



**DECISION**

**IN THE MATTER of a Review of  
Enbridge Gas New Brunswick's  
Market Based Formula  
May 26, 2009**

**NEW BRUNSWICK ENERGY AND UTILITIES BOARD**

**IN THE MATTER OF a Review of Enbridge Gas New Brunswick's Market Based Formula**

**NEW BRUNSWICK ENERGY AND UTILITIES BOARD ("BOARD"):**

**CHAIRMAN:** Raymond Gorman, Q.C

**VICE-CHAIRMAN:** Cyril Johnston

**MEMBERS:** Don Barnett  
Edward McLean  
Steve Toner

**SECRETARY:** Lorraine Légère

**COUNSEL:** Ellen Desmond

**STAFF:** Doug Goss  
John Lawton  
Dave Young

**APPLICANT:** David MacDougall  
Len Hoyt, Q.C.  
Dave Charleson  
Michael Ervin

**INTERVENORS:**

**Atlantic Wallboard LP** Chris Stewart  
Mark Bettle

**Competitive Energy Services** Jon Sorenson  
**Department of Energy** Patrick Ervin  
Steve Roberts

**Flakeboard Company Limited** Gerald Lawson  
Barry Gallant

**PUBLIC INTERVENOR:** Daniel Theriault, Q.C.  
Robert O'Rourke  
Jacquelyn Oakley  
Kurt Strunk

## **Introduction**

In 1999 the Province of New Brunswick granted Enbridge Gas New Brunswick (EGNB) the general franchise to distribute natural gas in the province. At that time it was acknowledged that in order to attract new customers in a “greenfield” area and develop the market, EGNB would need to charge rates for the distribution of gas that offered sustained savings against competing energy forms in the residential, commercial, industrial and institutional sectors. In the event that annual revenues would not recover costs, EGNB proposed a cost deferral mechanism (the “Deferral Account”) during the Development Period whereby costs not recovered from annual revenues could be deferred and recovered from future revenues. At the end of the Development Period, when the market was mature, EGNB would be allowed to recover the amount in the deferral account.

At that time the Public Utilities Board, the predecessor of the New Brunswick Energy and Utilities Board (Board), approved a method of setting distribution rates based on the cost of using a competing energy form. A market-based formula was established to set distribution rates that give a discount to natural gas users compared to the various alternative energy forms. The goal of this formula was to establish rates that provide sufficient incentive for customers to use natural gas while minimizing additions to the Board-approved deferral account. This market-based formula has been in use ever since.

On April 9, 2008 the Board issued two decisions setting the new maximum rates that EGNB could charge for various rate classes. At the public hearings leading up to those decisions there was considerable examination of the market-based formula used to set rates. A number of elements of the formula require the use of judgement by EGNB. That judgement could have a significant impact on the distribution rates. It was clear that parties had different views with respect to various elements of the formula. The Board determined it would be appropriate that all elements of the formula should be subject to review and scrutiny.

The Board ordered that a technical conference be convened, by Board staff, to allow interested parties to review all elements of the formula. At the completion of the technical conference process a public hearing would be held in order to identify and examine all elements of the formula as well as the data sources for all rate classes. As part of the April 9, 2008 decisions, the Board ruled that it would not hear an application for any increase in the maximum distribution rates until that process was completed.

Technical conferences were held on April 29<sup>th</sup>, June 13<sup>th</sup>, July 21<sup>st</sup>, October 15<sup>th</sup>, and November 7<sup>th</sup> but a consensus could not be achieved. Following the technical conference process the Board directed EGNB to file its proposed formula by January 26, 2009 and a process for the public hearing was established.

Mr. Kurt Strunk, of National Economic Research Associates, was retained by the Public Intervenor to prepare a report on the market-based formula which report was filed as evidence. Part of Mr. Strunk's report proposed a method for calculating the rates during a transition from market-based rates to cost-based rates. In a motion filed on March 30, 2009 EGNB asked the Board to exclude that portion of the Strunk report. EGNB argued that the Board had already determined that transition issues would be discussed as part of a later hearing.

The Board determined that the portion of evidence dealing with a transition period was clearly outside the scope of the hearing at hand and would be within the topics covered by a hearing the Board had already stated it would hold in the future. The Board therefore excluded that portion of the Strunk report.

The hearing was held on April 22 through to April 24.

### **Market-Based Formula**

While there was discussion of the elements of the formula, the Board notes that no intervenor challenged the method of calculating the formula. The Board also notes

that no intervenor provided any evidence to support any changes to the formula or provided an alternative formula.

In its evidence EGNB proposed a formula that was based on the existing principles and methodology with some modifications and clarifications. The proposed formula would calculate all numbers to four decimal places except in the case of the typical annual natural gas consumption, which would be calculated to the nearest Gigajoule.

EGNB retained Michael Ervin of MJ Ervin and Associates (MJ Ervin) to review the method of calculating the alternative energy price. The MJ Ervin report was filed as evidence and EGNB adopted the recommendations. MJ Ervin recommended calculating the alternative energy price for heating fuel by using the price of Number 2 Fuel Oil on the New York Mercantile Exchange (NYMEX) futures market. MJ Ervin recommended collecting the price for Number 2 Fuel Oil for each of the 12 months that will be included in the application. These 12 futures prices would be collected each market day for two calendar months. An average of each of the 12 months of future prices would then be calculated.

Each of these 12 average future prices would be converted to Canadian dollars per litre and then a market spread will be added to approximate the price in New Brunswick. The “market spread” represents the average difference between the New Brunswick heating oil price and the price on the NYMEX market. MJ Ervin calculated the recommended market spreads using a year’s worth of market information and industry interviews.

MJ Ervin recommended using Number 2 Fuel Oil to calculate the Alternative Energy Price for the SGSRO, SGSC, GS, CGS and LFO classes. For the HFO class MJ Ervin proposed taking the average future price of West Texas Intermediate Crude Oil (WTI) to set the Alternative Fuel Price. Ervin proposed that, based on historical relationships, the WTI price should be multiplied by 0.72 to arrive at a proxy for the

Heavy Fuel Oil price in New Brunswick. The price would then be converted to Canadian dollars per litre.

For the SGSRE class EGNB proposed using currently approved and forecast prices of electricity as charged by New Brunswick Power Distribution and Customer Service Corporation to calculate the alternative fuel costs.

EGNB proposed that it will collect the necessary market data information for most classes from a single source, the website *Barchart.com*. The Board understands this to be a free, publicly available source of reliable market information.

EGNB provided clarification on the calculation of the Typical Annual Natural Gas Consumption as well as the monthly consumption profile. The actual customer consumption data from the most recently available 12 months is to be used. For the SGSRE, SGSRO and the SGSC classes EGNB proposed to exclude customers using less than 45 GJs annually. For the CGLS-LFO class EGNB proposed to exclude those customers using more than 400,000 GJs annually. Contract Demand for the CGLS-LFO and HFO customer classes would be calculated in the same manner, using actual customer consumption data for the most recently available 12 months.

EGNB proposed to submit the underlying data that supports its calculation of the natural gas commodity prices to the Board for independent verification. This would only be done for applications to change the maximum distribution rates and not for rate riders and reinstatements.

The Board has reviewed the evidence submitted by EGNB and finds that it is reasonable and will accept the formula as proposed by EGNB. The Board further accepts the use of *Barchart.com* for market information and orders that this information is to be collected from this source unless otherwise approved by the Board. These changes will provide more transparency to the calculation of rates as well as a more appropriate balance between providing flexibility to EGNB and predictability to the customer. With respect to Typical Annual Natural Gas

Consumption and Contract Demand the Board will require EGNB to file updated figures and supporting data with each application for an increase in the maximum rates or in the absence of an application the information is to be updated annually by July 31<sup>st</sup> for the 12 months ending on June 30<sup>th</sup>. For the purpose of Rate Riders and Reinstatements the most recent data, filed with the Board, on Typical Annual Natural Gas Consumption and Contract Demand is to be used.

The “market spreads” as approved by the Board are contained in Appendix A. The detailed instructions for calculating the market-based rates are attached as Appendix B.

### **Other Issues**

As part of this proceeding, the Board heard testimony about possible variations in the use of the formula either for rate riders and reinstatements or for establishing the maximum distribution rate.

With respect to rate riders and reinstatements EGNB proposed one modification to the formula. Rather than collecting futures prices for two months to calculate the distribution rate, only 21 days of market data would be collected. The Board accepts the use of 21 days of market data for rate riders and rate reinstatements.

EGNB also testified that it needed to be able to use its judgement to alter the formula to ensure that the typical customers would achieve the target savings. Such flexibility would allow EGNB to more quickly react to market conditions. However, such flexibility comes at the expense of transparency and predictability. The Board orders that in the case of an application for a rate rider or reinstatement, EGNB is to file its application without any alterations to the formula and with all supporting market information and customer usage data.

With respect to Rate Riders and Reinstatements, the Board will entertain requests from EGNB to vary the rate as calculated by the formula. Such a request will only be

granted if the Board is convinced the variance is in the public interest. Such requests should provide all of the normal information plus the rates that are being requested and the rationale as to why the rate indicated by the formula should not be used.

Some intervenors argued that third parties should have the right to request the use of a rate rider or rate reinstatement. The Board notes that there is no evidence that EGNB does not apply to adjust its rates as necessary. The Board does not find it appropriate to allow third parties to request rate riders or rate reinstatements.

Several Intervenors proposed the addition of a limit or cap that would apply when establishing the maximum distribution rates. Such a limit would provide customers with some protection and ability to plan expenses. It was suggested that the cap could be linked to an inflationary index such as the New Brunswick Consumer Price Index or a Construction Index.

Limiting the amount of the increase to the maximum distribution rates, as was suggested, would distort the market-based formula. Such a distortion would make it difficult to ensure that customers receive the appropriate savings and that EGNB would minimize additions to the deferral account.

The Board finds that a limit or cap would be in conflict with the objectives of the market-based rates methodology. The Board will not approve the use of a cap.

The Public Intervenor proposed setting the maximum distribution rates on a quarterly basis and doing away with rate riders and rate reinstatements. He also suggested quarterly rate setting could and should replace the current system of annual rate hearings and frequent rate adjustments.

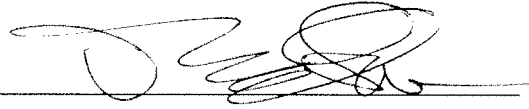
EGNB testified that it would have no issue with more frequent rate setting if it came without the procedural burden associated with a full rate hearing. However EGNB



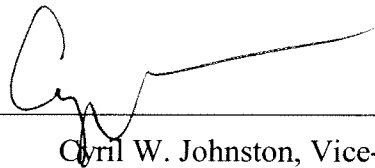
also submitted that it would need to retain the ability to use rate riders and rate reinstatements in between rate settings.

Quarterly rate settings would provide certainty about the timing of rate changes and reduce the regulatory burden on EGNB. It would, however, eliminate the flexibility to adapt to market conditions within a particular three-month period. This is a significant and desirable feature of the current formula. The Board finds that the benefits achieved by quarterly rate setting do not outweigh the benefits of a rapid response to market conditions. The Board will continue to use the system of rate riders and reinstatements together with an adjustment to the maximum distribution rates on an annual or less frequent basis.

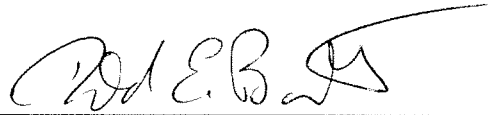
Dated at the City of Saint John, New Brunswick this 26<sup>th</sup> day of May 2009.



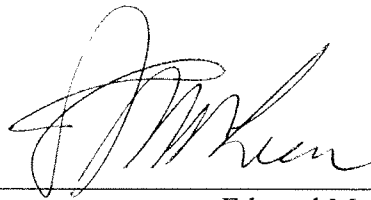
Raymond Gorman, Q.C., Chairman



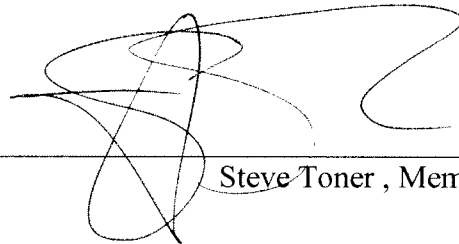
Cyril W. Johnston, Vice-Chairman



Don Barnett , Member



Edward McLean, Member



Steve Toner , Member

## Appendix A

### Market Spreads in Canadian Currency

SGSRO	22.5 cents per litre
SGSC	20.5 cents per litre
GS	19.5 cents per litre
CGS	18.5 cents per litre
CLGS-LFO	17.5 cents per litre

## **Appendix B**

### **Market-Based Formula Detailed Procedure**

The purpose of this document is to provide a step by step procedure for calculating the Delivery Rate charged for each of the rate classes. A sample set of calculations for the following steps is provided in Appendix C. These calculations are for illustrative purposes only.

Note all calculations are to be taken to four decimal places unless otherwise stated. All market information is to be collected from [www.Barchart.com](http://www.Barchart.com) unless otherwise stated.

For the two months prior to an application EGNB will collect the future prices for commodities and foreign exchange rates that reflect 12 future months contained in the application.

### **Alternative Energy Prices**

#### **No. 2 Oil Prices**

1. Future prices for No. 2 Heating Oil traded on the NYMEX for each of the twelve future months to be considered in the application year will be collected for the most recent two full calendar months immediately preceding the month of the application (Table 1)
2. For each of the twelve future months, the two months of data will be averaged resulting in 12 futures prices in US dollars per gallon. (Table 1)
3. Quarterly foreign exchange prices for the US\$ -CDN \$ exchange will be collected for the same time period. These prices in CDN\$ per US\$ will be averaged resulting in an average exchange rate for each quarter. (Table 2)
4. The No. 2 Oil prices will be converted to Canadian dollars/ litre by using the appropriate quarterly foreign exchange average for the corresponding month. The conversion factor from gallons is 3.7854 litres/gal. (Table 3)
5. The “market spread” in CAN cents per litre for each class will be added to each month’s average Number 2 Oil price to arrive at a NB market price for each class. The market spreads are as shown in Appendix A. (Table 3)
6. A weighted average price will be created using the most current monthly consumption profile filed with the Board. The monthly consumption profile will be the average use per month in each class. (Table 4)

7. The resulting weighted average is inserted in the Derivation Table (Appendix C) Line 1 for the appropriate classes as the Alternative Energy Price. (Table 4)

### **Electricity Price**

8. EGNB will use the currently approved and forecast residential electricity rates for NB Power Distribution and Customer Service Corporation. The estimated annual energy use is 21,727 kWh for heating and 4816 kWh for water heating. (Table 5)
9. Using the most current monthly usage profile of Electricity Use filed with the Board by EGNB, annual electric use will be divided into monthly usage and the monthly electricity costs will be calculated using the appropriate first and second block rates. The appropriate block rates are determined after assuming that typical plug and light load (non heating & water heating load) of 806 kWh per month is consumed in the first block. (Table 5)
10. The monthly rates will be added to arrive at a total annual electricity cost which will be inserted on Line 6 of the Derivation Table for the SGSRE class. (Table 10)

### **Heavy Fuel Oil**

11. Futures Prices for West Texas Intermediate Crude at Cushing (WTI) will be collected for the same two calendar months as for other market data. (Table 6)
12. The average future price for each month will be calculated. (Table 6)
13. Each average monthly WTI price will be multiplied by 0.7200. (Table 6)
14. The price will be converted in to CDN\$ using the corresponding foreign exchange. (Table 6)
15. The price will be converted to litres by dividing by 42.0 gallons/barrel and 3.7854 litres/gallon. (Table 6)
16. A simple average of these monthly prices will be calculated and inserted in the Derivation Table in Line 1. (Table 10)

### Natural Gas Data

17. Natural Gas Futures prices for Henry Hub will be collected from the NYMEX market for each of the months of the application. The future prices will be collected for the same two calendar months as other market data. (Table 8)
18. EGNB will use this market data to develop "Commodity Costs." EGNB will calculate a forecast for Enbridge Utility Gas (EUG) prices using methods consistent with Regulation 2003-19 of the Gas Distribution Act. Upon application for a change in the maximum rates EGNB will submit these forecasts and estimates supporting these calculations to the Board in confidence for independent verification. (Table 7)
19. A weighted average commodity price will be calculated using the monthly consumption profiles filed with the Board for SGSRE, SGSRO, SGSC, GS and CGS. The highest of the weighted average commodity prices will be used for the SGSRE, SGSRO, SGSC, GS and CGS classes and inserted in the Derivation Table on Line 12. (Table 7)
20. For the LFO and HFO classes the Enbridge Variable Price (EVP) will be used. Using the market data collected, average future prices in US\$/mmbtu for each of the months in the application will be calculated. To each month's average a market spread of US\$ 2.2500/mmbtu will be added to arrive at a retail price for New Brunswick. (Table 8)
21. Each month's price will be converted to \$CDN per gigajoule using the corresponding foreign exchange data and a conversion factor of 1.0546 GJ/mmbtu. (Table 8)
22. A simple monthly average of the prices will be calculated. The result will be inserted in the Derivation Table on Line 12 for the LFO and HFO class. (Table 10)

### Derivation Table

23. The typical natural gas consumption will be calculated (to the nearest unit) by using average of the consumer usage from the previous 12 months. Only customers who have been attached to the system for 12 months or more will be included in the calculation. The typical natural gas consumption will be updated with each application for an increase in maximum rates or, in the absence of an application, annually by July 31<sup>st</sup> for the 12 months ending on June 30<sup>th</sup>. (Table 9)
24. In the case of SGSRO and SGSRE and SGSC classes only customers having an annual consumption of more than 45 GJ/ year will be included. (No Table)

25. In the case of the CLGS-LFO class only customers who have consumption below 400,000 GJ/ year will be included in the calculation. (No Table)
26. The resulting Typical Annual Natural Gas consumption figure will be inserted in the Derivation Table on Line 10. (Table 10)
27. The Typical Annual Consumption for the alternative energy source (Line 3) will be calculated (to the nearest unit) by taking the typical annual natural gas consumption in Line 10 and dividing by the efficiency factors listed below: (Table 10)

SGSRO	0.7816
SGSC	0.7816
GS	0.8125
CGS	0.8125
CLGS-LFO	1.0000
HFO	1.0000

28. For all classes except HFO the typical annual consumption will be converted from gigajoules to litres by multiplying by 25.8532 litre/GJ. In the case of the HFO class the conversion factor will be 23.9636 litre/GJ. The resulting amount will be inserted in Line 5 of the Derivation Table. (Table 10)
29. The Total Annual Alternative Energy Cost (Line 6) will be calculated by multiplying Line 1 by Line 5.. (Table 10)
30. The targets savings (Line 8) will be calculated by multiplying the Alternative Energy Cost (Line 6) by the Board approved discount (Line 7). (Table 10)
31. The target Natural Gas cost (Line 9) will be calculated by subtracting the target savings from the Alternative Energy Cost (Line 6). (Table 10)
32. The Target Burner Tip Price (Line 11) will be calculated by dividing the Natural Gas cost (Line 9) by the Typical Annual Natural Gas Consumption (Line 10). (Table 10)
33. The Target Distribution Rate (Line 13) will be calculated by subtracting the Commodity Cost (Line 12). (Table 10)
34. The Target Annual Distribution Charge (Line 14) will be calculated by multiplying the Target Distribution Rate (Line 13) by the Typical Annual Natural Gas consumption (Line 10). (Table 10)

35. In the case of the SGSRE, SGSRO, SGSC, and GS classes the Annual Customer Charge (Line 16) will be calculated by multiplying the Board approved Monthly Customer Charge (Line 15) by 12 months. (Table 10)
36. In the case of the CGS, LFO and HFO classes the Average Contract Demand (Line 17) will be the average Contract Demand (calculated to the nearest unit) using the same set of customers included in the Typical Annual Natural Gas Consumption calculation. (Table 10)
37. The Revenue from the Demand Charge (Line 19) will be calculated (to two decimal places) by multiplying the Board approved Demand Charge (Line 18) by the Average Contract Demand (Line 17). (Table 10)
38. In the case of the SGSRE, SGSRO, SGSC, and GS classes the Target Revenue from the Distribution Charge (Line 20) will be calculated (to two decimal places) by subtracting the Annual Customer Charge (Line 16) from the Target Annual Distribution Charge (Line 14). In the case of the CGS, LFO and HFO classes the Target Revenue for the Distribution Charge (Line 20) will be calculated by subtracting the Revenue from Demand Charge (Line 19) from the Target Annual Distribution Charge (Line 14) (Table 10).
39. The Delivery Rate in \$ per gigajoule (Line 21) will be calculated by dividing the Target Revenue from the Distribution Charge (Line 20) by the Typical Annual Natural Gas Consumption (Line 10). (Table 10)
40. The Off-Peak Service will be calculated as 75% of the General Service Rate. (Table 10)
41. The Contract Large Volume Off-Peak Service will be calculated as 75% of the CGS class. (Table 10)
42. The Natural Gas Vehicle Fuel rate will be the same as the GS rate. (Table 10)

### **Rate Rider applications**

43. Rate Riders/Rate Reinstatements will be applied for by EGNB to help maintain the target savings for each class.
44. The calculation of the Delivery Rate under a rate rider or rate reinstatement will be done in the same manner as above including the filing of market data with the following exceptions:
  - a. Only 21 days of market data will be used to determine the oil and natural gas prices



- b. Market data will not be tied to a calendar month, but a time period leading up to the rider application
- c. Natural Gas Consumption information will be the most recent information filed with the Board

## Appendix C

Table 1	Calculation of Average NYMEX No. 2 Oil Price	Steps 1, 2
Table 2	Calculation of Average Foreign Exchange Rate	Step 3
Table 3	Calculation of Monthly Number 2 Oil prices	Steps 4, 5
Table 4	Calculation of Weighted Average for Alternative Energy Price	Step 6, 7
Table 5	Calculation of Electricity Price	Step 8, 9
Table 6	Calculation of Heavy Fuel Oil Price	Steps 11-15
Table 7	Calculation of Natural Gas Commodity Price (EUG)	Steps 18, 19
Table 8	Calculation of Natural Gas Commodity Price (EVP)	Step 17, 20
Table 9	Summary of Typical Annual Natural Gas Consumption	Steps 23,24,25
Table 10	Derivation Table	Steps 10, 16, 22, 26-42

Table 1

	January	February	March	April	May	June	July	August	September	October	November	December
Month 1 Day 1	3.9910	4.0315	4.0620	4.1010	4.1215	4.1250	4.0950	4.0875	4.0385	4.0175	4.0250	4.0277
Month 1 Day 2	4.1075	4.1450	4.1775	4.2090	4.2330	4.2450	4.2300	4.1900	4.1495	4.1195	4.1090	4.1140
Month 1 Day 3	4.1430	4.1800	4.2120	4.2430	4.2670	4.2750	4.2550	4.2115	4.1700	4.1425	4.1325	4.1375
Month 1 Day 4	4.1430	4.1800	4.2120	4.2430	4.2670	4.2750	4.2550	4.2115	4.1700	4.1425	4.1325	4.1375
Month 1 Day 5												
Month 1 Day 6												
Month 1 Day 7	4.0076	4.0461	4.0791	4.1116	4.1366	4.1441	4.1246	4.0856	4.0486	4.0246	4.0161	4.0221
Month 1 Day 8	3.8603	3.8998	3.9353	3.9703	3.9983	4.0083	3.9913	3.9548	3.9213	3.8983	3.8923	3.8988
Month 1 Day 9	3.8901	3.9286	3.9651	4.0006	4.0286	4.0371	4.0176	3.9801	3.9461	3.9226	3.9161	3.9226
Month 1 Day 10	4.0724	4.1064	4.1394	4.1714	4.1979	4.2044	4.1819	4.1404	4.1029	4.0779	4.0704	4.0759
Month 1 Day 11	4.1116	4.1461	4.1806	4.2141	4.2416	4.2471	4.2226	4.1786	4.1386	4.1116	4.1026	4.1076
Month 1 Day 12												
Month 1 Day 13												
Month 1 Day 14	4.0989	4.1344	4.1694	4.2044	4.2314	4.2379	4.2139	4.1689	4.1289	4.1014	4.0929	4.0984
Month 1 Day 15	3.9507	3.9842	4.0202	4.0562	4.0847	4.0927	4.0687	4.0237	3.9837	3.9567	3.9502	3.9562
Month 1 Day 16	3.8735	3.9090	3.9450	3.9810	4.0115	4.0220	4.0005	3.9570	3.9175	3.8895	3.8835	3.8900
Month 1 Day 17	3.7763	3.8108	3.8463	3.8813	3.9113	3.9228	3.9018	3.8593	3.8203	3.7923	3.7863	3.7928
Month 1 Day 18	3.7225	3.7570	3.7940	3.8305	3.8610	3.8740	3.8535	3.8110	3.7715	3.7430	3.7370	3.7435
Month 1 Day 19												
Month 1 Day 20												
Month 1 Day 21	3.7784	3.8119	3.8494	3.8864	3.9169	3.9304	3.9104	3.8684	3.8294	3.8014	3.7944	3.8014
Month 1 Day 22	3.7033	3.7358	3.7723	3.8083	3.8383	3.8563	3.8398	3.8003	3.7628	3.7348	3.7293	3.7368
Month 1 Day 23	3.5780	3.6105	3.6470	3.6835	3.7150	3.7350	3.7215	3.6845	3.6490	3.6235	3.6190	3.6270
Month 1 Day 24	3.5946	3.6266	3.6636	3.6986	3.7291	3.7476	3.7321	3.6926	3.6551	3.6286	3.6241	3.6306
Month 1 Day 25	3.5494	3.5809	3.6174	3.6519	3.6819	3.6999	3.6854	3.6464	3.6094	3.5829	3.5784	3.5849
Month 1 Day 26												
Month 1 Day 27												
Month 1 Day 28	3.5875	3.6185	3.6545	3.6885	3.7175	3.7345	3.7190	3.6780	3.6400	3.6130	3.6080	3.6140
Month 1 Day 29	3.4985	3.5310	3.5680	3.6015	3.6310	3.6480	3.6340	3.5930	3.5555	3.5300	3.5260	3.5325
Month 1 Day 30	3.5458	3.5788	3.6158	3.6488	3.6778	3.6943	3.6808	3.6393	3.6018	3.5763	3.5723	3.5793
Month 1 Day 31	3.4593	3.4933	3.5323	3.5658	3.5948	3.6128	3.6028	3.5638	3.5283	3.5038	3.5003	3.5078
Month 2 Day 1	3.4368	3.4713	3.5103	3.5458	3.5758	3.5948	3.5863	3.5488	3.5143	3.4898	3.4858	3.4928
Month 2 Day 2												
Month 2 Day 3												
Month 2 Day 4	3.3501	3.3826	3.4206	3.4576	3.4881	3.5081	3.5006	3.4651	3.4316	3.4076	3.4041	3.4116
Month 2 Day 5	3.2820	3.3105	3.3460	3.3815	3.4105	3.4280	3.4200	3.3845	3.3510	3.3270	3.3235	3.3310
Month 2 Day 6	3.2379	3.2689	3.3054	3.3409	3.3719	3.3904	3.3834	3.3514	3.3204	3.2984	3.2954	3.3039
Month 2 Day 7	3.2336	3.2656	3.3031	3.3386	3.3696	3.3876	3.3816	3.3526	3.3246	3.3036	3.3006	3.3091
Month 2 Day 8	3.1280	3.1600	3.1985	3.2360	3.2685	3.2870	3.2835	3.2575	3.2325	3.2140	3.2120	3.2210
Month 2 Day 9												
Month 2 Day 10												
Month 2 Day 11	3.1195	3.1515	3.1905	3.2275	3.2605	3.2795	3.2770	3.2530	3.2310	3.2140	3.2115	3.2200
Month 2 Day 12	3.0781	3.1081	3.1466	3.1836	3.2176	3.2371	3.2346	3.2111	3.1891	3.1716	3.1686	3.1771
Month 2 Day 13	3.1317	3.1607	3.1967	3.2327	3.2657	3.2827	3.2792	3.2557	3.2337	3.2162	3.2132	3.2212
Month 2 Day 14	3.0991	3.1291	3.1656	3.2006	3.2316	3.2476	3.2441	3.2221	3.2016	3.1856	3.1831	3.1911
Month 2 Day 15	3.1191	3.1466	3.1816	3.2151	3.2451	3.2611	3.2576	3.2376	3.2186	3.2036	3.2021	3.2106
Month 2 Day 16												
Month 2 Day 17												
Month 2 Day 18	3.0848	3.1128	3.1468	3.1798	3.2093	3.2248	3.2223	3.2028	3.1838	3.1693	3.1683	3.1773
Month 2 Day 19	3.1237	3.1502	3.1817	3.2122	3.2402	3.2552	3.2517	3.2317	3.2122	3.1972	3.1962	3.2052
Month 2 Day 20	3.1635	3.1913	3.2218	3.2513	3.2788	3.2933	3.2898	3.2698	3.2503	3.2353	3.2348	3.2443
Month 2 Day 21	3.3006	3.3274	3.3579	3.3869	3.4144	3.4304	3.4289	3.4124	3.3954	3.3824	3.3834	3.3939
Month 2 Day 22	3.1311	3.1593	3.1933	3.2243	3.2543	3.2733	3.2743	3.2623	3.2513	3.2458	3.2508	3.2623
Month 2 Day 23												
Month 2 Day 24												
Month 2 Day 25	3.1514	3.1790	3.2125	3.2430	3.2730	3.2925	3.2945	3.2825	3.2705	3.2675	3.2735	3.2850
Month 2 Day 26	3.2099	3.2344	3.2609	3.2884	3.3154	3.3329	3.3314	3.3154	3.2999	3.2944	3.2994	3.3094
Month 2 Day 27	3.2617	3.2815	3.3045	3.3295	3.3535	3.3690	3.3640	3.3475	3.3315	3.3260	3.3315	3.3410
Month 2 Day 28	3.1826	3.2021	3.2291	3.2581	3.2856	3.3036	3.3006	3.2851	3.2701	3.2651	3.2716	3.2816
Month 2 Day 29	3.1819	3.1919	3.2194	3.2479	3.2749	3.2924	3.2904	3.2744	3.2589	3.2534	3.2604	3.2709
Month 2 Day 30												
Month 2 Day 31												
AVERAGE (US\$/gal)	\$3.5239	\$3.5553	\$3.5898	\$3.6235	\$3.6522	\$3.6668	\$3.6553	\$3.6239	\$3.5934	\$3.5728	\$3.5697	\$3.5773



**Table 3**

	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AVERAGE (US\$/gal)	\$3.5239	\$3.5553	\$3.5898	\$3.6235	\$3.6522	\$3.6668	\$3.6553	\$3.6239	\$3.5934	\$3.5728	\$3.5697	\$3.5773
Average \$CAN/US	\$1.0333	\$1.0333	\$1.0333	\$1.0338	\$1.0338	\$1.0338	\$1.0340	\$1.0340	\$1.0340	\$1.0340	\$1.0340	\$1.0340
Average \$Can/gal	3.6412	3.6737	3.7093	3.746	3.7756	3.7907	3.7796	3.7471	3.7156	3.6943	3.6911	3.6989
Divide by 3.7854 =Can\$/litre	0.9619	0.9705	0.9799	0.9896	0.9974	1.0014	0.9985	0.9899	0.9816	0.9759	0.9751	0.9771
Add Market Spread from App. B												
SGSRO	1.1869	1.1955	1.2049	1.2146	1.2224	1.2264	1.2235	1.2149	1.2066	1.2009	1.2001	1.2021
SGSC	1.1669	1.1755	1.1849	1.1946	1.2024	1.2064	1.2035	1.1949	1.1866	1.1809	1.1801	1.1821
GS	1.1569	1.1655	1.1749	1.1846	1.1924	1.1964	1.1935	1.1849	1.1766	1.1709	1.1701	1.1721
CGS	1.1469	1.1555	1.1649	1.1746	1.1824	1.1864	1.1835	1.1749	1.1666	1.1609	1.1601	1.1621
LFO	1.1369	1.1455	1.1549	1.1646	1.1724	1.1764	1.1735	1.1649	1.1566	1.1509	1.1501	1.1521

**Table 4**

Calculate Weighted Average from Usage Profiles Below												Avg. price	
SGSRO	0.1886	0.1642	0.1543	0.0846	0.0513	0.0228	0.0170	0.0186	0.0317	0.0395	0.0765	0.1521	1.2031
	0.2238	0.1963	0.1859	0.1028	0.0627	0.0280	0.0208	0.0226	0.0382	0.0474	0.0918	0.1828	
SGSC	0.1814	0.1654	0.1625	0.0872	0.0481	0.0235	0.0203	0.0200	0.0279	0.0404	0.0837	0.1389	1.1811
	0.2117	0.1944	0.1925	0.1042	0.0578	0.0284	0.0244	0.0239	0.0331	0.0477	0.0988	0.1642	
GS	0.1568	0.1619	0.1538	0.0863	0.0531	0.0288	0.0240	0.0243	0.0284	0.0570	0.0928	0.1330	1.1728
	0.1814	0.1887	0.1807	0.1022	0.0633	0.0345	0.0286	0.0288	0.0334	0.0667	0.1086	0.1559	
CGS	0.1529	0.1484	0.1561	0.0900	0.0512	0.0321	0.0259	0.0267	0.0305	0.0609	0.0956	0.1298	1.1631
	0.1754	0.1715	0.1818	0.1057	0.0605	0.0381	0.0307	0.0314	0.0356	0.0707	0.1109	0.1508	
LFO	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	1.1578
	0.0947	0.0954	0.0962	0.0970	0.0977	0.0980	0.0978	0.0970	0.0963	0.0959	0.0958	0.0960	

Table 5

Month	Heating Usage		Water Heater Usage		Total Usage	Heater Cost	Total Electric Cost
	Usage Profile	kWh usage	Usage Profile	kWh usage			
Jan '09	19.10%	4,150	9.8%	472	4,622	\$7.34	\$410.3012
Feb '09	16.70%	3,628	9.2%	443	4,071	\$7.34	\$362.8050
Mar '09	17.30%	3,759	9.8%	472	4,231	\$7.34	\$376.5970
Apr '09	8.10%	1,760	9.7%	467	2,227	\$7.34	\$203.8522
May '09	5.60%	1,217	8.1%	390	1,607	\$7.34	\$150.4082
Jun '08	2.70%	587	7.0%	337	924	\$7.34	\$91.5336
Jul '08	0.00%	-	6.5%	313	313	\$7.34	\$37.2002
Aug '08	0.00%	-	6.4%	308	308	\$7.34	\$36.7232
Sep '08	3.20%	695	6.8%	327	1,022	\$7.34	\$99.9812
Oct '08	2.30%	500	7.8%	376	876	\$7.34	\$87.3960
Nov '08	10.80%	2,347	8.8%	424	2,771	\$7.34	\$250.7450
Dec '08	14.10%	3,064	10.1%	486	3,550	\$7.34	\$317.8948
	<b>100%</b>	<b>21,727</b>	<b>100.0%</b>	<b>4,816</b>	26,522		<b>\$2,425.4400</b>

Price for electricity	
First 1300 kWh	<b>\$0.0954</b>
Above 1300 kWh	<b>\$0.0862</b>
Estimated Heating Use	<b>21727</b>
Estimated Water Heater Use	<b>4816</b>
Estimated Plug and Light	<b>806</b>



Table 7

Price on Bill as Calculated by Regulation 2006-29	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
	\$ 11.73	\$ 11.73	\$ 11.73	\$ 11.73	\$ 11.73	\$ 11.73	\$ 11.73	\$ 11.73	\$ 11.73	\$ 11.37	\$ 11.37	\$ 11.37		
	Jan.	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
SGSRE usage profile	0.1690	0.1498	0.1557	0.0846	0.0619	0.0291	0.0235	0.0251	0.0304	0.0362	0.1034	0.1314	100%	
Weighted Average EUG	\$ 1.98	\$ 1.76	\$ 1.83	\$ 0.99	\$ 0.73	\$ 0.34	\$ 0.28	\$ 0.29	\$ 0.36	\$ 0.41	\$ 1.18	\$ 1.49	\$ 11.64	
SGSRO usage profile	0.1886	0.1642	0.1543	0.0846	0.0513	0.0228	0.0170	0.0186	0.0317	0.0395	0.0765	0.1521	100%	
Weighted Average EUG	\$ 2.21	\$ 1.93	\$ 1.81	\$ 0.99	\$ 0.60	\$ 0.27	\$ 0.20	\$ 0.22	\$ 0.37	\$ 0.45	\$ 0.87	\$ 1.73	\$ 11.65	
SGSC usage profile	0.1814	0.1654	0.1625	0.0872	0.0481	0.0235	0.0203	0.0200	0.0279	0.0404	0.0837	0.1389	100%	
Weighted Average EUG	\$ 2.13	\$ 1.94	\$ 1.91	\$ 1.02	\$ 0.56	\$ 0.28	\$ 0.24	\$ 0.23	\$ 0.33	\$ 0.46	\$ 0.95	\$ 1.58	\$ 11.63	
GS usage profile	0.1568	0.1619	0.1538	0.0863	0.0531	0.0288	0.0240	0.0243	0.0284	0.0570	0.0928	0.1330	100%	
Weighted Average EUG	\$ 1.84	\$ 1.90	\$ 1.80	\$ 1.01	\$ 0.62	\$ 0.34	\$ 0.28	\$ 0.29	\$ 0.33	\$ 0.65	\$ 1.06	\$ 1.51	\$ 11.63	
CGS usage profile	0.1529	0.1484	0.1561	0.0900	0.0512	0.0321	0.0259	0.0267	0.0305	0.0609	0.0956	0.1298	100%	
Weighted Average EUG	\$ 1.79	\$ 1.74	\$ 1.83	\$ 1.06	\$ 0.60	\$ 0.38	\$ 0.30	\$ 0.31	\$ 0.36	\$ 0.69	\$ 1.09	\$ 1.48	\$ 11.63	
EUG Price	\$ 11.65													





**Table 9**

Summary of Typical Annual Natural Consumption (GJs)

SGSRE	111
SGSRO	84
SGSC	223
GS	913
CGS	4,946
LFO	33,474
HFO	132,327

Table 10

	Units	Calculation	SGS RE	SGS RO	SGS C	GS	CGS	CLGS_LFO	HFO
1 Alternative Energy Price	CAN\$/l	Retail Oil Price	NA	\$1.2031	\$1.1811	\$1.1728	\$1.1631	\$1.1578	\$0.5855
2 Assumed Efficiency factor		Assigned	NA	0.7816	0.7816	0.8125	0.8125	1.0000	1.0000
3 Typical Annual Consumption	GJs	Line 10 / Line 2	NA	107	285	1,124	6,087	33,474	132,327
4 Conversion Factor	l/GJ	Assigned	NA	25.8532	25.8532	25.8532	25.8532	25.8532	23.9636
5 Typical Annual Consumption	in litres	Line 3 x Line 4		2,766.29	7,368.16	29,059.00	157,368.43	865,410.02	3,171,031.30
6 Total Alternative Energy Cost	\$/ year	Line 1 x Line 5	2,425.44	3,328.12	8,702.53	34,080.40	183,035.22	1,001,971.72	1,856,638.83
7 Target Savings level		Assigned	20%	20%	20%	15%	15%	10%	5%
8 Target Savings Amount		lne 6 x Line 7	\$485.09	\$665.62	\$1,740.51	\$5,112.06	\$27,455.28	\$100,197.17	\$92,831.94
9 Target Natural Gas Cost		Line 6 - Line 8	\$1,940.35	\$2,662.50	\$6,962.02	\$28,968.34	\$155,579.94	\$901,774.55	\$1,763,806.89
10 Typical Natural Gas Consumption	GJs/ year	Average	111	84	223	913	4,946	33,474	132,327
11 Target Burner Tip Price	\$/GJ	Line 9 / 10	17.4806	31.6964	31.2198	31.7287	31.4557	26.9396	13.3292
12 Commodity Cost	\$/GJ		11.6500	11.6500	11.6500	11.6500	11.6500	12.1786	12.1786
13 Target Distribution Rate	\$/GJ		5.8306	20.0464	19.5698	20.0787	19.8057	14.7610	1.1506
14 Target Annual Distribution Charge	\$	Line 13 x Line 10	\$647.20	\$1,683.90	\$4,364.07	\$18,331.85	\$97,958.99	\$494,109.71	\$152,255.45
15 Monthly Customer Charge	\$	Assigned	16	16	16	16			
16 Annual Customer Charge			192	192	192	192	0	0	
17 Average Contract Demand							46	275	865
18 Contract Demand Charge			0	0	0	0	\$5.20	\$5.20	\$3.90
19 Revenue from Demand Charge			0	0	0	0	\$2,870.40	\$17,160.00	\$40,482.00
20 Target Revenue From Dist. Charge		Line 14 - Lines 16/19	\$455.20	\$1,491.90	\$4,172.07	\$18,139.85	\$95,088.59	\$476,949.71	\$111,773.45
<b>Distribution Charge</b>		Line 20/Line 10	<b>\$4.1009</b>	<b>\$17.7607</b>	<b>\$18.7088</b>	<b>\$19.8684</b>	<b>\$19.2254</b>	<b>\$14.2484</b>	<b>\$0.8447</b>