is subject to various regulations concerning the natural environment. EPCOR is working to comply with these regulations; these regulations are not a significant threat to EPCOR's viability.

7. New technologies are continuously arising in EPCOR's businesses, and the company has a long history of adapting effectively to them. Advances such as fuel cells, microturbines, solar power, and wind power, pose no significant threat to EPCOR's assets or operations for decades to come.

8. EPCOR is operating in a seller's market for electricity. Demand for electricity is growing steadily, and Alberta's tight supply balance is expected to remain for several years.

9. Experience in other jurisdictions, and analyses of Alberta's situation by groups such as the Industrial Power Consumers Association of Alberta, suggest that the profitability and share value of EPCOR will likely rise under the regulatory changes being implemented by the Alberta government.

In short, the consequences for the City from the sale of EPCOR would be a series of aftershocks, causing the City's revenues to chronically fall short of the levels they would have otherwise attained.

...the profitability and share value of EPCOR will likely rise under the regulatory changes...

The information underlying this study came from many sources. Professor Myron Gordon, an internationally recognized expert on utility finance from the University of Toronto Management Faculty, conducted portions of the financial analysis, and assisted with other portions. His work is incorporated into the study, and his full report is appended. Several other experts also contributed their time and knowledge. Among the many documents used, priority was given to those in which regulatory and legal obligations insured a high degree of accuracy and balance. This included the June 21, 1999, prospectus for a $150 million debenture issue by EPCOR, underwritten in part by RBC-Dominion Securities. This prospectus is particularly useful for providing insight into the risks and opportunities faced by EPCOR, and should be of special interest to City Councillors.

1

INTRODUCTION

- Background
- The Organization of this Report

SECTION 1A

BACKGROUND

Since 1997, Edmonton City Council has been considering whether or not to sell EPCOR. This issue has arisen for two primary reasons. First, the regulations governing the electrical industry in Alberta are being completely revamped by the Alberta government, changing the operating environment for all electrical utilities in the province. Second, the City faces tight financial constraints. For several years City Council has contended with fiscal pressures that have forced it to both cut services and increase taxes. There is no sign that these pressures will relent. Raising additional funds by selling the City's largest single asset, EPCOR, offers the enticing possibility that these pressures can be eased in one dramatic move.

Selling EPCOR is an immense decision for a wide range of economic and social reasons. City Council, at over $500,000 expense to the taxpayer, has sought advice on this issue from RBC-Dominion Securities (a subsidiary of the Royal Bank) and the senior executive team of EPCOR.

Unfortunately, City Council's decision is made more difficult because the reports by RBC-DS are not clear on several fundamental matters.

RBC-Dominion Securities (RBC-DS) has compiled a range of information, including estimates of the market value of EPCOR under various scenarios, and has concluded that the City would be further ahead to sell EPCOR and invest the proceeds in a stock and bond portfolio.

Unfortunately, City Council's decision is made more difficult because the reports by RBC-DS are not clear on several fundamental matters.

For example:

- What will EPCOR's value likely be in the foreseeable future, and how will that compare to the value of an investment fund?

- Would an investment portfolio match, exceed, or fall short of the dividends that EPCOR will pay, in the short-term, the medium-term, and the long-term? By how much?

- What is the likelihood that a long-term investment portfolio will earn 7.4% above inflation, while cashing out a substantial annual dividend? What will be the risk level for such a fund?

The sense of confusion is increased because of the different impressions created by EPCOR and RBC- DS in, on the one hand, the material they have submitted to City Council, and, on the other hand, the June 21, 1999, prospectus they issued with a $150 million EPCOR debenture issue. In their presentations to City Council, RBC-DS (with the input of EPCOR senior management) indicates that EPCOR's future is risky, in some regards even highly risky. In contrast, the prospectus for EPCOR's debenture issue (for which RBC-DS is an underwriter) is reassuring, indicating that the risks faced by EPCOR are reasonable and manageable. The debentures, which are for a thirty year period and so extend ten years beyond the end of key sheltering provisions granted to EPCOR under regulatory reform, are at 6.8% interest. They are assigned an 'A' rating by CBRS, and an 'A(low)' rating by Dominion Bond Rating Service.

Will the City of Edmonton be better off selling EPCOR and investing the proceeds?

SECTION 1B THIS REPORT

The purpose of this report is to answer the question, 'Will the City of Edmonton be better off selling EPCOR and investing the proceeds?'. The report is written for Edmonton City Councillors; for interested business, media, and other organizations; and especially for the citizens of Edmonton.

This report is organized into three major sections.
The first of these, *Section II*, addresses financial issues. The second, *Section III*, examines EPCOR's business operating environment, focusing on issues that have been raised in regard to selling EPCOR, including the impacts of environmental regulations, changing technology, and regulatory restructuring. The final major section draws conclusions and makes recommendations.

A wide range of sources were used to prepare this report. Among the written documents that were used, priority was given to those carrying regulatory and legal obligations for accuracy, especially corporate annual reports and the June 21, 1999, prospectus for EPCOR's debentures. The latter document provides what regulators call "full, true, and complete disclosure" into the risks and opportunities faced by EPCOR. **City Councillors should take the**

time to read it. RBC-DS is one of the underwriters of this debenture issue, and the signatory for RBC-DS on the debenture issue appears to be one of the members of the RBC-DS consulting team advising the City on EPCOR.

Prof. Myron Gordon assisted Parkland in conducting a financial analysis of the sale of EPCOR. The report he prepared forms the basis for Section II of this report, and is appended in its entirety. Prof. Gordon, who is an internationally recognized expert on utility finance, lays out evidence that is decisive. Several other people also assisted with the study, providing expertise on regulatory, financial, legal, operational, executive, environmental, and engineering issues. Although the sale of EPCOR has been politically contentious, there is a remarkable degree of unanimity among disinterested and independent experts. That unanimity is reflected in the findings of this report.

2 ASSESSING THE RBC–DOMINION SECURITIES PROPOSAL

- **The Long–Term Returns from EPCOR Corporation versus a Permanent EPCOR Investment Fund**

  The Financial Value of EPCOR (without Aqualta)
  The Value of an EPCOR Investment Fund
  Comparing the Financial Results of Owning Versus Selling EPCOR
  Limitations of the Analysis

- **EPCOR's Dividend Policy**

Financial considerations are crucial to City Council's deliberations over EPCOR. Council must answer the question: Is the City of Edmonton financially better off owning EPCOR, or selling it and investing the proceeds? RBC-DS has concluded that Council would be better off to sell as much of EPCOR as possible — preferably all of it— as soon as possible. RBC-DS argues that the City can both reduce its risk and substantially increase its income by investing the money from the sale of EPCOR in a diversified portfolio of bonds and stocks. (Northern Lights II , February 18, 1999, and verbal testimony before Council.)

City Council must decide if it is reasonable to expect both a reduction in risk and a substantial gain in income, or if the RBC–DS proposition is 'too good to be true'.

Council has approached this conclusion cautiously, deciding not to sell EPCOR's water utility, Aqualta, while seriously considering selling EPCOR's electrical assets. Using the RBC-DS information, City managers conclude that the City would enjoy a net gain of $42 million a year by selling these assets, and that this extra money could substantially lessen the financial pressures on City Council. (The City of Edmonton Long-Range Financial Plan, 2000-2009.) City Council must decide if it is reasonable to expect both a reduction in risk and a substantial gain in income, or if the RBC-DS proposition is 'too good to be true'.

The Parkland Institute hired Prof. Myron Gordon of the University of Toronto Faculty of Management to provide a disinterested financial analysis of the RBC-DS position ("disinterested" in the sense that the outcome of the analysis will have no material impact on Prof. Gordon's welfare.) His findings are decisive. His entire study is appended to this study. In summary, his findings include the following (Prof. Gordon assumes the sale of all of EPCOR's assets, but the patterns of his conclusions remain parallel if Aqualta is not sold):

1. The resale value of EPCOR is likely to rise from $1.837 billion now, to $3.127 billion in 2010, a rise of $1.29 billion (based on RBC-DS's figures). When the $1.29 billion rise in the resale value of EPCOR is added to the dividend payments that the City would receive from EPCOR, the gains to the City are far greater from holding EPCOR (and considering selling it several years in the future), than they are from selling it now.

An investment portfolio earning 7.4% will not sustain a payment to the City equivalent to the EPCOR dividend; in just over forty years the portfolio will be broke.

2. An investment portfolio earning 7.4% will not sustain a payment to the City equivalent to the EPCOR dividend; in just over forty years the portfolio will be broke. Each year the portfolio must pay out most of its earnings to offset the EPCOR dividend the City would have received if it had not sold EPCOR. The surplus that remains — which is the actual net return on the fund— is only enough to provide earnings of about 3.5%. In contrast, the EPCOR dividend grows about five percent a year. A fund growing at 3.5% cannot sustain an annual dividend growing at five percent. As the years pass, the return on the fund steadily declines. In 26 years the asset base of the fund begins to shrink, and in 42 years the fund vanishes. (See Table One and Figure One.)

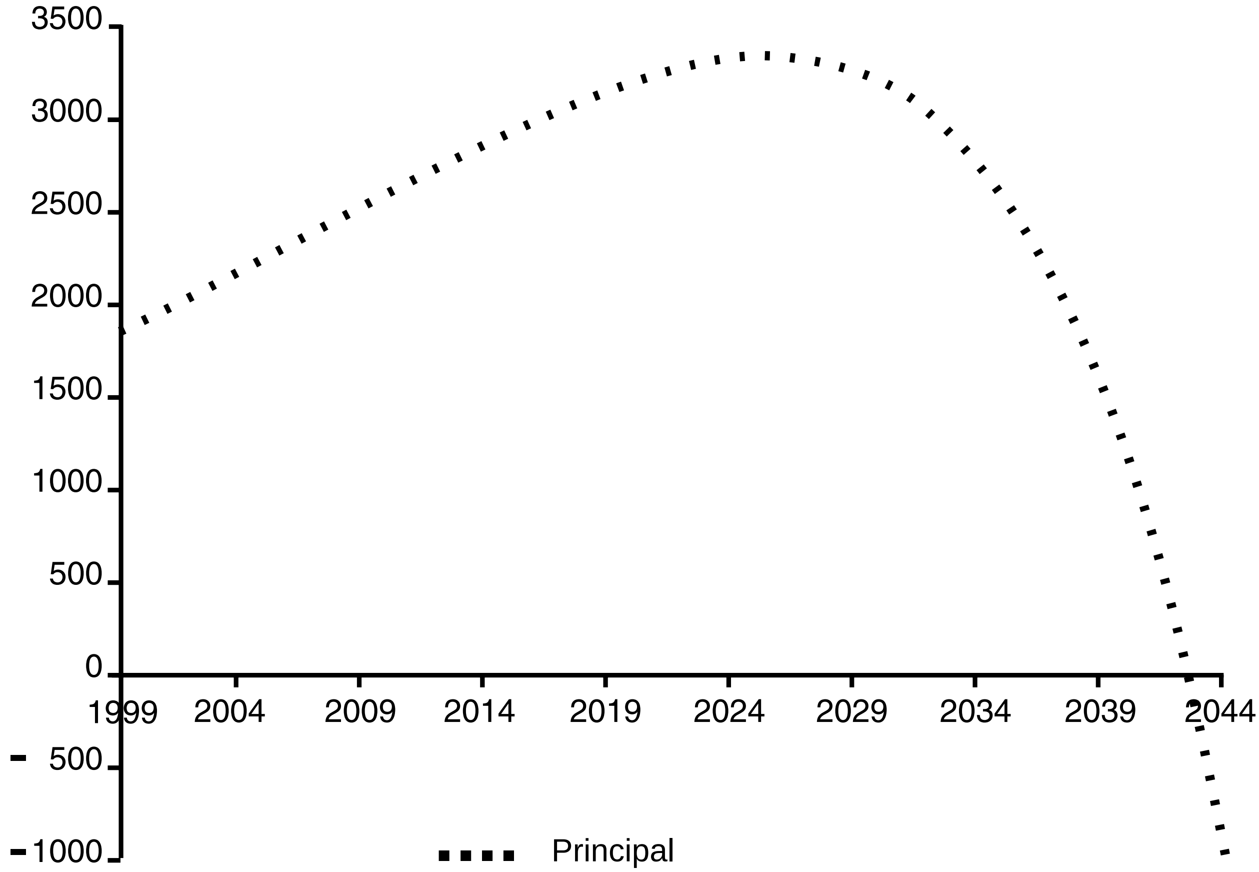
This point alone appears to condemn the sale of EPCOR.

TABLE 1
The Principal and Dividends of EPCOR Investment Fund When It Replicates EPCOR Corporate Dividends.

Year	Principal	Income @ 7.4%	Dividend[1]	Year	Principal	Income @ 7.4%	Dividend[1]
1999	1837.00	135.94	70.50	2021	3300.17	244.21	206.23
2000	1902.00	140.75	74.03	2022	3338.15	247.02	216.54
2001	1969.19	145.72	77.73	2023	3368.63	249.28	227.37
2002	2037.19	150.75	81.61	2024	3390.54	250.90	238.74
2003	2106.33	155.87	85.69	2025	3402.70	251.80	250.67
2004	2176.50	161.06	89.98	2026	3403.83	251.88	263.21
2005	2247.59	166.32	94.48	2027	3392.50	251.05	276.37
2006	2319.43	171.64	99.20	2028	3367.18	249.17	290.19
2007	2391.87	177.00	104.16	2029	3326.16	246.14	304.70
2008	2464.70	182.39	109.37	2030	3267.60	241.80	319.93
2009	2537.72	187.79	114.84	2031	3189.47	236.02	335.93
2010	2610.68	193.19	120.58	2032	3089.56	228.63	352.72
2011	2683.29	198.56	126.61	2033	2965.47	219.44	370.36
2012	2755.25	203.89	132.94	2034	2814.55	208.28	388.88
2013	2826.20	209.14	139.59	2035	2633.95	194.91	408.32
2014	2895.75	214.29	146.56	2036	2420.54	179.12	428.74
2015	2963.47	219.30	153.89	2037	2170.92	160.65	450.18
2016	3028.87	224.14	161.59	2038	1881.39	139.22	472.68
2017	3091.42	228.77	169.67	2039	1547.93	114.55	496.32
2018	3150.52	233.14	178.15	2040	1166.15	86.30	521.14
2019	3205.51	237.21	187.06	2041	731.31	54.12	547.19
2020	3255.66	240.92	196.41	2042	238.24	17.63	574.55

[1] Initial value is $70.5 million, and it grows at 5% per year.

FIGURE 1
Principal of EPCOR Fund When It Replicates EPCOR Dividend Policy[1]



[1] The initial principal is the assumed $1, 837 million received from the sale of EPCOR; the fund earns 7.4% annually; its initial dividend is $70.5 million; and the dividend grows by 5% annually.

(It is interesting to note that EPCOR's 30-year debenture issued in June, 1999, pays 6.8%, suggesting that it is a safer risk than the average investment a fund would need to accept, if that fund wanted to earn 7.4%.)

3. RBC-DS suggests the fund from the sale of EPCOR could earn 7.4% while cashing out an annual dividend of $70 million or more. For this to be achieved the fund will need to accept substantial risk. Prof. Gordon concludes that the real return on EPCOR is subject to far less down-side risk than the real return on a stock-bond portfolio.

4. EPCOR's dividend policy is open to serious question. Industry practices suggest that EPCOR could pay dividends that represent a markedly higher percentage of earnings than it is currently paying. While EPCOR's 1998 dividend was 55.3% of net income, in 1997 Canadian Utilities paid 57.8%, TransAlta paid 87.2%, and RBC-DS reports that investor-owned utilities in Canada and the U.S. had pay-out rates of over 70%. Further, the future cuts in dividends proposed in the EPCOR business plan are difficult to justify.

5. There is no need to rush the sale of EPCOR. Regulatory reform is leading to mergers and takeovers in the electrical industry, but this process is just beginning. The appeal of EPCOR to a buyer is likely to increase, not decrease, in the next decade. In addition, the uncertainty of the Alberta electrical market and regulatory process will discourage new buyers from paying an optimum price in the near future.

6. Prof. Gordon makes several other important points, including, for example: **a)** the weighted average of EPCOR's outstanding debt at the end of 1998 was at an interest rate of 10.27%; this will either be retired or refinanced at lower rates in the next several years, contributing significantly to higher earnings; **b)** selling EPCOR now with its current debt structure reduces its price markedly over selling it in the future; **c)** the expansions planned by EPCOR will contribute to higher future earnings and dividends.

While all of the findings in Prof. Gordon's report are important, two in particular are worth further examination here: **1.** the comparison of the long-term returns from continuing to own EPCOR, versus the long-term returns from an investment portfolio; and **2.** EPCOR's dividend policy.

SECTION 2A

THE LONG-TERM RETURNS FROM EPCOR CORPORATION VERSUS A PERMANENT EPCOR FUND

The baseline for judging the benefits of owning or selling EPCOR should be a clear and reason-able assessment of what EPCOR's value is to the City of Edmonton, now and into the foreseeable future.

This research has already shown that if an 'EPCOR investment fund' attempted to match the dividends from EPCOR corporation, the fund would go broke. A different scenario, which RBC-DS and City managers have considered, would be to keep the fund at its original principle and pay out to the City an annual dividend of 7.4% interest. The results of this scenario are explored here.

The Financial Value of EPCOR (without Aqualta)

The baseline for judging the benefits of owning or selling EPCOR should be a clear and reasonable assessment of what EPCOR's value is to the City of Edmonton, now and into the foreseeable future. Once this baseline is established, the value of an investment fund can be estimated and compared to the value of EPCOR.

There are several ways of measuring the value of a company. A reasonable and widely-used approach is the price/dividend ratio, in which the price of a company is presented as a multiple of the dividend the company pays. RBC-DS estimates the value of all EPCOR assets at $1.8 billion; the dividend paid is $70.5 million; therefore the price/dividend ratio of EPCOR is $1.8 billion/$70.5 million, or 26.06. This ratio can then be applied to future dividend expectations to estimate the value of the company. This is the ratio applied by Prof. Gordon in his analysis.

By 2020, EPCOR's sale value will have almost tripled from its current level, reaching $3.6 billion. Annual dividends are estimated to be $164 million and climbing...

Prof. Gordon's analysis assumed the sale of all EPCOR assets. The price/dividend (p/d) ratio is different if Aqualta is not included in the sale. The estimated price for the company is lowered by RBC-DS to $1.3 billion (Northern Lights II, February 1999, p.74). The dividend will drop as well. Parkland did not have full access to EPCOR's accounts, but the dividend can be estimated. EPCOR reports that 16% of its net operating income stems from Aqualta (EPCOR debenture prospectus, June 21, 1999, p.10). Therefore, EPCOR's projected 2001 dividend without Aqualta can be approximated by reducing EPCOR's total expected dividend of $70.5

TABLE 2

Year	Sale Value of Epcor @ 21.96 price/dvd. ratio, w/o Aqualta ($millions)	Epcor Dividend per Bus. Plan to 2010, then 5% growth, w/o Aqualta ($millions)
2001	$1,300	$59
2002	$1,094	$50
2003	$1,092	$50
2004	$1,140	$52
2005	$1,240	$56
2006	$1,476	$67
2007	$1,457	$66
2008	$1,660	$76
2009	$2,029	$92
2010	$2,214	$101
	10-Yr.Gain: $914	10Yr.total: $669
2011	$2,324	$106
2012	$2,440	$111
2013	$2,562	$117
2014	$2,691	$123
2015	$2,825	$129
2016	$2,966	$135
2017	$3,115	$142
2018	$3,270	$149
2019	$3,434	$156
2020	$3,606	$164
	20-Yr.Gain: $2,306	20Yr.total: $2,000
2021	$3,786	$172
2022	$3,975	$181
2023	$4,174	$190
2024	$4,383	$200
2025	$4,602	$210
2026	$4,832	$220
2027	$5,074	$231
2028	$5,327	$243
2029	$5,594	$255
2030	$5,873	$267
	30-Yr.Gain: $4,573	30Yr.total: $4,168
2031	$6,167	$281
2032	$6,475	$295
2033	$6,799	$310
2034	$7,139	$325
2035	$7,496	$341
2036	$7,871	$358
2037	$8,264	$376
2038	$8,677	$395
2039	$9,111	$415
2040	$9,567	$436
	40-Yr.Gain:$8,267	40Yr.total: $7,700

million by 16%, to $59.2 million. The result is a p/d ratio of 21.96. This will provide a more conservative estimate of EPCOR's value than a p/d of 26.06, and it also reflects the higher risk level of electric utilities compared to water utilities. (All remaining references to EPCOR will mean EPCOR without Aqualta, unless otherwise stated.)

Table Two presents the projected sale value of EPCOR using a p/d ratio of 21.96. For the first ten years the ratio is applied to the dividend projected in EPCOR's business plan. Thereafter, it is applied to a dividend that is assumed to grow by 5% annually, a reasonable business assumption, and a rate slightly lower than EPCOR expects in the next decade.

Table Two shows that EPCOR's sale value will reach $2.2 billion by 2010, a gain of $914 million. (Inflation is not factored into these calculations; its effect would be to raise the nominal values presented here. All calculations assume that if a sale occurs, it will be completed by December 31, 2000.) In addition, EPCOR will have paid dividends totalling $669 million. By 2020, EPCOR's sale value will have almost tripled from its current level, reaching $3.6 billion. Annual dividends are estimated to be $164 million and climbing, and total dividends paid to the City will have been $2 billion. EPCOR's sale value and dividends continue to rise through to the end of this forty year analysis.

The Financial Value of an EPCOR Investment Fund

With the value of EPCOR as shown in Table Two providing a baseline, it is now necessary to project the value of an investment fund derived from the sale of EPCOR. This is presented in Table Three.

Table Three assumes that the sale of EPCOR will yield a full $1.3 billion to the City to create an investment fund, and that this fund will annually pay out 7.4%, which is $96 million. The value of the fund remains unchanged at $1.3 billion for the forty years of this analysis. The total dividends paid are $960 million after ten years; $1.9 billion after 20 years; $2.9 billion after thirty years; and more than $3.8 billion over forty years.

TABLE 3

Year	Market Value of Investment Fund ($millions)	Fund Dividend @ 7.4% ($millions)
2001	$1,300	$96
2002	$1,300	$96
2003	$1,300	$96
2004	$1,300	$96
2005	$1,300	$96
2006	$1,300	$96
2007	$1,300	$96
2008	$1,300	$96
2009	$1,300	$96
2010	$1,300	$96
	10-Yr. Gain: Zero	10Yr.total: $960
2011	$1,300	$96
2012	$1,300	$96
2013	$1,300	$96
2014	$1,300	$96
2015	$1,300	$96
2016	$1,300	$96
2017	$1,300	$96
2018	$1,300	$96
2019	$1,300	$96
2020	$1,300	$96
	20-Yr.Gain: Zero	20Yr.total: $1,920
2021	$1,300	$96
2022	$1,300	$96
2023	$1,300	$96
2024	$1,300	$96
2025	$1,300	$96
2026	$1,300	$96
2027	$1,300	$96
2028	$1,300	$96
2029	$1,300	$96
2030	$1,300	$96
	30-Yr.Gain: Zero	30Yr.total: $2,880
2031	$1,300	$96
2032	$1,300	$96
2033	$1,300	$96
2034	$1,300	$96
2035	$1,300	$96
2036	$1,300	$96
2037	$1,300	$96
2038	$1,300	$96
2039	$1,300	$96
2040	$1,300	$96
	40-Yr.Gain: Zero	40Yr.total: $3,840

Comparing the Financial Results of Owning versus Selling EPCOR

The financial results of continuing to own EPCOR, versus establishing an EPCOR investment fund, are presented in Table Four. In the first column of Table Four, the change in the City's capital assets related to EPCOR are presented if the City retains the ownership of EPCOR. There is a dip in the years 2002 to 2005, while EPCOR undertakes its expansion plans and its dividends fall. From there on, there is a dramatic climb as the value of EPCOR takes off. By 2010, EPCOR's value has increased $914 million more than the value of the EPCOR investment fund.

The difference between the value of EPCOR and the value of the investment fund grows dramatically as the years pass. In 20 years EPCOR is worth $2.3 billion more than the investment fund; in 30 years it is worth almost $4.6 billion more than the fund. In forty years, while the investment fund remains at $1.3 billion, the value of EPCOR as a corporation can reasonably expected to be almost $9.6 billion, an increase of almost $8.3 billion over the value of the investment fund. Figure Two illustrates the comparison of the sale value of EPCOR and the value of the investment fund.

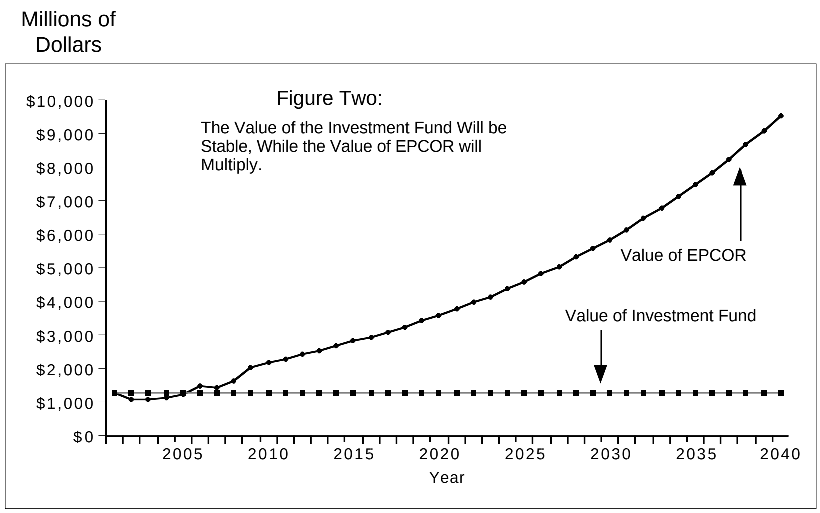
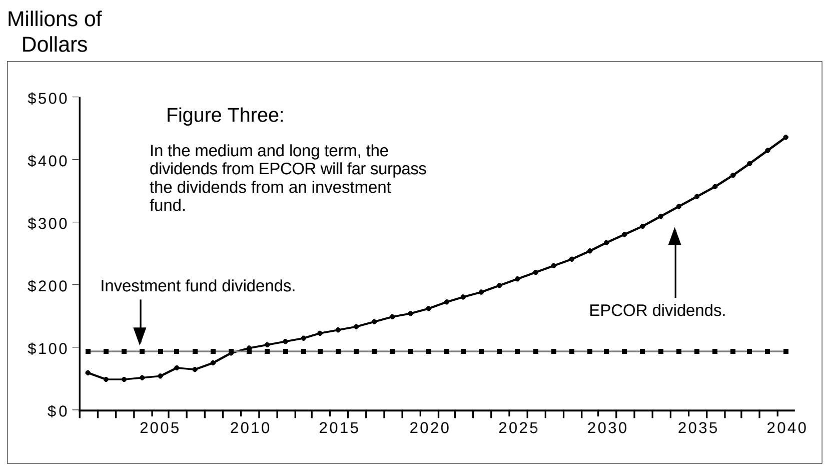


TABLE 4

Year	Gain (Loss) in Capital Base if EPCOR Ownership Maintained	Gain (Loss) in Operating Funds if EPCOR Ownership Maintained
2001	$0	($37)
2002	($206)	($46)
2003	($208)	($46)
2004	($160)	($44)
2005	($60)	($40)
2006	$176	($29)
2007	$157	($30)
2008	$360	($21)
2009	$729	($4)
2010	$914	$5
	$914	10-Yr.tot: ($293)
2011	$1,024	$10
2012	$1,140	$15
2013	$1,262	$20
2014	$1,391	$26
2015	$1,525	$32
2016	$1,666	$39
2017	$1,815	$46
2018	$1,970	$53
2019	$2,134	$60
2020	$2,306	$68
	$2,306	20-Yr.tot: $76
2021	$2,486	$76
2022	$2,675	$85
2023	$2,874	$94
2024	$3,083	$103
2025	$3,302	$113
2026	$3,532	$124
2027	$3,774	$135
2028	$4,027	$146
2029	$4,294	$159
2030	$4,573	$171
	$4,573	30Yr.tot: $1,282
2031	$4,867	$185
2032	$5,175	$199
2033	$5,499	$213
2034	$5,839	$229
2035	$6,196	$245
2036	$6,571	$262
2037	$6,964	$280
2038	$7,377	$299
2039	$7,811	$319
2040	$8,267	$339
	$8,267	40Yr.tot: $3,852

The right-hand column in Table Four presents the gains and losses to the City in dividends if EPCOR ownership is maintained. For the first nine years after the sale, the City will fall behind in dividends by continuing to own EPCOR. In part, this reflects the cuts in dividends proposed by EPCOR to finance expansion. By 2009, the City will have received $293 million more in dividends from an investment fund than in dividends from continuing to own EPCOR. *(See Figure Three.)*



However, by 2010 the balance between the investment fund and EPCOR is reversed. The dividends paid by the corporation rapidly outpace those from the fund: in 2010 the corporation pays $10 million more, and in 2020 it pays $68 million more. Over the total course of this analysis, EPCOR will pay $3.85 billion more in dividends than will the investment fund.

It is clear that the sale of EPCOR provides short-term gain for enormous long-term loss. By 2010, the sale value of EPCOR combined with the dividends it will have paid totals $2.88 billion. In comparison, by 2010 the combined value of the investment fund and the total dividends it will have paid is $2.26 billion. In other words, within ten years the net gain to the City in continuing to own EPCOR is $623 million. And this is just the

...the benefits of owning EPCOR are likely to be even greater than indicated here...

beginning. In twenty years, the net gain is $2.38 billion, and the corporation is dramatically outperforming the investment fund.

Limitations on this Analysis

This analysis almost certainly overestimates the performance of the investment fund relative to the corporation. That is, the benefits of owning EPCOR are likely to be even greater than indicated here, for the following reasons.

1. This analysis assumes that the City will net $1.3 billion from the sale of EPCOR, but fees and disbursements are likely to lower this by 4-7%.

2. This analysis does not account for non-dividend earnings the City gets from EPCOR, such as from contracts, which appear to provide an additional 8-9% in earnings above the dividend.

3. The dividend projections for EPCOR are reduced by 16% for every year in the analysis, to reflect Aqualta's 16% contribution to 1998 net operating income. However, most future investment will be concentrated in electrical generation, presumably lowering Aqualta's proportion of net operating income as the years pass.

4. Inflation is not factored into this analysis, but it is certain to occur, and history suggests it will not remain at its current low levels forever. Hard assets such as power plants tend to retain their value during periods of inflation better than paper assets.

By 2010, EPCOR's value has increased $914 million more than the value of the EPCOR investment fund.

SECTION 2B

EPCOR'S DIVIDEND POLICY

An important trigger for City Council's debate about selling EPCOR is the planned cut in dividends proposed by EPCOR's senior management and board. Prof. Gordon's analysis, and various industry precedents, raise questions for Council to consider about EPCOR's dividend plan.

In 1998, EPCOR paid a dividend of $67 million on earned net income of $121 million, or a payout rate of 55.3%. As Prof. Gordon notes, this is a low rate by industry standards. EPCOR's June 21, 1999, prospectus notes

While TransAlta has ambitious growth plans, it will not fund these by cutting dividends, as it makes clear in its 1998 Annual Report: "It is not our intention to reduce the dividend to fund this growth" (p.4).

that the industry standard pay-out rate is about 70% (p.37). RBC-DS reports that investor-owned utilities in Canada and the U.S. had pay-out rates over 70% (Project Northern Lights, June 18, 1998, Appendix D). Canadian Utilities Limited, which is known in the industry for its low rate, paid 57.8% in 1997. TransAlta consistently pays a high dividend rate, over 85% in 1997. While TransAlta has ambitious growth plans, it will not fund these by cutting dividends, as it makes clear in its 1998 Annual Report: "It is not our intention to reduce the dividend to fund this growth" (p.4).

Cuts to dividends are generally regarded as a negative sign. Normal business practice is to cut dividends only under two conditions, as Prof. Gordon notes. One condition is deteriorating long-term earnings, and the other is extraordinarily profitable investment opportunities. EPCOR's plans fall under the second condition: dividends are being cut to finance investments in new expansion.

It is clear that the sale of EPCOR provides short-term gain for enormous long-term loss.

EPCOR's plans point to a basic dilemma. On the one hand, RBC-DS suggests that market conditions are so risky, unpredictable, and threatening that the City should sell EPCOR. At the same time, EPCOR management is so confident in the future of Alberta's electricity market that it is cutting dividends to finance major expansions. As later sections of this report will show, and as EPCOR's June 21, 1999 debenture prospectus suggests, the future faced by EPCOR is probably not as risky as could be interpreted from the RBC-DS presentations to City Council. At the same time, EPCOR would be prudent to expand cautiously. It is in a good position to 'cherry pick' only the very best opportunities.

Whatever prudent expansion plans EPCOR settles on, it does not need to finance them by a cut in dividends, any more than TransAlta needs to finance its growth through dividend cuts. City Council as the sole owner of EPCOR is in a position to assert EPCOR's dividend policy. It should not allow EPCOR to set a dividend policy for the City that unnecessarily hurts the City.

Blank for Pagination

3

THE BUSINESS CONTEXT OF EDMONTON POWER

- **Environmental Issues**

- **Technological Advances in Power Generation**

  Cogeneration, CGT's and Microturbines

  Alternate Power Technologies

- **Demand and Supply in Alberta's Electrical Industry**

  The Supply of Electricity in Alberta

  Alberta's Demand and Supply Balance

- **Alberta's New Regulatory Framework**

  The Old Regulatory System

  Regulatory Restructuring

  The New System

  The Power Purchase Arrangements

  The Balancing Pool

  Electricity Retailers

  The Stable Rate Option

  Industry Concerns About Alberta's Regulatory Reform Process

- **Competition Under the New Regulations**

  Competition

- **Edmonton Power's Risks Under the New Regulations**

It is clear that the financial evidence weighs overwhelmingly against the sale of EPCOR. What about other issues? This section of the report addresses some of these, including environmental concerns that are having a growing impact on the electrical industry; changing technologies; demand and supply patterns in Alberta's power industry; and regulatory restructuring.

SECTION 3A

ENVIRONMENTAL ISSUES

About three quarters of the power generated within Alberta comes from coal-burning power plants, and about another fifteen percent comes from natural gas- burning plants. These fuels contain large amounts of carbon, and when they are burned, much of that carbon is released into the atmosphere in the form of carbon dioxide and other gasses. Coal is a particular concern, producing about twice as much carbon dioxide as natural gas. Once in the atmosphere, these carbon-based emissions trap the heat that comes to the Earth from the Sun, a bit like a glass roof traps heat in a greenhouse. The evidence linking these 'greenhouse gasses' to climate change is now strong, and as a result the regulatory and moral pressures (many companies are well ahead of regulators on this issue) to reduce greenhouse gas emissions are intensifying.

EPCOR has installed one of Canada's largest solar power systems on its office rooftop, and through its Envest program is encouraging companies to reduce their power consumption.

In 1997, as a follow-up to the Rio Summit of 1992, many nations, including Canada, committed themselves to reducing their greenhouse gas emissions under the U.N.- sanctioned Kyoto Protocol on Climate Change. Canada committed to cutting its emissions to six percent below its 1990 levels, by the year 2012. There are difficulties with enforcing the Kyoto Protocol, but many countries and companies are taking it seriously. Germany, for example, seems on target to meet its goals, and British Petroleum is making massive investments in zero-emission technologies, especially solar power. Electric utilities in Canada are starting to join this process. EPCOR has installed one of Canada's largest solar power systems on its office rooftop, and through its Envest program is encouraging companies to reduce their power consumption. But these are only small beginnings, and much larger steps will need to be taken. Greenhouse gas emissions in Canada are rising, not falling.

Alberta, with few sources of hydroelectricity and a heavy dependence on coal and gas-fired power plants, is more exposed to the pressures to reduce greenhouse gasses than the rest of Canada. The most intense pressure will be on coal-fired plants, because they produce the most emissions. In the next several years they may face higher royalty rates on coal; fees or other charges on emissions; or stricter standards that force them to invest in technology to reduce emissions.

Of Alberta's three major power companies, EPCOR is in the best position to manage these pressures: it has the lowest portion of power generated from coal (just under half), and its Genesee plant is the most efficient coal-fired plant in the province. Even with these advantages it faces serious challenges. EPCOR is a signatory to the Canadian Electricity Association's voluntary commitment to reduce and offset carbon dioxide emissions, and in keeping with Canada's commitments under the Kyoto Protocol, EPCOR has accepted a target of reducing emissions 6% below their 1990 level by the year 2012. Like other electric utilities in Alberta, EPCOR must continue to work hard to meet these pressures, but as serious as these pressures are, they do not threaten EPCOR's viability.

SECTION 3B

TECHNOLOGICAL ADVANCES IN POWER GENERATION

As a result, plants that are forty years old, such as Wabamun, remain vital contributors to the power grid.

Cogeneration, CCGTs, and Microturbines

Unlike in the computer and telecommunications industries, where efficiencies increase by hundreds of percent every few years, in the electrical industry it can take many years for efficiencies to creep up a few percentage points. As a result, plants that are forty years old, such as Wabamun, remain vital contributors to the power grid. Three technologies that have received much attention recently are cogeneration; combined cycle gas turbines; and microturbines.

Cogeneration plants are built where there are opportunities to combine power generation and steam heat in a single system, often at large institutions or industrial sites (eg. the University of Alberta; large petrochemical plants). The same steam can be used to turn electric turbines, and for heating and industrial purposes. The costs of fuel are shared between the two users, and total emissions are reduced because the same amount of fuel serves two processes. There have been cogeneration plants in Alberta for many years, and the number is increasing. However, their potential is limited by the number of locations where large amounts of steam are required. Since 1995, all major power plants built in Alberta have been cogeneration plants at industrial sites. These provide steam and electricity for the industrial site, and sell the surplus electricity onto the power grid.

The combined cycle gas turbine (CCGT) is another technology that has been widely publicized. Older gas-fired power plants such as Rossdale and Clover Bar use steam to drive a turbine, and then release that steam. CCGT systems recover some of the heat from that steam and re-use it to power a second turbine. This improves the overall efficiency of the generating unit. The proposed expansion of the Rossdale plant, if it proceeds, will use this technology. Combined cycle gas turbines represent a large enough improvement that, in the long run, they will replace older gas turbines as these wear out.

"Competition from distributed generation such as micro-turbines is not seen as an immediate threat due to the relative infancy of the technology and its high cost of production"

Microturbines are turbine units about the size of a deep freeze. These can be easily placed in remote locations, drawing on a local fuel or heat supply to generate electricity. They appear well-suited to applications such as recovering heat from gas well flares. Power from microturbines can be used locally or fed into the power grid, helping to create a system of 'distributed generation', in which many small generating sources are distributed throughout the power grid. However, these are not likely to pose a serious risk to EPCOR. As it notes in its debenture prospectus of June 21, 1999, "Competition from distributed generation such as micro-turbines is not seen as an immediate threat due to the relative infancy of the technology and its high cost of production" (p.16).

EPCOR has a long record of adapting to innovations, and has often lead the industry. It will adapt to these innovations as it has to others, by incorporating them as is suitable.

Alternate Power Technologies

The Kyoto Protocol has accelerated the development of technologies that generate electricity without creating pollution. Three of these are particularly important for the very long-term future of companies such as EPCOR: fuel cells; solar power; and wind power. Fuel cells generate electricity through a non-polluting chemical process fuelled by hydrogen. They are being rapidly developed, especially for use in automobiles, and they are expected to be cheap and reliable enough to power mass-produced electric cars in the next five years. In the next two decades, fuel cells may be available for installation in houses to supply electricity. Many obstacles remain, however, and it is not at all clear that they will be economical or reliable enough to entice homeowners to disconnect from the power grid.

Solar and wind power are already generating electricity for Alberta's power grid. Solar power will benefit from hundreds of millions of dollars in research and development funds committed by corporations and governments. EPCOR currently powers the top two floors of its head office from a bank of solar cells on its office rooftop. Wind-generated electricity production worldwide has been growing by about 25% per year in recent years. Southern Alberta presents excellent potential for major expansions in wind power.

While fuel cells, solar power, and wind power are exciting, they must be kept in perspective. They face technological and economic obstacles that will not be easily overcome. Their contribution to the power grid today is negligible. For the foreseeable future (i.e. two or three decades) these new technologies will remain as supplements to existing generation, assisting in meeting the growing demand for electricity, and contributing to demand during peak loads. There is very little chance that they will displace existing power plants, or lead to the demise of the established electric grid.

SECTION 3C

DEMAND AND SUPPLY IN ALBERTA'S ELECTRICAL INDUSTRY

In 1999, peak demand for power from Alberta's grid hovers around 7300 MW, though this varies substantially with weather and other factors. Demand for electricity in Alberta has climbed 3%-4% annually in the 1990s. If this were to continue, total demand would double in about 20 years. But this depends on the performance of the economy. The City of Edmonton's 2000-2009 Long Range Financial Plan predicts moderate economic growth of two to three percent for Edmonton during the next several years, and slightly higher growth province-wide. EPCOR sells its electricity into the provincial grid, so demand and supply across the province are relevant. For Alberta as a whole, economic growth in the next few years is forecast to be slower than in the previous several years. This means that, while demand for electricity will continue to increase, it will not rise as quickly as in the 1992-1997 period.

This illustrates a general problem that confronts electric utility investors in Alberta: the market conditions that exist when construction of a power plant begins can be drastically different when construction of that plant is complete.

The demand for electricity in Alberta, as throughout the industrial world, has climbed decade by decade for a century. But in Alberta's case, because of its boom and bust economy, the climb has been erratic. In the oil-boom of the 1970s, demand for electricity grew at about ten percent a year, and major new plants such as TransAlta's Sundance were constructed. Genesee was conceived during this period, but in the early stages of construction the oilboom collapsed, and construction on Genesee was slowed dramatically.

This illustrates a general problem that confronts electric utility investors in Alberta: the market conditions that exist when construction of a power plant begins can be drastically different when construction of that plant is complete. While the former regulatory system could, with some difficulty, shelter investors and customers from the effects of this volatility, the new system will not. As a result, investors are likely to be very cautious with new construction, insuring that demand is very tight before investing in new supply, and adding new supply in small increments. This will automatically strengthen the market position of existing generators, creating a chronic sellers' market.

Alberta is one of the most isolated areas on the North American power grid.

The Supply of Electricity in Alberta

Alberta's maximum electrical generation capacity in 1999 is about 7,800 MW. (Estimates vary according to sources; these figures are from EPCOR's June 21, 1999 debenture prospectus, p.8.) TransAlta provides 4476 MW; EPCOR 1701 MW; and ATCO 1376 MW. The remaining capacity belongs to the City of Medicine Hat and a variety of other producers. Alberta's power grid also has access to about 950 MW of imported power, though market conditions elsewhere, especially in the Pacific Northwest, influence how much of this power is available, and at what price. Another 800 MW of generation is owned by major industrial companies strictly for their own use.

Alberta is one of the most isolated areas on the North American power grid. There is one 800MW transmission line to B.C. Building another over the mountains would be prohibitively expensive. A small 150MW line links to Saskatchewan, but the nature of the continental power grid means that Alberta's electricity is out of phase with electricity to the east, creating expensive technical problems with power flows over the Saskatchewan-Alberta border. There is no tie line to Montana, and building one is not attractive because Montana sends its surplus electricity toward the high-priced California market. Alberta prices would need to skyrocket before imports from the United States would be competitive. There is very little chance that Alberta's power supply will be increased by more imports. Any construction of major new transmission lines faces overwhelming opposition from landowner, environmental, and health groups, and high construction costs. As a result, there are few new transmission lines being built anywhere in North America. Existing lines and rights-of-way have become strategic assets.

Alberta's Demand and Supply Balance

The demand for power in Alberta is very close to the available supply. The province's reserve margins are frequently below industry standards, creating an ongoing risk to reliability, and steady upward pressure on prices. There have been a few occasions in the past year when demand has been so great that rotating cutbacks have been needed, and several more occasions when rotating cutbacks have threatened. To meet the growing demand, the provincial Transmission Administrator (which oversees the transmission system) estimates that 200-300 MW of new generating capacity will be needed every year for the next decade, an annual growth rate of 3-4% over the 1999 level. At the Annual General Meeting of EPCOR in May, 1999, Don Lowry, EPCOR's CEO, said that he expected Alberta to be short 500 MW of electricity for the next four or five years.

...the evidence clearly suggests that, to EPCOR's good fortune, Alberta will have a seller's market in electricity for years to come.

In the next two years several new cogeneration plants are being commissioned. These will help meet the growing demand, but the evidence clearly suggests that, to EPCOR's good fortune, Alberta will have a seller's market in electricity for years to come.

SECTION 3D

ALBERTA'S NEW REGULATORY FRAMEWORK

The Old Regulatory System

Alberta's electrical system prior to the Electrical Utilities Act of 1996 was straightforward. It was dominated by TransAlta, Edmonton Power, and Alberta Power, which controlled (and still do) about 60%, 20%, and 15% of Alberta's power generation, respectively. These companies were 'fully integrated', meaning they owned power plants, transmission lines, and distribution systems, and handled all aspects of the electric utility business. These companies, along with a group of much smaller ones, operated as monopolies in their geographic areas, but they also shared transmission lines and coordinated their operations with each other to insure province- wide reliability of the electrical supply.

Alberta Government agencies regulated these electricity monopolies closely. These agencies arranged hearings and reviews that set prices; planned for expansions and new investments; insured high standards of reliability and safety; and facilitated a reasonable return on investment to owners. This system provided Albertans with electricity that was among both the cheapest and the most reliable in the world.

The economic perspective behind the electrical system in Alberta was that electricity was a 'natural monopoly'. In other words, it made more sense to have one company operate one system under close government scrutiny, than to have several companies build parallel generation, transmission, and distribution systems, and compete with each other.

The old regulatory system provided Albertans with electricity that was among both the cheapest and the most reliable in the world.

Regulatory Restructuring.

Despite the success of the system of regulated electrical monopolies, the Alberta government in the 1990s determined that an entirely new way of organizing the electricity industry was needed. It decided to replace the system of regulated monopolies with a more open market. Companies would compete to provide services, customers could chose among suppliers, and prices would be set by market forces. With these changes, the Alberta government was following the lead of places such as Chile, New Zealand, Britain, and some parts of the United States, including California and New England.

The success of regulatory restructuring in other countries is mixed. As a general pattern, electricity prices do not significantly fall as a result of the changes, and in some cases appear to increase; reliability tends to decline; productivity per worker rises as a result of widespread lay-offs; shareholder returns from electric utilities jump; and compensation packages for executives soar.

Regulatory restructuring has almost always been initiated where there are serious problems with the existing system. In Britain, California, and New England, for example, there was widespread unhappiness with very high electricity prices (two to four times the rates in Alberta). In Chile, Brazil, Malaysia, Mexico, Argentina, and New Zealand, regulations were restructured to address problems such as shortages of supply, inadequate investor interest, outmoded technology, and the need to reduce public debt. In contrast, Alberta had had an extraordinarily successful system, offering low prices and reliable service. The Alberta Public Utilities Board was respected internationally, and EPCOR, TransAlta, and ATCO were —and remain— well-regarded companies.

Revolutionizing the rules in the middle of a multi–billion dollar game is frought with perils.

The New System

When the Alberta Legislature passed the Electric Utilities Act in 1996, the process of implementing a completely new regulatory system was fully launched. This legislation was revised in 1998 through the Electric Utilities Amendment Act. The system prescribed by this new legislation requires the old utility companies to divide into subsidiaries, creating separate companies for generation, transmission, and distribution. It also allows for new kinds of electricity companies, including retailers and speculators.

The transmission and distribution companies will continue to be regulated in much the manner as before, insuring that their owners meet certain standards of service and safety, charge fair prices, and earn reasonable returns. In addition, regulators must now also insure that transmission and distribution companies do not give preferential treatment to any particular generators, but rather act as ‘common carriers’ for all.

Things get much more complicated with generation, where it is hoped that the biggest gains will be made from competition. The fundamental problem is that almost all Alberta’s electricity comes from power plants built under the old system, and the old system provided investors and customers with a completely different set of problems, opportunities, and risks, than the new one. Revolutionizing the rules in the middle of a multi-billion dollar game is frought with perils. In essence, the new regulatory system faces two challenges. First, the pre-1996 plants represent investments that were made under regulations that assured particular rates of return, levels of operation, costs, and prices. In recognition of this, the new system must attempt to return any inordinate profits that stem from the new rules, to customers. They must also protect investors from unanticipated losses. Second, the new regulations must create a competitive system without breaking up TransAlta, which, through its control of 60% of Alberta’s generation, has the ability to single-handedly influence prices and supplies. (The provincial government is unprepared to force TransAlta to divest some of its Alberta assets, although divestitures have been crucial to the success of competitive electricity markets elsewhere.)

The Power Purchase Arrangements

In response to these problems, the government plans to create a system of 'Power Purchase Arrangements' (PPAs), a system which has seldom if ever been tried elsewhere. PPAs will be agreements between, on the one hand, companies that own power plants, and on the other hand, companies that want to market electricity, or speculate in it. The PPAs will be long-term contracts that run for the remaining 'base life' of the power plant, or twenty years, whichever is less. They will be sold through an auction, in which power plant companies will offer to sell their supply of electricity at a certain price, and buyers will offer to purchase it. The engineering, economic, and legal complications of PPAs, which are immense, are being sorted out by an independent government-appointed regulatory body called the Independent Assessment Team (IAT). The auction of PPAs is expected to occur later in 1999, for implementation January 1, 2001.

The Balancing Pool.

The revenues from the sale of the Power Purchase Arrangements will not be paid directly to the power generators. Instead, they will go into a 'Balancing Pool', operated by the Alberta government. If the bids from the companies wanting to buy electricity are lower than the offers from the generators needing to sell it, the Balancing Pool will face a deficit. In other words, the power plants will have no choice but to sell at a loss. If this happens, the government will place a levy on power consumers to compensate the generators. On the other hand, if the bids to buy electricity are higher than the offers to sell it, the Balancing Pool will run a surplus. If this occurs, power consumers will be given a rebate. Through this balancing mechanism, the government intends that the Balancing Pool will neutralize the risks and windfall opportunities that investors and customers face as a result of regulatory reform.

The Balancing Pool and Power Purchase Arrangements face many questions and much skepticism. At the time of this writing they are still open to change. They are unproven mechanisms that are bringing much uncertainty to Alberta's electricity system.

The Balancing Pool and Power Purchase Arrangements face many questions and much skepticism. At the time of this writing they are still open to change. They are unproven mechanisms that are bringing much uncertainty to Alberta's electricity system.

Among the uncertainties are these:

1. Alberta's traditional power utilities, which will be selling almost all the power offered to the Balancing Pool, will also be allowed to buy it. In other words, a PPA could be between two subsidiaries of the same company. To what extent does this open the process to manipulation?

2. Alberta needs several more major generating companies to create a competitive market. The preferred way for new companies to enter a market is to buy existing power plants. There are signs that new companies are not going to enter the Alberta market when their only opportunity is to buy paper agreements (PPAs) rather than actual power plants. What if the PPA auction fails for lack of serious buyers?

3. PPAs may be resold. Will it be possible for one or a few companies to buy up a large number of PPAs after the initial bids, to gain control of the market?

4. The legal and financial status of PPAs is unclear.

Electricity Retailers

Companies will buy Power Purchase Arrangements in order to resell the power. Some of that power will be sold wholesale to major industrial users. The rest will be retailed to smaller commercial and residential customers. Instead of a monopoly, customers will be able to choose from, for example, 'EPCOR Retail', 'TransAlta Retail', 'ATCO Retail', and hopefully many new companies. These companies will package the power they bought through PPAs in whatever fashion they believe will sell. These could include long-term or short-term contracts; time-of- use contracts that encourage people to use power during off- peak hours; and 'green power', which would be generated from environmentally-friendly sources, and which is already available.

In jurisdictions where regulatory reform has been implemented, electricity retailing has become more creative than under the system of regulated monopolies. But is has not become as dynamic and successful as had been expected. Research and experience consistently show that most people don't care about consumer choice in electricity nearly as much as they care about its reliability and cost.

Wholesale spot prices for electricity are already deregulated, and have risen from an average of about $14 in 1996, to $33 in 1998, to $51 in the month of May, 1999.

The Stable Rate Option

Competitive electricity retailing to residential and small commercial customers will begin in January, 2001. No one knows how many competitors there will be, what product packages will be available, or what will happen to prices when controls are lifted. There are signs that residential prices will rise, perhaps a lot. Wholesale spot prices for electricity are already deregulated, and have risen from an average of about $14 in 1996, to $33 in 1998, to $51 in the month of May, 1999 (The Edmonton Journal, June 8, 1999, p. F3). Industrial customers, who both have the specialized resources to monitor electricity costs hour by hour, and consume large enough volumes to strike special deals with generators, have almost completely avoided the spot market by negotiating their own contracts.

In contrast to spot prices, EPCOR's residential prices have not risen in six years. When residential prices are deregulated in January, 2001, consumers will have a chance to use the 'Stable Rate Option'. The Stable Rate Option allows small commercial and residential consumers to sign on for up to a further five years of controlled prices, easing the transition to full electricity retailing.

Industry Concerns About Alberta's Regulatory Reform Process

Intense controversy is normal wherever traditional electricity regulations are replaced by market-oriented regulations. Indeed, bitter and chronic debates are hallmarks of the process, from Britain to New Zealand, and from California to New York. In Alberta's case, the debates suggest that the reforms may be losing rather than gaining credibility.

ATCO —the smallest generator and, unlike EPCOR and TransAlta, lacking a major urban market— has consistently voiced skepticism about regulatory reform. On the other hand, TransAlta has encouraged the reforms, pressing for speedier implementation in the belief that "...a competitive marketplace ultimately provides consumers with the best service and lowest costs". But in its 1998 Annual Report, TransAlta may be beginning to position itself, the government, and the public for a different outcome, for it notes that regulatory reform "...is rapidly becoming burdened with even more rules, complexity and details —not less— potentially resulting in higher costs for Albertans" (both quotes from the TransAlta 1998 Annual Report, p.6).

The biggest blow so far to the credibility of the reform process has been delivered by the Industrial Power Consumers Association of Alberta (IPCAA). IPCAA, which includes the largest industrial power users in Alberta (consuming over 50% of the province's electricity), had supported regulatory reform in principle, on the grounds that its members could obtain lower prices for power. But in May, 1999, IPCAA released a study it commissioned from a highly regarded utility consulting firm, the Drazen Consulting Group. The study sharply attacks the reforms, especially the Power Purchase Arrangements, concluding, among other things, that:

- *"In summary, customers are offered less service at higher costs than with regulation" (p.3)*
- *"PPAs will turn out to be more expensive for customers than the current reg/neg approach to setting prices..." (p.9)*
- *"The benefits of deregulating the plants will flow to the owners, not the customers..." (p.9)*
- *"The PPAs will not be very effective in constraining market power" (p.9)*
- *"The cost of power under PPAs is higher than with regulation" (p.9)*
- *"Customers will receive less value and owners will receive more income than under regulation" (p.9)*

The biggest blow so far to the credibility of the reform process has been delivered by the Industrial Power Consumers Association of Alberta (IPCAA)...

EPCOR has remained on the sidelines of the regulatory debates.

SECTION 3E

COMPETITION UNDER THE NEW REGULATIONS

Competition

One of the issues driving the debate over the sale of EPCOR is the effect of a competitive electrical market in Alberta. If competition is intense, then EPCOR may find its long-term prospects threatened. On the other hand, if competition is not, then regulatory reform probably poses little threat to EPCOR, and the citizens of Edmonton would be wise to continue ownership as a hedge against price increases, and in order to participate in the likely rise in utility profits.

After surveying a wide range of international evidence on the successes and failures of regulatory reform in the electricity industry, Gilbert and Kahn (1996) concluded that the most important determinant of a successful market in electricity, and a crucial component for successful regulatory reform, is strong competitive pressure on the utilities. Strong competitive pressure, they concluded, depends on two things: "... the extent to which a utility has to compete for its market, and the quality of regulation" (p.9).

How intensely will EPCOR, TransAlta, and ATCO have to compete for market share? Not very.

How intensely will EPCOR, TransAlta, and ATCO have to compete for market share? Not very.

- There is no practical chance that more power will flow into Alberta from other jurisdictions, because of the physical, engineering, and economic constraints of the North American grid.

- The market is dominated by TransAlta, which controls 60% of Alberta's power supply, more than enough to influence supplies and prices. The provincial government is not prepared to force TransAlta to sell some of its Alberta assets to change the market to a more competitive mix of, say, five completely separate and similar- sized companies. TransAlta, having recently become one of New Zealand's largest electric companies, has announced significant price increases there. ATCO and EPCOR (especially if it is investor-owned) have little incentive to undercut TransAlta in Alberta, for they also can benefit from higher prices.

There is no practical chance that more power will flow into Alberta from other jurisdictions, because of the physical, engineering, and economic constraints of the North American grid.

- The tightness of supply and demand insures that Alberta will have a seller's market in electricity for years to come.

- The higher prices and tight supply will, presumably, attract new investors. New investors will have to build from scratch. They face daunting challenges: most of the generation owned by their competitors will be sheltered under PPAs, yet will produce profits that can be used to undercut the new competitors; new competitors will need to recover the cost of their capital investment, while the existing companies, especially TransAlta, have recovered most of their costs through long years of regulated returns; the three existing companies have customer bases that will provide goodwill and strategic marketing advantages; new investors will ship their power down transmission and distribution lines owned by TransAlta, ATCO, and EPCOR, and while regulators will try to insure equal access, this has been a controversial problem in the United States and elsewhere; and EPCOR, TransAlta, and ATCO have secured many of the best sites for power plants. It is not surprising that there are few concrete signs of new investors poised to invade Alberta's electricity generating market. Undoubtedly they will come, but it is worth noting that the major cogeneration plants built or under construction since regulatory change began have usually involved TransAlta, EPCOR, or ATCO, sometimes in partnership with one another.

- Technological advances are occuring, but there are no serious threats of a technological revolution undercutting the dominance of existing generation, transmission, and distribution systems for at least two or three decades.

- Multinational utilities looking at Alberta will be comparing their opportunities here with those elsewhere. By international standards Alberta's prices are low, and these companies may conclude that it is harder to squeeze profits from low-priced Alberta power than from much higher-priced power in other countries. In this narrow sense, Alberta's low- cost high-reliability electric system is a competitive disadvantage.

- Alberta's economy is unusually volatile, and because electrical demand is driven by economic growth, this volatility increases the risk for new investors. Genesee looked vitally important in 1981, but by 1985 it appeared superfluous. When its first unit was finally commissioned in 1989 its value was questioned; when its second unit was commissioned in 1994 it was essential. The established utilities have the experience and critical mass in Alberta to weather these uncertainties more easily than new investors might

SECTION 3F

EDMONTON POWER'S RISKS UNDER THE NEW REGULATIONS

The new regulatory regime has created uncertainty in the electrical industry. This alone creates an atmosphere of increased risk. However, not everything under the regulations is uncertain, and it is important to separate substantial from insubstantial risks.

The new regulations are not likely to increase EPCOR's risks in the transmission and distribution business. In general, these will be regulated in a manner similar to the old system.

The risks created for generation are more complicated to assess. Power plants built prior to 1996, which includes all three of EPCOR's plants, will be covered under the Power Purchase Arrangements and the Balancing Pool. While the detailed operation of these is not yet clear, there is no question that their substantial purpose, and that of the legislation behind them, is to protect pre-1996 generation from undue risks stemming from a competitive market.

EPCOR's June 21, 1999, prospectus notes that PPAs offer important security for EPCOR's generating plants

EPCOR's June 21, 1999, prospectus notes that PPAs offer important security for EPCOR's generating plants: "The Power Purchase Arrangements are also expected to provide for the recovery of all remaining forecast investment in the regulated generating units [i.e. Rossdale, Clover Bar, and Genesee], plus any forecast incremental investments made for life extension of the units past their regulated end of service life" (p.11); and "...the return on equity incorporated into the fixed costs paid to EPCOR [under PPAs] is expected to reflect a traditional return on rate base formulation" (p.26). (See also p.25-26 and 47.)

The PPAs will treat EPCOR's three plants differently, because the remaining base life of each plant was different at the time the regulations were changed. The newest and largest, Genesee, will be sheltered under a PPA for the longest period, likely until December 31, 2020. The second oldest plant, Clover Bar, will likely be sheltered until January 1, 2011, and the oldest, Rossdale, will probably be sheltered no longer than December 31, 2003. The cost of de-commissioning Rossdale (and the other plants), if that were to proceed at the end of the PPA, is expected to be covered under the PPA.

By the time the PPAs expire and EPCOR's plants are exposed to competitive pricing, EPCOR's original capital investment in them will be fully, or nearly fully, paid back...It is at this time that they may be most profitable;

By the time the PPAs expire and EPCOR's plants are exposed to competitive pricing, EPCOR's original capital investment in them will be fully, or nearly fully, paid back. Nonetheless, the plants will continue to produce electricity. It is at this time that they may be most profitable; their book values will be very low, but they will be selling their output at what could easily be their highest prices ever.

An April,1999, study by Diversified Utility Consultants, prepared at the request of a diverse group of Alberta municipal, rural, consumer, and industrial organizations, found that older power plants have tremendous value. The study found that "...electric utilities throughout North America have been selling coal-fired generating units with an average age which approaches the assumed end of life age for the Alberta units for approximately C$750 per kilowatt." This suggests that, even if all three of EPCOR's power plants were near the end of their base lives, they would remain profitable enough to justify a purchase price of more than one <u>billion dollars.</u> (This excludes EPCOR's transmission, distribution, and other assets.) The same study concludes that "...there is a high probability that billions of dollars of operating value will exist for Alberta generating units at the end of their assigned base lives" (emphasis in original), and that there is a high likelihood that generating units in Alberta will be viable in a competitive market. For EPCOR, the revenues that had been covering capital costs would then go straight into profits. The potential benefits to the shareholder are immense.

4 TO SELL OR TO HOLD EPCOR

Will the City of Edmonton be better off selling EPCOR and investing the proceeds? The overwhelming answer is 'No'. The financial aftershocks from the sale would be felt by the City for decades.

The RBC-DS proposal that the City can both increase its revenues and reduce its risks is simply too good to be true.

The analysis in this study applied reasonable business assumptions; used information from EPCOR and RBC-DS; and conceded many favourable assumptions to the argument that EPCOR should be sold. Even under these conditions the case for maintaining ownership seems 'open and shut'. Additional analysis would likely make the case for ownership even stronger. For example, a proper accounting for inflation is almost certain to change the projected 7.4% rate of return on the investment fund downward, which would drop the relative benefits of the investment fund even further. The RBC-DS proposal that the City can both increase its revenues and reduce its risks is simply too good to be true.

The evidence on this issue is worth recapping:

1. The resale value of EPCOR (without Aqualta) will rise from $1.3 billion now, to $2.2 billion in ten years, to $3.6 billion when the PPA system expires in 2020. Under the terms considered by City management, the principal of an investment fund will achieve zero growth. (See Tables Two and Three, and Figure Two.)

2. An investment fund earning 7.4% could not sustain payments equal to the dividends the City will receive from EPCOR. In just over 40 years the investment fund will be broke. (See Table One and Figure One.)

3. An investment fund derived from the sale of EPCOR would provide the City with higher dividends than EPCOR itself for the first eight years after the sale, based on EPCOR's plan to cut dividends to finance expansion. In the medium and long term, EPCOR will pay the City dividends much higher than an investment fund. (See Table Four and Figure Three.)

4. An investment fund earning a long-term return of 7.4% above inflation, while cashing out an annual payment equal to EPCOR's dividend, will need to accept significant risk. This is likely higher than the risk presented by continuing to own EPCOR.

5. EPCOR's dividend pay- out rate to the City is low by industry standards, and City Council can reasonably consider raising it to assist with City finances.

6. Uncertainty and confusion in the regulatory regime of Alberta's electrical industry probably lowers the current resale value of EPCOR.

7. EPCOR, like the entire utility industry, is subject to various regulations concerning the natural environment. EPCOR is working to comply with regulations, and these regulations are not a significant threat to EPCOR's viability.

8. New technologies are continuously arising in EPCOR's businesses, and the company has a long history of adapting effectively to them. Advances such as fuel cells, microturbines, solar power, and wind power, pose no significant threat to EPCOR's assets or operations for decades to come.

9. EPCOR is operating in a seller's market for electricity. Demand for electricity is growing steadily, and it appears that Alberta's tight supply balance is expected to remain for several years.

10. EPCOR's existing assets and operations will be well-protected under the new regulations and the 'PPA regime'. It is notable that EPCOR senior management is confident enough in its ability to cope with the new regulations that it has proposed the unusual step of cutting dividends to finance a rapid expansion of 'unregulated' capacity.

11. Experience in other jurisdictions where regulatory reform has been enacted, and analyses of Alberta's situation by groups such as the Industrial Power Consumers Association of Alberta, suggest that the profitability of EPCOR will likely rise under the proposed regulatory changes.

Other Issues

Many issues relate to the sale of EPCOR beyond the ones considered here. Several of these were raised in the Parkland Institute's report of February, 1999, Light Among the Shadows. If EPCOR were sold it is virtually certain that control of the company would leave Edmonton, and that the head office would be moved. In addition, experience elsewhere suggests that the customer call centre could easily be centralized to a distant location, that staff at all levels would be cut, and that long-term maintenance and reliability levels would decline.

In addition, several other issues are raised by this study:

- Conflicts of interest are a notorious problem in privatizations. In Britain, for example, many directors and senior managers of electric utilities earned substantial sums (in twelve cases over £1 million each) through privatizations. In Edmonton, RBC- DS will be in an excellent position to earn multi-million dollar fees if EPCOR is sold. City Council should insure its primary advice on the potential sale of EPCOR comes from disinterested experts, who have no stake in the outcomes of the decisions about which they are advising. Before proceeding with any steps to sell EPCOR, the City should consider legal and contractual mechanisms to prevent advisors, directors, and managers involved in the privatization process from benefitting from that process. (See the Parkland Institute's report <u>Light Among the Shadows</u>, February, 1999.)

- City Council has distanced itself so much from EPCOR that it appears to be losing control of EPCOR's governance. Although the City is the sole owner of EPCOR, not one City Councillor or City employee sits on EPCOR's Board. EPCOR is a remarkable asset that could be actively incorporated into a strategic vision of Edmonton's future. City Council should review its governance of EPCOR to insure the City sets the agenda for EPCOR, and not the other way around.

- City Council should answer the question, What is the core business of EPCOR? If the core purpose of EPCOR is to provide highly reliable electricity to Edmontonians at the lowest possible price, it may not be sensible that EPCOR is now handling the metering service of Mississauga, Ontario, and the water treatment of Cochrane, Alberta. Is EPCOR a national or multinational corporation waiting to be built, or a local company intent on providing the best possible service at the lowest cost to the citizens of Edmonton? City Council does not appear to be adequately clear on EPCOR's mandate.

The conclusions of this study are clear and unequivocal: it would be a serious financial and business error for Edmonton City Council to sell EPCOR. EPCOR should remain under the ownership of the people of Edmonton. It is time for City Council to end the uncertainty of this debate, commit to EPCOR, and give it a clear and sensible mandate that reflects, first and foremost, the long-term well-being of the citizens of Edmonton.

5 REFERENCES

ATCO Group. Annual Report 1998.

Campbell, Barbara, and Rob Macintosh. “Alternatives to a Proposed Rossdale Expansion: A Preliminary Review”. Pembina Institute, Drayton Valley, Alberta, March 1, 1999.

Canadian Utilities. Annual Report 1998.

City of Edmonton. “2000-2009 Long Range Financial Plan”.

City of Edmonton. “Review of the City of Edmonton’s Ownership Options for EPCOR”. The City Administration Working Team, February 18, 1999.

City of Edmonton. City of Edmonton Investment Committee 1997 Annual Report.

Diversified Utility Consultants. “Submission to the Independent Assessment Team Regarding Capital Expenditures and Residual or Beneficial Value of Generating Units”. The FIRM Group, Alberta, April, 1999.

Drazen, Mark. “Report on the Status of Electricity Deregulation in Alberta”. Drazen Consulting Group, for Industrial Power Consumers Association of Alberta, 1999.

EPCOR. Prospectus for Unsecured Debentures, June 21, 1999.

EPCOR. Annual Report 1998.

EPCOR. EPCOR Review, February 18, 1999.

EPCOR. “Business Plan and Budget”, 1998.

EPCOR. Annual Report 1997.

EPCOR/RBC-Dominion Securities. “Questions Submitted by Members of Council Relating to the EPCOR Review”, March, 1999.

Gilbert, Richard J., and Edward P. Kahn. “Competition and institutional change in U.S. electric power regulation”, p.179-230, in International Comparisons of Electricity Regulation, Richard J. Gilbert and Edward P. Kahn, eds., (1996) Cambridge University Press, Cambridge, Britain.

Gilbert, Richard J., and Edward P. Kahn. "Introduction", p.1-24, in International Comparisons of Electricity Regulation, Richard J. Gilbert and Edward P. Kahn, eds., (1996) Cambridge University Press, Cambridge, Britain.

Gordon, Myron J. "An Examination of the Comparative Financial Consequences of Owning and Selling EPCOR for the People of Edmonton". The Parkland Institute, University of Alberta, Edmonton, Canada, June, 1999.

Newberry, David M., and Richard Green. "Regulation, public ownership and privatization of the English electricity industry", p.25-81, in International Comparisons of Electricity Regulation. (1996) Cambridge University Press, Cambridge, Britain.

Nikiforuk, Andrew. "Bright Lights, Big Mistake". Canadian Business, December 11, 1998, p. 79-83.

RBC-Dominion Securities. "Northern Lights II", February 18, 1999.

RBC-Dominion Securities. "Project Northern Lights", June 18, 1998.

Taft, Kevin. Light Among the Shadows. The Parkland Institute, University of Alberta, Edmonton, Canada, February, 1999.

TransAlta. Annual Report 1998.

Waverman, Leonard, and Adonis Yatchew. "Regulation of electric power in Canada", p.366-405, in International Comparisons of Electricity Regulation. (1996) Cambridge University Press, Cambridge, Britain.