Written Direct Testimony of David B. Charleson

Q 1: Please state your name and position.

A 1: My name is David Bryce Charleson. I am the General Manager of Enbridge Gas New Brunswick Inc., the general partner of Enbridge Gas New Brunswick Limited Partnership ("EGNB"). My Curriculum Vitae is attached as Exhibit A, Schedule 1.

Q 2: What is the purpose of this pre-filed evidence?

A 2: In its April 9, 2008 decision on an application by EGNB for approval of rates for the Small General Service Residential Oil ("SGSRO"), Small General Service Commercial ("SGSC"), General Service ("GS"), Contract General Service ("CGS"), Off Peak Service ("OPS"), Contract Large Volume Off Peak Service ("CLVOPS") and Natural Gas Vehicle Fueling ("NGVF") rate classes the Board indicated that:

> "This has been the first time that the details associated with the various elements of the formula have been discussed at a public hearing. The results of this discussion have made it clear to the Board that there are a number of elements of the formula that require the exercise of judgement and that the choices made can have a significant impact on the distribution rates." (p. 3)

and

> "The Board continues to believe that the use of market-based rates is appropriate during the development period. However, the specific elements of the formula used to develop the market-based rates need to be carefully examined." (p. 4)

As a result of this finding, the Board directed Board staff to convene a meeting with EGNB and other interested parties for the purpose of establishing a process in which the details of the market-based formula (the "Formula") can be examined. This process was to allow recommendations concerning the Formula to

be put before the Board prior to the next application for an increase in the maximum rates that may be charged by EGNB. The Board made a similar finding in its April 9, 2008 decision on an application by EGNB for approval of rates for the Contract Large General Service Light Fuel Oil ("LFO") rate class. EGNB participated in several Board staff facilitated sessions between April and November 2008 in an effort to reach consensus with interested parties on the elements of the Formula.

In November, the parties determined that a consensus on the Formula could not be reached. On December 16, 2008, the Board issued a Notice indicating that it would "hold a public hearing to examine all of the elements in the market-based formula used by Enbridge Gas New Brunswick ("Enbridge") to derive the rates charged to customers." This evidence presents EGNB's proposal regarding the Formula and information supporting the proposed derivation.

Q 3: Are there any overall guidelines that EGNB believes should form part of the basis for calculating the delivery rates?

A 3: Yes. To allow for consistent replication of the Formula calculation, all numbers should be rounded to four decimals, unless specified otherwise.

EGNB also believes that the Formula should only be used to determine the first block of the LFO delivery rates. This block is designed to provide typical customers in this class with the opportunity to achieve target savings, while the second and third block were established to recognize the buying power that larger LFO customers would have. EGNB does not believe that the second and third block delivery charges should be addressed through the Formula.

Q 4: On what basis does EGNB believe that retail oil prices should be determined?

A 4: For SGSRO, SGSC, GS, CGS and LFO rates, future prices for No. 2 oil traded on the New York Harbour Market for each of the 12 months of the test year will be collected for two calendar months.

For each of the 12 months, the two months of data will be averaged resulting in 12 futures prices in US dollars per US gallon.

Quarterly futures 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 price for each quarter.

The No. 2 oil prices will be converted to Canadian dollars/litre by using the appropriate quarterly foreign exchange average for the corresponding month and then converting to litres by dividing by 3.785 litres/gallon.

The "market spread" in CDN¢/litre for each class will be added to each month's price to arrive at a NB market price for each class. The appropriate market spreads are listed below:

	(Cdn¢/L)
SGSRO	22.5
SGSC	20.5
GS	19.5
CGS	18.5
LFO	17.5

A weighted average will be created using the usage profile below:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SGSRO	19%	16%	15%	8%	5%	2%	2%	2%	3%	4%	8%	15%
SGSC	18%	17%	16%	9%	5%	2%	2%	2%	3%	4%	8%	14%
GS	16%	16%	15%	9%	5%	3%	2%	2%	3%	6%	9%	13%
CGS	15%	15%	16%	9%	5%	3%	3%	3%	3%	6%	10%	13%
LFO	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%

The resulting weighted average is inserted in Line 1 of the Derivation Table - Oil found at Exhibit A, Schedule 2; the Alternative Energy Price.

Q 5: Why is No. 2 oil used as the basis for determining retail oil prices?

A 5: EGNB engaged MJ Ervin & Associates ("MJ Ervin"), a well respected organization with regards to retail oil pricing in Canada, to conduct a study to assist in the determination of retail heating oil prices in New Brunswick. The MJ Ervin report discusses the relationship between West Texas Intermediate Crude at Cushing ("WTI"), No. 2 New York Harbour ("NYH") and New Brunswick retail prices and concludes that "the spread between the average retail price and the NYH No. 2 oil spot price is relatively stable" (p. 6). As a result of this relationship the report recommends that "No.2 Oil futures (for furnace/LFO) as the basis for the application of our proposed price spread" (p. 12). A copy of this report can be found at Exhibit A, Schedule 3 (the "MJ Ervin Report").

Q 6: Why is EGNB proposing that 12 months of future information be used?

A 6: The Formula assesses total fuel consumption on an annual basis so that fluctuations in demand over the course of the year do not require frequent changes to delivery rates. Since 12 months of consumption data forms the basis for determining rates, EGNB believes it is appropriate that the commodity price forecast to be used matches the 12 month period that the formula is applicable to.

Q 7: Why does EGNB propose that two calendar months of data be collected?

A 7: In the hearings arising from EGNB's 2008 rates applications, the Board heard testimony from various parties regarding the appropriate period of time that data should be collected for the purpose of establishing rates. Based on the evidence, the Board ruled that two months of data be used for establishing the 2008 rates.

EGNB believes that the testimony put before the Board in those proceedings is still relevant.

EGNB is proposing that two calendar months of data be used so that there is no question regarding an arbitrary date being selected within a month for collecting data.

Q 8: What is the basis for determining the market spreads?

A 8: The market spreads proposed are based on the findings of MJ Ervin, as seen on page 12 of the MJ Ervin Report.

Q 9: What is the basis for determining the usage profile to create the weighted average?

A 9: The usage profile has been created based on the actual 2008 consumption of the SGSRO, SGSC, GS and CGS customers used to determine the Typical Annual Natural Gas Consumption used in Line 10 of the Derivation Table - Oil. This usage profile would be updated for each rate application to reflect the previous 12 month consumption of these customers. No usage profile is being applied to the LFO and HFO customers as these larger customer loads have a lower degree of temperature sensitivity.

Q 10: On what basis does EGNB believe that retail oil prices for the Contract Large General Service Heavy Fuel Oil ("HFO") rate should be determined?

A 10: EGNB believes that retail oil prices for the HFO rate should be determined in the manner recommended by the MJ Ervin Report.

Futures prices for WTI will be collected for the same two calendar months as for other market data. The average future price for each month will then be

calculated and multiplied by 0.62 (62%) to arrive at the HFO retail oil price in US$/barrel.

The US$/barrel price will then be converted to CDN$ using the corresponding foreign exchange and then converted to litres by dividing by 42 gallons/barrel and 3.785 litres/gallon.

A simple average of these monthly prices will be calculated and inserted in the Derivation Table - Oil in Line 1.

Q 11: How will EGNB determine the Typical Annual Consumption (Line 3 and Line 5) of oil for the various rate classes?

A 11: The Typical Annual Consumption is first calculated to the nearest gigajoule ("GJ") (Line 3) by taking the Typical Annual Natural Gas Consumption (Line 10) and dividing it by the efficiency factors listed below:

SGSRO	SGSC	GS	CGS	LFO	HFO
0.7816	0.7816	0.8125	0.8125	1	1

The Typical Annual Consumption will then be converted from GJs to litres by multiplying by 25.853 litres/GJ. In the case of the HFO class, the conversion factor will be 23.963 litres/GJ. The resulting figure will be inserted in Line 5 of the Derivation Table - Oil.

Q 12: What is the basis for the use of the efficiency factors proposed?

A 12: The typical efficiency of oil equipment within the New Brunswick market used in all rate classes, excluding LFO and HFO, is typically lower than the efficiency of the natural gas equipment being installed. As a result, more oil will historically

have been required to achieve the same level of heating provided by the new natural gas appliance.

EGNB proposes the continued use of the following blended efficiencies in setting the relationship between input energy requirements and typical equipment energy output. They are based on different possible equipment types and combinations relevant to a class. Understandably, the actual efficiency of gas and alternative equipment will vary by customer and will impact actual savings realized.

Rate Class	**Natural Gas**	**Oil**
SGSRO, SGSC	87%	68%
GS, CGS	80%	65%

These efficiencies are then used to arrive at the factors shown above by taking the oil efficiency as a percentage of the natural gas efficiency (e.g. 68% / 87% = 0.7816).

Q 13: What is the basis for the gigajoules to litres conversion factors and why does it differ for HFO?

A 13: The conversion factors are based on a table of conversion factors found on the Natural Resources Canada ("NRCan") web site. HFO will have a lower conversion factor as HFO has a higher heating value than fuel oil, meaning that fewer litres are required to generate the same amount of energy.

Q 14: How is the Total Alternative Energy Cost (Line 6) calculated?

A 14: For all rates excluding Small General Service Residential Electric ("SGSRE"), this is calculated by multiplying the Alternative Energy Price (Line 1) by the Typical Annual Consumption (Line 5).

Q 15: Why is the same approach not used for the SGSRE rate class?

A 15: The SGSRE rate class is designed to provide target savings to typical residential customers that have converted from electricity. As a result, it is necessary to use an approach that is appropriate to determine the retail electricity costs that would be incurred by these customers.

Q 16: On what basis does EGNB believe that retail electricity costs should be determined?

A 16: EGNB believes that NB Power's residential electricity rates and water heater rental charges are the most appropriate starting point for determining retail electricity costs. The approved cost of a 60 gallon water heater rental should be used to determine water heater rental costs. For electricity rates, currently approved NB Power pricing and any forecast increases in NB Power rates should be used in the applicable months. These rates must then be applied to the typical energy consumption within a home.

The estimated annual energy use is 21,727 kWh for heating and 4,816 kWh for water heating. This consumption is over and above base lighting and other plug loads within a home, which is estimated to be 848 kWh per month.

Using the monthly usage profile below, annual electric use will be divided to monthly usage and the monthly electricity costs will be calculated using the appropriate first and second block rates, assuming that base lighting and other plug loads within a home are consumed within the first block rate. The monthly rates will be added to arrive at a weighted total annual electricity cost. The 12 month water heater rental cost is added to this number and entered in the Derivation Table – Electricity in Exhibit A, Schedule 2 as the Total Alternative Energy Cost (Line 6) for the SGSRE rate.

Heating use

Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
17.4%	19.4%	14.4%	10.4%	6.4%	3.4%	0.0%	0.0%	3.4%	5.4%	7.4%	12.4%

Water Heater Use:

Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
9.8%	9.2%	9.8%	9.7%	8.1%	7.0%	6.5%	6.4%	6.8%	7.8%	8.8%	10.1%

Q 17: Why does EGNB include a water heater rental cost for SGSRE customers?

A 17: EGNB's rates are designed to provide target savings to a typical residential heat and hot water customer. Since most existing electric heating customers rent their water heater, their electric bill will be reduced by the cost of the water heater rental after converting to gas. As a result, this cost needs to be factored into the total electricity costs prior to determining the savings to be achieved. Not doing so would provide greater than target savings to these customers, adding unnecessarily to EGNB's deferral account.

Q 18: What is the basis for the estimated annual energy use and usage profile for SGSRE customers?

A 18: EGNB has determined the energy use and usage profile for heating and water heating by using the typical SGSRE gas consumption profile of 111 GJ/yr for heat and hot water. The profile for a typical hot water heating load was then deducted based on information collected by the Load Research group within Enbridge Gas Distribution ("EGD") to provide a profile of the typical heating load and typical water heater load.

The EGD Load Research group collects data at an appliance level within residences for the purpose of monitoring load patterns throughout the different communities served by EGD. For comparability purposes, data collected in the Ottawa market was used as it was considered to have temperature patterns that were most consistent with the New Brunswick market.

Q 19: Given that EGNB has a number of customers that reside within Saint John and Saint John Energy has different residential electricity rates than NB Power, is there a reason why Saint John Energy pricing is not factored into the electricity pricing?

A 19: Given that residential customers in Saint John represented only 11% of EGNB's residential electric customers at the end of 2008, there are several reasons why Saint John Energy pricing is not factored into the electricity pricing:

- One of the objectives of reviewing the Formula is to improve the transparency of the Formula. The inclusion of Saint John Energy pricing would have to be done on a weighted basis to reflect the total distribution of EGNB customers and the electricity rates paid by them. A third party would need another piece of information (the percentage of Saint John residential customers) to try to replicate the Formula calculation.

- By moving to a weighted average of the NB Power and Saint John Energy prices, it increases the complexity of the Formula with limited impact and to address a small percentage of the customer base.

- The retail alternative energy price used in the Formula is meant to be reflective of the cost incurred by "typical" customers, not all customers. Since nearly 90% of the SGSRE customers are subject to NB Power rates, the NB Power rates would be a typical cost incurred across the entire distribution system.

- The use of NB Power rates has not impacted the ability of EGNB to convert residential electric customers in Saint John. Saint John currently has the second highest percentage of residential customers that have converted from electricity out of the nine communities that EGNB serves.

Q 20: What is the basis for the Target Savings Levels (Line 7)?

A 20: EGNB is proposing that the Board approved savings levels continue to be used. These savings levels have been approved by the Board based on the evidence presented in prior rate cases that the savings level struck a balance between providing sufficient incentive to convert to natural gas and recovering as much of EGNB's costs as possible during the development period. EGNB believes that the current savings levels will continue to provide a sufficient incentive for customers to convert to and continue to use natural gas, while also minimizing additions to the deferral account.

Q 21: Can you describe how the Target Savings Amount (Line 8) and Target Natural Gas Cost (Line 9) are determined?

A 21: The Target Savings Amount (Line 8) is calculated by multiplying the Total Alternative Energy Cost (Line 6) by the Target Savings Level (Line 7). The Target Natural Gas Cost (Line 9) is then determined by subtracting the Target Savings Amount (Line 8) from the Total Alternative Energy Cost (Line 6).

Q 22: How will EGNB determine the Typical Annual Natural Gas Consumption to be used in Line 10 of the Derivation Tables?

A 22: The typical natural gas consumption will be calculated (to the nearest unit) by using the consumer data from the previous 12 months. Only customers who have been attached to the system for 12 months or more and have consumption that qualifies them for the rate class will be included in the calculation.

In the case of SGSRO, SGSRE and SGSC classes, only customers having an annual consumption of more than 45 GJ/year will be included. Since the rates are established to provide target savings to customers using natural gas for heating and hot water it is necessary to exclude customers that are not using natural gas

for these purposes. EGNB believes that a minimum of 45 GJ/year is required for even the smallest residence to provide heat and hot water.

In the case of the LFO class, only customers who have consumption below 400,000 GJ/year will be included in the calculation.

Q 23: Is the Target Burner Tip Price (Line 11) determined by dividing the Target Natural Gas Cost (Line 9) by the Typical Annual Natural Gas Consumption (Line 10)?

A 23: Yes.

Q 24: How is the Commodity Cost (Line 12) determined?

A 24: For the SGSRE, SGSRO, SGSC, GS and CGS rates, the 12 month forward expected Enbridge Utility Gas ("EUG") price is used. For the LFO and HFO rates, the 12 month forward projection for the Enbridge Variable Product ("EVP") is used.

Q 25: On what basis will EGNB determine the EUG price?

A 25: EGNB proposes that the manner in which the EUG price is determined remain unchanged from the manner in which it has been done since the introduction of EUG in 2003. Natural gas futures prices for Henry Hub will be collected from the NYMEX market for each of the months of the test year. The future prices will be collected for the same two calendar months as other market data.

EGNB will use this market data to develop "commodity costs". The factors included in developing the commodity costs include forecast EUG consumption, supply contract parameters, fuel ratios, hedging costs, load balancing activities,

department administration costs and recovery of the Purchased Gas Variance Account (PGVA).

In an application, EGNB will submit these forecasts and estimates supporting these calculations to the Board in confidence for independent verification.

Q 26: How will the EUG price information be used in the rate derivation?

A 26: A weighted average will be calculated using the usage profiles for SGSRO, SGSC, GS and CGS listed above and the similar usage profile for SGSRE based on the SGSRE customers included in the determination of the Typical Annual Natural Gas Consumption (Line 10). The highest weighted average EUG price will be used for the SGSRE, SGSRO, SGSC, GS and CGS classes and inserted in the Derivation Tables on Line 12.

Q 27: How will EGNB determine the EVP price?

A 27: Using the market data collected for the EUG price calculation, an average futures price in US$/mmbtu for each of the months in the test year will be calculated. The market spread then in effect for the EVP product will be added to each month's average to arrive at a retail price for New Brunswick. This market spread is currently set by EGNB at US$2.25/mmbtu, to recover the supply and administrative costs associated with providing EVP.

EGNB will make the determination of the market spread available to the Board in confidence for independent verification.

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.

As with retail oil prices, a simple monthly average of the prices will be calculated, with the result being inserted in the Derivation Table - Oil on Line 12 for the LFO and HFO class.

Q 28: What are the reasons for using the EUG and EVP prices in the various classes?

A 28: EGNB believes that it is appropriate to use EUG and EVP prices as they are both publicly available in the marketplace and are representative of the type of pricing that customers within the rate classes are able obtain.

In the case of the SGSRE, SGSRO, SGSC, GS and CGS rate classes, 70% of customers in these rate classes are currently purchasing EUG. The following table presents the percentage of natural gas customers by rate class who have chosen EUG for their gas supply:

Rate Class	EUG	EVP	Others
SGSRE	72%	0%	28%
SGSRO	85%	0%	15%
SGSC	54%	0%	46%
GS	36%	0%	64%
CGS	24%	1%	75%
LFO	0%	25%	75%
HFO	0%	14%	86%
Total	**70%**	**0%**	**30%**

Though EUG serves fewer customers in the GS and CGS rate classes, EGNB believes the use of EUG is appropriate because of its price transparency.

EVP was introduced as an alternative commodity product by EGNB in April 2007. EGNB began using it for LFO and HFO customers in assessing and establishing its 2008 rates. EVP provides the necessary price transparency for establishing these delivery rates. Given that EVP is used more by LFO and HFO customers than EUG, the EVP product is more reflective of the type of gas purchased by this class of customer.

Additionally, EGNB believes that larger customers with greater purchasing power are able to contract for natural gas at more favourable pricing than what EUG and EVP provide, resulting in additional savings.

It is important to note that EGNB's objective in choosing EUG and EVP is to provide a reasonable approximation of what typical customers will pay for the provision of commodity. Each supplier will take into account its own value proposition objectives and related cost structures when establishing its prices.

Q 29: Is the Target Distribution Rate (Line 13) determined by subtracting the Commodity Cost (Line 12) from the Target Burner Tip Price (Line 11)?

A 29: Yes.

Q 30: Please describe how the final Distribution Delivery Charge (Line 21) is derived from the Target Distribution Rate (Line 13).

A 30: A Target Annual Distribution Charge (Line 14) is first calculated by multiplying the Target Distribution Rate (Line 13) by the Typical Annual Natural Gas Consumption (Line 10). The Annual Customer Charge (Line 16) or Revenue from Demand Charge (Line 19) is then subtracted from this amount. The resulting Target Revenue from Delivery Charge (Line 20) is then divided by the Typical Annual Natural Gas Consumption (Line 10) to arrive at the Distribution Delivery Charge (Line 21).

The Annual Customer Charge (Line 16) is applicable to all SGSRE, SGSRO, SGSC and GS customers. It is determined by multiplying the Board approved Monthly Customer Charge (Line 15) by 12 months. EGNB believes that the current customer charges continue to be appropriate under market-based rates.

The Revenue from Demand Charge (Line 19) is applicable to all CGS, LFO and HFO customers. It is determined by multiplying the Average Contract Demand (Line 17) by the Board approved Contract Demand Charge (Line 18) and then multiplying this result by 12 months. Similar to the Monthly Customer Charge (Line 15), EGNB believes the current Contract Demand Charge (Line 18) continues to be appropriate under market-based rates.

Q 31: How is the Average Contract Demand (Line 17) determined?

A 31: This is determined by taking the simple average of the individual Contract Demands (calculated to the nearest unit) of the customers in each rate class used to determine the Typical Annual Natural Gas Consumption (Line 10).

Q 32: How are the CLVOPS, OPS and NGVF rates to be determined?

A 32: EGNB proposes that Board approved method for determining these rates continue to be applied. The OPS and CLVOPS rates are set at 75% of the GS and CGS rates, respectively. The NGVF rate is set at the same level as the GS rate.

Q 33: Is the same Formula to be used for Rate Rider applications?

A 33: Yes, with one exception. EGNB proposes that the sample data period to be used for a Rate Rider application should continue to be the 21 trading days (one month of data) leading up to the preparation of the application, instead of the two calendar months to be used in an application to increase the maximum rate.

*** I have no further questions.

Schedule 1

Curriculum Vitae of Dave Charleson

CURRICULUM VITAE

David B. Charleson

EDUCATION

1998	Executive Program, Queen's University
1988	Honours Bachelor of Math (Math and Business), University of Waterloo

BUSINESS EXPERIENCE

2007– Present Enbridge Gas New Brunswick, Fredericton, New Brunswick

2007 – Present	General Manager
	Responsible for providing overall strategic and policy direction for EGNB and for overseeing its ongoing development and operations.

1988 - 2007 Enbridge Gas Distribution Inc., North York, Ontario

2004 - 2007	Director, Energy Policy and Analysis
	Responsible for development and execution of short and long term strategies regarding gas supply planning, gas acquisition, and gas supply risk management.
2003 – 2004	Manager, Energy Strategy
	Responsible for the development of a Company strategy related to upstream transportation, storage, and commodity.
2001 - 2003	Manager, Strategic & Key Accounts
	Responsible for the effective management of relationships with large volume customers, Agents, Brokers, and Marketers.
2000 - 2001	Manager, IT Strategy & Support
	Responsible for ensuring the appropriate execution and delivery of IT services for the organization from a service provider.

1997 - 2000	Manager, Accounting Systems Responsible for the effective operations of the Accounts Payable, Inventory Accounting, Payroll and Plant Systems departments.
1996 - 1997	Manager, Volume and O&M Budgets Responsible for the management of the day-to-day operation of the Volumetric and Operating and Maintenance sections of the Budget department, including the production and defence of all relevant budgets and background materials.
1991 - 1996	Information Technology Supervisor, Information Services Responsible for leading a team of 20 IS, contract, and business professionals in the development, implementation, and support of the organizations general ledger and budget preparation system.
1988 – 1991	Information Services, Positions of Progressive Responsibility

REGULATORY EXPERIENCE

New Brunswick Energy and Utilities Board	Appeared as a witness in four regulatory proceedings representing Enbridge Gas New Brunswick on matters related to rate setting, financial review and NB Power rates.
Ontario Energy Board	Appeared as a witness in numerous regulatory proceedings, representing Enbridge Gas Distribution on matters including Volumetric and O&M Budgets, Utility Unbundling, Performance Based Rates, Business systems, Gas / Electric Industry Interfaces, and Gas Supply related matters.
National Energy Board	Appeared as a witness representing Enbridge Gas Distribution's interests in 2 TransCanada Pipelines service design proceedings.

OTHER EXPERIENCE

2005 – 2007	Director, Newmarket Hydro Limited, Newmarket, Ontario
2006 – 2007	Independent Electricity System Operator (IESO) Technical Panel, Natural Gas Sector Representative, Toronto, Ontario

Schedule 2

Derivation Tables

Derivation Table - Oil

		Units	Calculation	SGSRO	SGSC	GS	CGS	CLGS_LFO	HFO
1	**Alternative Energy Price**	CAN$/l	Retail Oil Price	$0.7767	$0.7639	$0.7555	$0.7536	$0.7396	$0.2700
2	**Assumed Efficiency factor**		Assigned	78.16%	78.16%	81.25%	81.25%	100%	100%
3	**Typical Annual Consumption**	GJs/year	Line 10 / Line 2	107	285	1,124	6,087	33,474	132,327
4	**Conversion Factor**	l/GJ	Assigned	25.853	25.853	25.853	25.853	25.853	23.963
5	**Typical Annual Consumption**	in litres	Line 3 x Line 4	2,766.27	7,368.11	29,058.77	157,367.21	865,403.32	3,170,951.90
6	**Total Alternative Energy Cost**	$/ year	Line 1 x Line 5	$2,148.69	$5,628.63	$21,953.99	$118,592.13	$640,031.88	$856,157.01
7	**Target Savings Level**	%	Assigned	20%	20%	15%	15%	10%	5%
8	**Target Savings Amount**	$	Line 6 x Line 7	$429.74	$1,125.73	$3,293.10	$17,788.82	$64,003.19	$42,807.85
9	**Target Natural Gas Cost**	$	Line 6 - Line 8	$1,718.95	$4,502.90	$18,660.89	$100,803.31	$576,028.69	$813,349.16
10	**Typical Annual Natural Gas Consumption**	GJs/ year	Typical Customer	84	223	913	4,946	33,474	132,327
11	**Target Burner Tip Price**	$/GJ	Line 9 / 10	$20.4637	$20.1924	$20.4391	$20.3808	$17.2082	$6.1465
12	**Commodity Cost**	$/GJ	EUG or EVP price	$11.7998	$11.7998	$11.7998	$11.7998	$10.3412	$10.3412
13	**Target Distribution Rate**	$/GJ	Line 11 - Line 13	$8.6639	$8.3926	$8.6393	$8.5810	$6.8670	-$4.1947
14	**Target Annual Distribution Charge**	$	Line 13 x Line 10	$727.77	$1,871.55	$7,887.68	$42,441.63	$229,866.79	-$555,068.76
15	**Monthly Customer Charge**	$	Assigned	$16.00	$16.00	$16.00			
16	**Annual Customer Charge**	$	Line 15 * 12	$192.00	$192.00	$192.00	0	0	
17	**Average Contract Demand**	GJs	Average				46	275	865
18	**Contract Demand Charge**	$	Assigned	0	0	0	$5.20	$5.20	$3.90
19	**Revenue from Demand Charge**	$	Line 17 * Line 18 * 12	0	0	0	$2,870.40	$17,160.00	$40,482.00
20	**Target Revenue From Delivery Charge**	$	Line 14 - Lines 16 or 19	$535.77	$1,679.55	$7,695.68	$39,571.23	$212,706.79	-$595,550.76
21	**Distribution Delivery Charge**	$/GJ	Line 20/Line 10	$6.3782	$7.5316	$8.4290	$8.0007	$6.3544	-$4.5006

* Table shows potential rates for calendar 2009 based on the application of the Formula using market information from November and December 2008. Natural gas consumption and contract demand amounts are based on 2008 billing data.

Alternative Energy Price – SGSRO, SGSC, GS, CGS, LFO

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09
3-Nov-08	2.0143	2.0378	2.0503	2.0508	2.0548	2.0633	2.0823	2.1053	2.1293	2.1538	2.1733	2.1923
4-Nov-08	2.1916	2.2141	2.2261	2.2261	2.2301	2.2381	2.2571	2.2806	2.3051	2.3306	2.3506	2.3706
5-Nov-08	2.0846	2.1076	2.1211	2.1216	2.1261	2.1346	2.1536	2.1761	2.1996	2.2256	2.2461	2.2661
6-Nov-08	1.9706	1.9931	2.0071	2.0081	2.0136	2.0236	2.0426	2.0651	2.0881	2.1151	2.1356	2.1576
7-Nov-08	2.0064	2.0259	2.0404	2.0404	2.0444	2.0534	2.0724	2.0949	2.1174	2.1454	2.1674	2.1904
10-Nov-08	1.9807	2.0002	2.0140	2.0125	2.0155	2.0235	2.0410	2.0627	2.0847	2.1130	2.1362	2.1605
11-Nov-08	1.9550	1.9745	1.9875	1.9845	1.9865	1.9935	2.0095	2.0305	2.0520	2.0805	2.1050	2.1305
12-Nov-08	1.8609	1.8819	1.8949	1.8899	1.8944	1.9044	1.9219	1.9419	1.9634	1.9919	2.0174	2.0434
13-Nov-08	1.8985	1.9205	1.9330	1.9280	1.9325	1.9430	1.9600	1.9800	2.0030	2.0320	2.0590	2.0865
14-Nov-08	1.8590	1.8805	1.8920	1.8880	1.8935	1.9045	1.9205	1.9395	1.9640	1.9950	2.0245	2.0540
17-Nov-08	1.8090	1.8275	1.8360	1.8310	1.8370	1.8485	1.8640	1.8840	1.9100	1.9410	1.9705	2.0000
18-Nov-08	1.7749	1.7944	1.8049	1.8034	1.8099	1.8214	1.8379	1.8594	1.8864	1.9184	1.9489	1.9789
19-Nov-08	1.7737	1.7912	1.8017	1.8012	1.8082	1.8202	1.8372	1.8602	1.8882	1.9207	1.9512	1.9802
20-Nov-08	1.6865	1.7025	1.7130	1.7135	1.7205	1.7330	1.7510	1.7765	1.8050	1.8370	1.8670	1.8955
21-Nov-08	1.7086	1.7241	1.7346	1.7336	1.7406	1.7531	1.7726	1.7976	1.8256	1.8576	1.8876	1.9161
24-Nov-08	1.7961	1.8136	1.8246	1.8231	1.8296	1.8416	1.8596	1.8861	1.9156	1.9476	1.9776	2.0061
25-Nov-08	1.7069	1.7264	1.7399	1.7404	1.7479	1.7599	1.7799	1.8079	1.8384	1.8709	1.9014	1.9299
26-Nov-08	1.7616	1.7861	1.8031	1.8066	1.8151	1.8266	1.8456	1.8731	1.9036	1.9361	1.9666	1.9951
27-Nov-08	1.7616	1.7861	1.8031	1.8066	1.8151	1.8266	1.8456	1.8731	1.9036	1.9361	1.9666	1.9951
28-Nov-08	1.7271	1.7526	1.7706	1.7761	1.7856	1.7981	1.8166	1.8441	1.8746	1.9071	1.9376	1.9661
1-Dec-08	1.6151	1.6421	1.6636	1.6736	1.6881	1.7031	1.7241	1.7541	1.7876	1.8221	1.8536	1.8826
2-Dec-08	1.5832	1.6092	1.6327	1.6457	1.6622	1.6787	1.6992	1.7277	1.7612	1.7962	1.8287	1.8582
3-Dec-08	1.5840	1.6080	1.6265	1.6395	1.6560	1.6745	1.6955	1.7240	1.7575	1.7915	1.8240	1.8535
4-Dec-08	1.5091	1.5346	1.5576	1.5726	1.5886	1.6076	1.6301	1.6581	1.6911	1.7261	1.7601	1.7901
5-Dec-08	1.4265	1.4578	1.4863	1.5038	1.5213	1.5408	1.5633	1.5903	1.6233	1.6568	1.6898	1.7183
8-Dec-08	1.4904	1.5216	1.5541	1.5746	1.5946	1.6146	1.6366	1.6606	1.6921	1.7246	1.7566	1.7836
9-Dec-08	1.4369	1.4679	1.5019	1.5239	1.5459	1.5674	1.5904	1.6139	1.6444	1.6754	1.7064	1.7334
10-Dec-08	1.4027	1.4357	1.4712	1.4942	1.5177	1.5412	1.5657	1.5907	1.6187	1.6467	1.6747	1.6987
11-Dec-08	1.5066	1.5396	1.5771	1.6006	1.6236	1.6461	1.6706	1.6961	1.7231	1.7491	1.7746	1.7976
12-Dec-08	1.4934	1.5194	1.5549	1.5784	1.6014	1.6249	1.6499	1.6769	1.7059	1.7324	1.7579	1.7814
15-Dec-08	1.4601	1.4871	1.5191	1.5416	1.5641	1.5871	1.6126	1.6401	1.6691	1.6961	1.7221	1.7456
16-Dec-08	1.4603	1.4833	1.5098	1.5293	1.5488	1.5718	1.5968	1.6228	1.6493	1.6768	1.7033	1.7273
17-Dec-08	1.4425	1.4650	1.4880	1.5040	1.5200	1.5415	1.5665	1.5955	1.6250	1.6525	1.6795	1.7035
18-Dec-08	1.3729	1.3955	1.4180	1.4330	1.4500	1.4705	1.4960	1.5265	1.5575	1.5840	1.6100	1.6335
19-Dec-08	1.3920	1.4164	1.4419	1.4614	1.4814	1.5054	1.5354	1.5684	1.6009	1.6274	1.6534	1.6769
22-Dec-08	1.3415	1.3619	1.3844	1.4024	1.4219	1.4464	1.4769	1.5109	1.5444	1.5719	1.5989	1.6239
23-Dec-08	1.3270	1.3452	1.3667	1.3837	1.4022	1.4262	1.4562	1.4902	1.5232	1.5502	1.5767	1.6022
24-Dec-08	1.2860	1.3066	1.3309	1.3481	1.3671	1.3906	1.4209	1.4544	1.4871	1.5139	1.5401	1.5659
26-Dec-08	1.2450	1.2680	1.2950	1.3125	1.3320	1.3550	1.3855	1.4185	1.4510	1.4775	1.5035	1.5295
29-Dec-08	1.2853	1.3088	1.3383	1.3568	1.3773	1.4008	1.4313	1.4638	1.4963	1.5223	1.5478	1.5733
30-Dec-08	1.2880	1.3061	1.3361	1.3561	1.3761	1.3991	1.4296	1.4626	1.4961	1.5221	1.5481	1.5736
31-Dec-08	1.4057	1.4421	1.4676	1.4896	1.5116	1.5341	1.5636	1.5961	1.6291	1.6551	1.6811	1.7071
AVERAGE	$1.6353	$1.6586	$1.6790	$1.6884	$1.7013	$1.7176	$1.7397	$1.7662	$1.7950	$1.8244	$1.8519	$1.8780
CAN$/litre	$0.5322	$0.5397	$0.5440	$0.5471	$0.5512	$0.5558	$0.5630	$0.5715	$0.5799	$0.5894	$0.5983	$0.6064
Market Spreads (Can$/litre)												
SGSRO	$0.2250	$0.2250	$0.2250	$0.2250	$0.2250	$0.2250	$0.2250	$0.2250	$0.2250	$0.2250	$0.2250	$0.2250
SGSC	$0.2050	$0.2050	$0.2050	$0.2050	$0.2050	$0.2050	$0.2050	$0.2050	$0.2050	$0.2050	$0.2050	$0.2050
GS	$0.1950	$0.1950	$0.1950	$0.1950	$0.1950	$0.1950	$0.1950	$0.1950	$0.1950	$0.1950	$0.1950	$0.1950
CGS	$0.1850	$0.1850	$0.1850	$0.1850	$0.1850	$0.1850	$0.1850	$0.1850	$0.1850	$0.1850	$0.1850	$0.1850
LFO	$0.1750	$0.1750	$0.1750	$0.1750	$0.1750	$0.1750	$0.1750	$0.1750	$0.1750	$0.1750	$0.1750	$0.1750
Monthly Price (Can$/litre)												
SGSRO	$0.7572	$0.7647	$0.7690	$0.7721	$0.7762	$0.7808	$0.7880	$0.7965	$0.8049	$0.8144	$0.8233	$0.8314
SGSC	$0.7372	$0.7447	$0.7490	$0.7521	$0.7562	$0.7608	$0.7680	$0.7765	$0.7849	$0.7944	$0.8033	$0.8114
GS	$0.7272	$0.7347	$0.7390	$0.7421	$0.7462	$0.7508	$0.7580	$0.7665	$0.7749	$0.7844	$0.7933	$0.8014
CGS	$0.7172	$0.7247	$0.7290	$0.7321	$0.7362	$0.7408	$0.7480	$0.7565	$0.7649	$0.7744	$0.7833	$0.7914
LFO	$0.7072	$0.7147	$0.7190	$0.7221	$0.7262	$0.7308	$0.7380	$0.7465	$0.7549	$0.7644	$0.7733	$0.7814
Usage Profile & Weighted Average												
SGSRO	19%	16%	15%	8%	5%	2%	2%	2%	3%	4%	8%	15%	
	$ 0.14	$ 0.12	$ 0.12	$ 0.06	$ 0.04	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ 0.03	$ 0.07	$ 0.12	$ 0.7767
SGSC	18%	17%	16%	9%	5%	2%	2%	2%	3%	4%	8%	14%	
	$ 0.13	$ 0.13	$ 0.12	$ 0.07	$ 0.04	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ 0.03	$ 0.06	$ 0.11	$ 0.7639
GS	16%	16%	15%	9%	5%	3%	2%	2%	3%	6%	9%	13%	
	$ 0.11	$ 0.12	$ 0.11	$ 0.06	$ 0.04	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ 0.04	$ 0.07	$ 0.11	$ 0.7555
CGS	15%	15%	16%	9%	5%	3%	3%	3%	3%	6%	10%	13%	
	$ 0.11	$ 0.11	$ 0.12	$ 0.07	$ 0.04	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ 0.05	$ 0.08	$ 0.10	$ 0.7536
LFO	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	
	$0.06	$0.06	$0.06	$0.06	$0.06	$0.06	$0.06	$0.06	$0.06	$0.06	$0.06	$0.07	$ 0.7396

Alternative Energy Price – HFO

	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09
03-Nov-08	64.59	65.30	66.02	66.73	67.43	68.11	68.75	69.39	70.03	70.66	71.28	71.90
04-Nov-08	71.19	71.96	72.79	73.63	74.46	75.25	76.00	76.72	77.42	78.09	78.74	79.38
05-Nov-08	66.01	66.84	67.77	68.69	69.59	70.45	71.24	72.00	72.75	73.49	74.21	74.92
06-Nov-08	61.47	62.36	63.33	64.29	65.24	66.15	67.04	67.89	68.73	69.55	70.33	71.08
07-Nov-08	61.87	62.81	63.76	64.69	65.61	66.49	67.33	68.16	68.99	69.80	70.59	71.36
10-Nov-08	61.05	61.97	62.91	63.82	64.73	65.59	66.42	67.22	68.01	68.78	69.54	70.28
11-Nov-08	60.22	61.12	62.05	62.95	63.84	64.69	65.51	66.28	67.02	67.75	68.48	69.20
12-Nov-08	57.03	57.95	58.84	59.73	60.62	61.47	62.30	63.10	63.87	64.64	65.41	66.17
13-Nov-08	59.06	60.00	60.95	61.90	62.83	63.70	64.52	65.30	66.05	66.80	67.55	68.29
14-Nov-08	57.60	58.40	59.30	60.25	61.19	62.10	62.98	63.83	64.66	65.48	66.30	67.08
17-Nov-08	55.49	56.28	57.15	58.06	58.99	59.90	60.78	61.64	62.49	63.34	64.18	64.97
18-Nov-08	54.76	55.58	56.45	57.32	58.17	59.00	59.79	60.57	61.35	62.13	62.90	63.67
19-Nov-08	54.10	54.95	55.88	56.83	57.77	58.69	59.58	60.45	61.31	62.15	62.99	63.83
20-Nov-08	49.42	50.41	51.44	52.46	53.44	54.39	55.31	56.22	57.13	58.03	58.93	59.83
21-Nov-08	49.93	50.96	52.05	53.09	54.08	55.05	55.96	56.85	57.73	58.59	59.44	60.29
22-Nov-08	54.50	55.62	56.68	57.68	58.64	59.59	60.48	61.35	62.21	63.07	63.92	64.77
25-Nov-08	50.77	52.01	53.21	54.33	55.40	56.43	57.40	58.32	59.22	60.10	60.96	61.82
26-Nov-08	54.44	55.70	56.92	58.04	59.09	60.12	61.06	61.95	62.83	63.69	64.53	65.35
27-Nov-08	54.44	55.70	56.92	58.04	59.09	60.12	61.06	61.95	62.83	63.69	64.53	65.35
28-Nov-08	54.43	55.82	57.09	58.24	59.29	60.28	61.20	62.08	62.94	63.78	64.61	65.42
01-Dec-08	49.28	50.68	52.00	53.22	54.40	55.51	56.54	57.52	58.46	59.38	60.28	61.15
02-Dec-08	46.96	48.43	49.84	51.15	52.38	53.54	54.60	55.60	56.56	57.50	58.42	59.32
03-Dec-08	46.79	48.32	49.87	51.34	52.70	53.95	55.07	56.10	57.07	58.01	58.94	59.85
04-Dec-08	43.67	45.21	46.86	48.43	49.89	51.20	52.36	53.42	54.44	55.43	56.41	57.36
05-Dec-08	40.81	42.93	44.76	46.27	47.61	48.84	49.92	50.92	51.89	52.82	53.74	54.65
08-Dec-08	43.71	46.36	48.62	50.29	51.64	52.78	53.76	54.63	55.48	56.32	57.15	57.98
09-Dec-08	42.07	44.66	46.86	48.56	49.90	50.98	51.89	52.72	53.54	54.33	55.11	55.88
10-Dec-08	43.52	46.02	48.04	49.56	50.66	51.52	52.27	52.96	53.65	54.31	54.96	55.60
11-Dec-08	47.98	50.84	52.97	54.46	55.53	56.34	57.01	57.65	58.28	58.88	59.47	60.06
12-Dec-08	46.28	49.12	51.54	53.18	54.32	55.15	55.85	56.50	57.14	57.76	58.38	59.00
15-Dec-08	44.51	47.47	50.00	51.73	52.95	53.83	54.59	55.31	56.03	56.73	57.42	58.11
16-Dec-08	43.60	46.70	49.17	50.91	52.16	53.10	53.90	54.65	55.37	56.05	56.72	57.39
17-Dec-08	40.06	44.61	47.27	49.16	50.64	51.86	52.87	53.72	54.53	55.27	55.96	56.64
18-Dec-08	36.22	41.67	44.39	46.44	48.13	49.52	50.69	51.66	52.54	53.31	54.04	54.76
19-Dec-08	33.87	42.36	45.16	47.15	48.74	50.05	51.15	52.06	52.90	53.71	54.50	55.28
22-Dec-08		39.91	42.88	44.76	46.25	47.46	48.48	49.34	50.16	50.96	51.75	52.52
23-Dec-08		38.98	42.03	43.86	45.30	46.52	47.56	48.46	49.34	50.20	51.06	51.90
24-Dec-08		38.35	41.28	43.07	44.53	45.80	46.95	47.95	48.90	49.82	50.73	51.62
26-Dec-08		37.71	40.53	42.28	43.75	45.08	46.33	47.43	48.45	49.44	50.40	51.33
29-Dec-08		40.02	43.03	44.81	46.19	47.46	48.66	49.68	50.66	51.58	52.49	53.37
30-Dec-08		39.03	42.76	44.80	46.33	47.67	48.91	49.96	50.95	51.87	52.78	53.66
31-Dec-08		44.60	48.59	50.57	51.96	53.16	54.31	55.36	56.30	57.13	57.93	58.73
Average	51.4770	51.0883	52.8561	54.2088	55.3679	56.4021	57.3423	58.2111	59.0524	59.8670	60.6680	61.4551
62% US$/bbl	31.9157	31.6747	32.7708	33.6095	34.3281	34.9693	35.5522	36.0909	36.6125	37.1175	37.6142	38.1022
HFO Can $/Litre	0.2473	0.2454	0.2528	0.2593	0.2648	0.2694	0.2739	0.2781	0.2816	0.2855	0.2893	0.2929
Average Price	0.2700											

Derivation Table - Electricity

		Units	Calculation	SGSRE
1	**Lines 1 - 5 not used**			
6	**Total Alternative Energy Cost**	$/ year	Retail Electricity Cost	$2,457.88
7	**Target Savings Level**	%	Assigned	20%
8	**Target Savings Amount**	$	Line 6 x Line 7	$491.58
9	**Target Natural Gas Cost**	$	Line 6 - Line 8	$1,966.30
10	**Typical Annual Natural Gas Consumption**	GJs/ year	Typical Customer	111
11	**Target Burner Tip Price**	$/GJ	Line 9 / 10	17.7144
12	**Commodity Cost**	$/GJ	EUG Price	11.7998
13	**Target Distribution Rate**	$/GJ	Line 11 - Line 13	5.9146
14	**Target Annual Distribution Charge**	$	Line 13 x Line 10	$656.52
15	**Monthly Customer Charge**	$	Assigned	$16.00
16	**Annual Customer Charge**	$	Line 15 * 12	$192.00
17	**Average Contract Demand**	GJs	Average	
18	**Contract Demand Charge**	$	Assigned	0
19	**Revenue from Demand Charge**	$	Line 17 * Line 18 * 12	0
20	**Target Revenue From Delivery Charge**	$	Line 14 - Lines 16 or 19	$464.52
21	**Distribution Delivery Charge**	$/GJ	Line 20/Line 10	$4.1849

* Table shows potential rates for calendar 2009 based on the application of the Formula using market information from November and December 2008. Natural gas consumption is based on 2008 billing data.

Total Alternative Energy Cost - Electricity

Month	Block 1 Incr	Block 2 Incr	Base kWh	Electic Heating Usage Usage Profile	Electic Heating Usage kWh usage	Electric Water Heater Usage Usage Profile	Electric Water Heater Usage kWh usage	Total Usage	Water Heater Rental	Total Electric Cost
Jan '09			848	19.1%	4,150	9.8%	472	5,470	$7.34	$409.91
Feb '09			848	16.7%	3,628	9.2%	443	4,919	$7.34	$362.42
Mar '09			848	17.3%	3,759	9.8%	472	5,079	$7.34	$376.21
Apr '09	3%	3%	848	8.1%	1,760	9.7%	467	3,075	$7.34	$209.36
May '09	3%	3%	848	5.6%	1,217	8.1%	390	2,455	$7.34	$154.31
Jun '09	3%	3%	848	2.7%	587	7.0%	337	1,772	$7.34	$93.67
Jul '09	3%	3%	848	0.0%	-	6.5%	313	1,161	$7.34	$38.10
Aug '09	3%	3%	848	0.0%	-	6.4%	308	1,156	$7.34	$37.62
Sep '09	3%	3%	848	3.2%	695	6.8%	327	1,870	$7.34	$102.40
Oct '09	3%	3%	848	2.3%	500	7.8%	376	1,724	$7.34	$89.36
Nov '09	3%	3%	848	10.8%	2,347	8.8%	424	3,619	$7.34	$257.63
Dec '09	3%	3%	848	14.1%	3,064	10.1%	486	4,398	$7.34	$326.85
			10,176	**100%**	**21,727**	**100.0%**	**4,816**	**36,699**	$88.08	**$ 2,457.88**

Price for electricity	
First 1300 KWh	**$0.0954**
Above 1300 KWh	**$0.0862**
Estimated Heating Use	**21727**
Estimated Water Heater Use	**4816**
Water Heater Rental (60 Gallon)	**$7.34**

Schedule 3

MJ Ervin & Associates Report

MJ Ervin & Associates

Report

Forecasting Distillate Fuel Prices in New Brunswick

Prepared for:
Enbridge Gas New Brunswick

26 January, 2009

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Report

Forecasting Distillate Fuel Prices in New Brunswick

I: Introduction

MJ Ervin & Associates Inc. has been engaged by Enbridge Gas New Brunswick (EGNB) to assist in the determination of wholesale and retail distillate fuel prices in New Brunswick to be used in its formula to establish market-based natural gas prices. Specifically we have been asked to research and develop a formula that would quantify a set of distillate fuel price differentials (from a given benchmark) corresponding to a range of customers based on their annual volume requirements. This determination is to be made for each of six EGNB rate classes as follows:

1. Small General Service Residential Oil (SGSRO)
2. Small General Service Commercial (SGSC)
3. General Service (GS)
4. Contract General Service (CGS)
5. Light Fuel Oil (LFO)
6. Heavy Fuel Oil (HFO)

There are two categories of distillate fuels that are relevant to the development of formulae for the above rate classes. The HFO rate class applies to the use of a category of distillates used only in heavy commercial and industrial applications, whereas the other five rate classes applies to standard furnace oil (also referred to as No. 2 heating oil).

It is our understanding that the proposed EGNB price model would develop forward-looking prices for each of these rate classes by using price differentials from our model, which would then be applied to a relevant futures price benchmark (such as those quoted on the NYMEX futures exchange), as part of its rate proposal process before the New Brunswick Energy and Utilities Board.

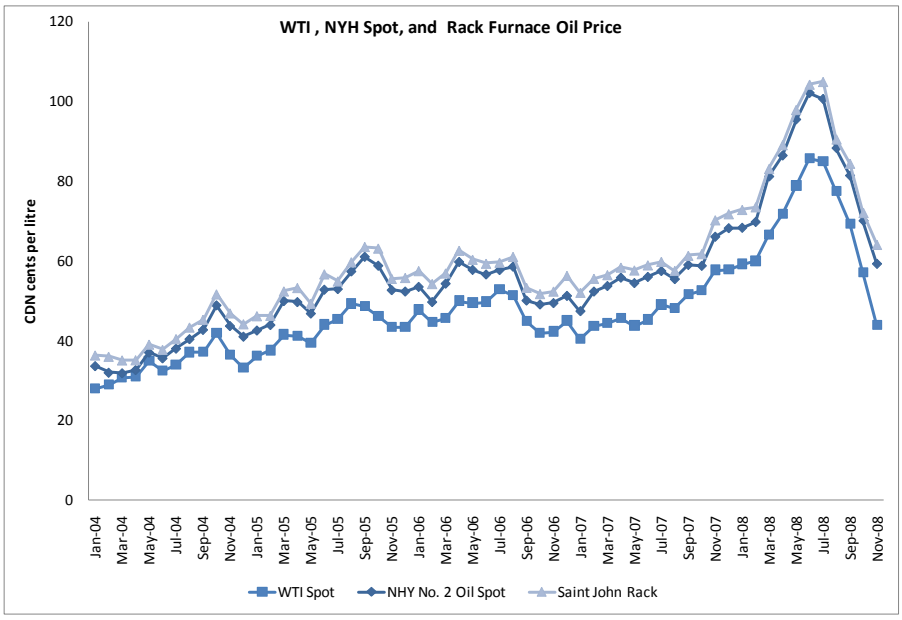
This report was prepared by MJ Ervin & Associates Inc, a consulting firm with considerable industry and project experience in the downstream (refining and marketing) petroleum industry. Our entire focus is on this industry, and our project résumé (see Annexes A and B) includes several specifically related engagements, particularly in the area of petroleum prices and regulatory structures and analysis.

II: Historical Price Relationships

A review of historical crude oil and wholesale and retail furnace oil prices is critical to understanding how the various prices relate to one another, as this will provide a basis for the determination of a formula to establish market based prices.

North American wholesale furnace oil prices are determined by two key factors: the underlying global crude oil price, and the balance between furnace oil supply and demand in the North American market. Figure 1 presents historical crude oil and wholesale furnace oil prices.

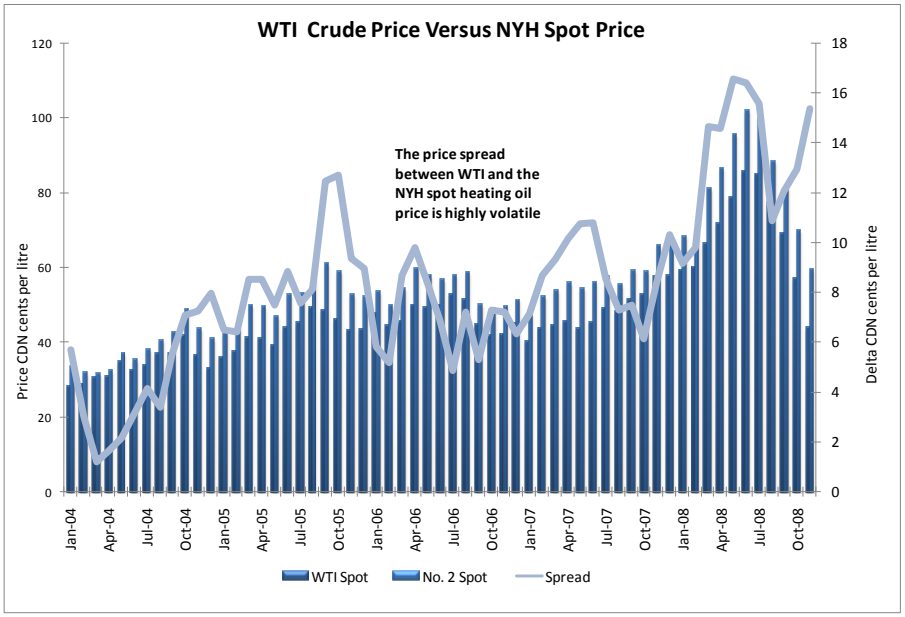
Figure 1: Historical Crude Oil and Wholesale Furnace Oil Prices



Source: EIA (Energy Information Administration) and MJ Ervin & Associates

While wholesale furnace oil prices generally tend to follow the trend in underlying crude oil prices, it is important to understand that furnace oil as a finished petroleum product is a commodity, and just like crude oil, its price will be determined largely by the balance between supply and demand for that commodity. As a result, the spread between "West Texas Intermediate" (WTI, a benchmark crude oil) and the benchmark New York Harbour (NYH) No. 2 oil spot price is highly volatile as evidenced in Figure 2.

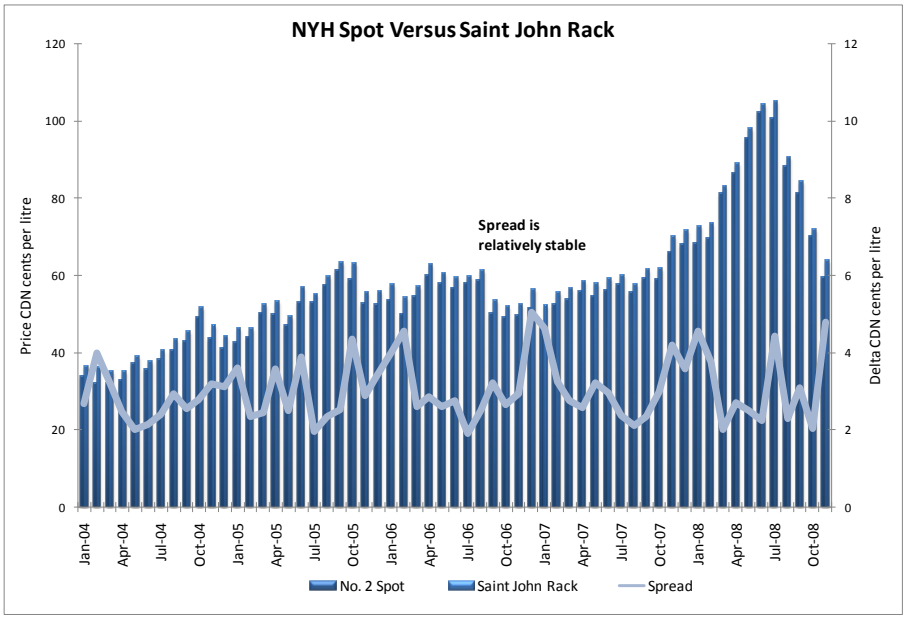
Figure 2: Historical Spread between WTI and NYH No. 2 Oil Spot Price



Source: EIA

By contrast, the spread between the NYH No. 2 oil spot price and the furnace oil rack price in Saint John is relatively stable, as both prices reflect the balance between supply and demand for furnace oil in the North American market (Figure 3). Over the past five years, the spread between the NYH No. 2 oil spot price and the furnace oil rack price in Saint John averaged around 3 cents per litre, ranging in a very narrow band from a low of around 2 cents per litre to a high of around 5 cents per litre.

Figure 3: Historical Spread between NYH Spot Price and Saint John Rack

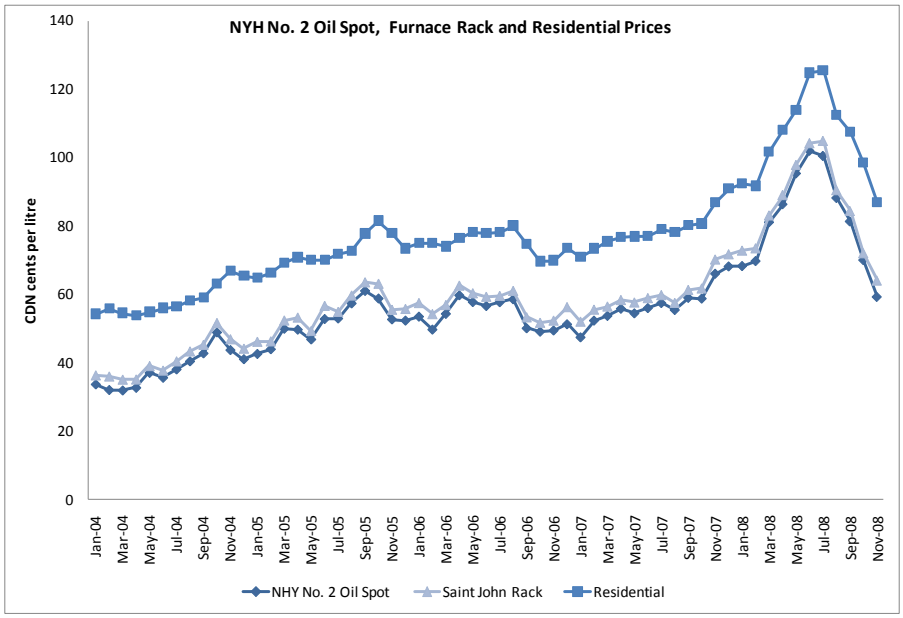


Source: EIA and MJ Ervin & Associates

Figure 4 shows the historical relationship between residential furnace oil prices in New Brunswick, the NYH No. 2 oil spot price and the Saint John furnace oil rack

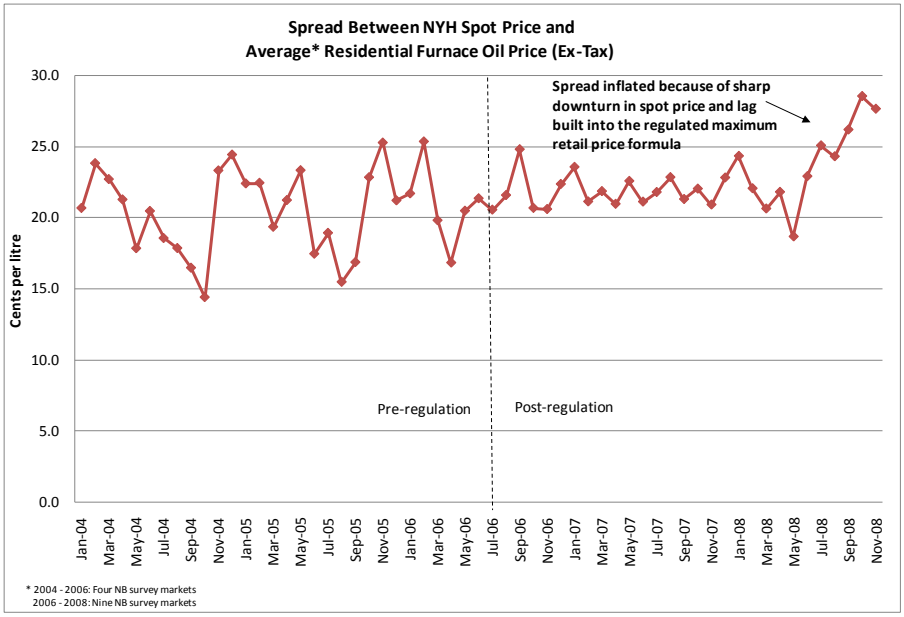
price. Predictably, retail furnace oil prices have closely followed changes in wholesale furnace oil prices, and as a consequence the spread between the average retail price and the NYH No. 2 oil spot price is relatively stable as shown in Figure 5. Over the past five years the spot-to-retail spread in New Brunswick averaged 21.5 cents per litre, with a standard deviation of just 2.8 cents per litre.

Figure 4: Historical Wholesale and Retail Furnace Oil Prices



Source: MJ Ervin & Associates

Figure 5: Historical Spread between NYH Spot and Retail Furnace Oil Prices



Source: EIA and MJ Ervin & Associates

III: EGNB Proposed Pricing Model

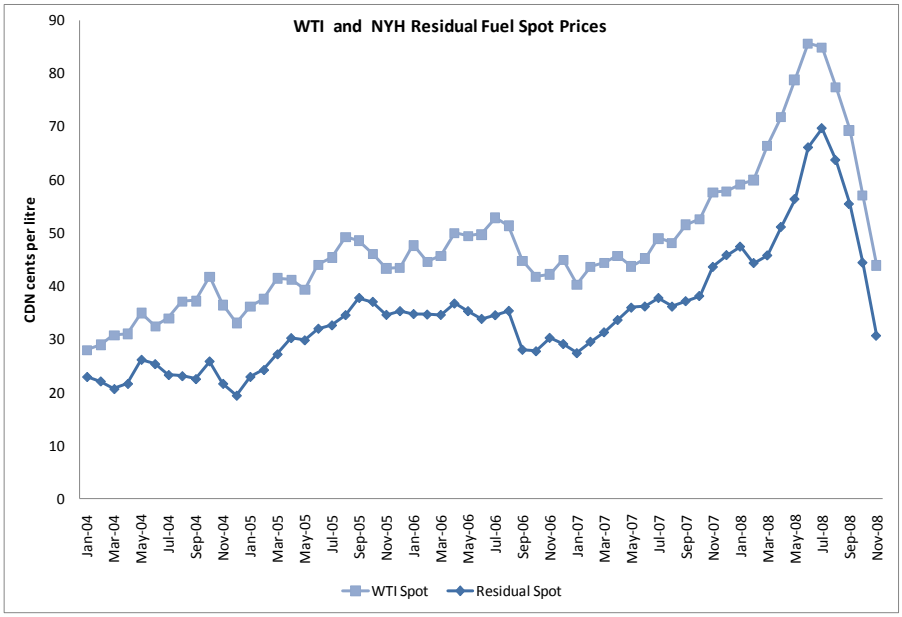
The EGNB pricing model applies two key components in its determination of prices for each of its six rate classes. The first component is the selection of an appropriate market-based benchmark price and the second component is the establishment of market spreads, or the differential between the prices that typical customers in each of EGNB's rate classes might be paying for furnace oil. The choice of the benchmark price has implications with respect to market spreads, and therefore warrants further discussion.

The current EGNB model implicitly acknowledges the strong relationship between the NYH price for No. 2 oil and furnace oil prices in New Brunswick, but does not apply it directly in the model. Rather, the model attempts to extrapolate No. 2 oil prices by applying a fixed adjustment to the WTI price. This methodology is undesirable, as it assumes that the spread between crude prices and No. 2 oil prices is unchanging, when in fact it is highly variable as illustrated in Figure 2. Applying a fixed differential to WTI prices will thus represent a poor approximation of No. 2 oil prices. Given that there exists an established futures market for No. 2 heating oil, The NYMEX No. 2 (Heating Oil) NYH futures trading prices (converted from US dollars per US Gallon to Cdn dollars per litre at Bank of Canada established currency conversion rates) would be our proposed benchmark for the five EGNB light fuel oil rate classes.

In the case of the Heavy Fuel Oil (HFO) rate class, establishing an appropriate price benchmark is somewhat more challenging. HFO's fall into a category of refinery outputs known as "resids" or residuals, and the supply and consequent price of residuals can fluctuate significantly as a result of a number of factors such as changes in refinery feedstocks, non-standard specifications, refined product margins, process unit shutdowns or startups, etc. In addition, a limited customer base, and logistical challenges in transporting HFO's contribute to a lack of fungibility, and consequently, a lack of price transparency.

Although there is no established futures market for residual fuels, residual fuel prices tend to generally follow the trend in WTI crude oil prices (as evidenced in Figure 6), although the Resid/WTI spread can fluctuate significantly, as explained above. In the absence of a better indicator however, we recommend that WTI crude be used as the benchmark for residual fuel prices, using a conversion factor of 159 litres per barrel, and the Bank of Canada established currency rates.

Figure 6: Historical Crude Oil and Residual Fuel Spot Prices



Source: EIA

IV: Rate Class Price Determination

A conceptual model of the EGNB rate class price relationships is presented in Figure 7. We populated the model by determining the maximum available margin – the spread between the NYH No. 2 oil spot price and the residential furnace oil price. We then made a determination of the margin spreads for each of the remaining rate classes (except HFO which will be discussed separately). This determination was based on interviews we conducted with three of the larger furnace oil marketers operating in the New Brunswick market, which findings were in accordance with our own expectations, based on past industry experience. All prices and spreads referred to are in Canadian cents per litre unless otherwise indicated.

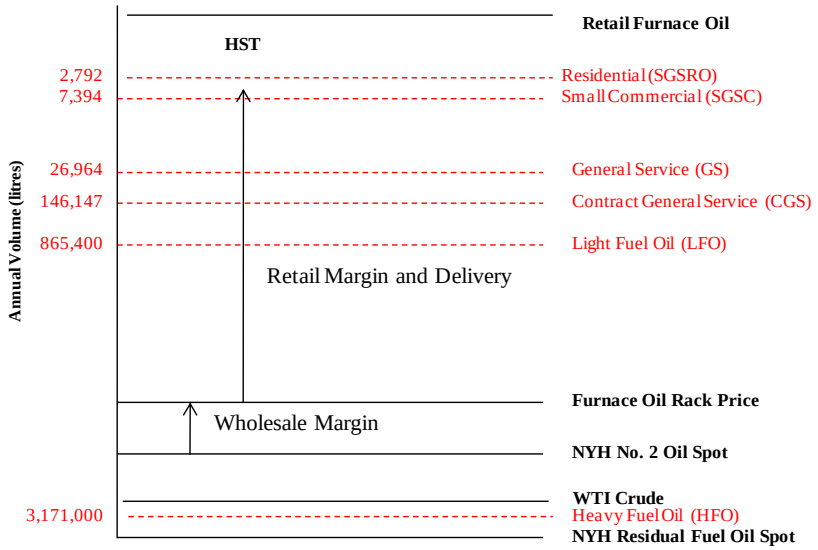
Furnace oil marketers typically "post" an established residential furnace oil price, and then negotiate discounts from that posted price for residential customers who form part of a "buying group", or for commercial or industrial customers whose annual volume requirements are more substantial. Our non-HFO rate class determinations are thus based on typical discounts for those volume categories.

It is important to stress that our model is based on "typical" discounts, as we have determined in interviews with fuel marketers. No marketer was willing (nor did we expect) to formally provide a discount schedule based on volume, since none exists. As there are no "posted" prices for other than residential (i.e. no formal rate "classes" as per EGNB), discounts can vary from one customer to another, and will vary over time according to competitive pressures.

It is evident from our findings that the relationship between furnace oil prices (or discounts) and the annual volumes associated with the EGNB rate classes, is not linear in nature. This further illustrates that furnace oil prices as they relate to customer volumes, do not follow a set "formula", and as such may not even appear to

be rational. We can offer no particular explanation for this, other than to reaffirm our findings as taken from our industry interviews.

Figure 7: EGNB Rate Class Price Model



Residential Furnace Oil Prices (SGSRO)

Retail furnace oil prices in New Brunswick have been regulated since July 1 2006, at which time the New Brunswick Government implemented its pricing regulations (Regulation 2006-41) for Motor Fuels and Heating Fuels, under the Petroleum Products Pricing Act. Authority for regulating these prices rests with the New Brunswick Energy and Utilities Board (EUB). The regulation establishes a maximum residential furnace oil price on a weekly basis as follows:

- Benchmark Price: Average NYH cargo price averaged over a 7-day period
- Maximum Wholesale Margin: 5 cents per litre
- Maximum Retail Margin: 13 cents per litre
- Maximum Delivery: 5 cents per litre

The EUB benchmark uses a varying blend of Platts (a market reporting service) Jet fuel and No. 2 oil from September to March, whereas the NYMEX futures basis for our recommended formula already incorporates differing product specifications for summer vs. winter No. 2 heating oil[1]. Although actual specifications for furnace oil used in New Brunswick may differ from those specified by NYMEX, these differences would not warrant establishing a Jet component to our proposed formula.

The maximum available spot-to-retail margin is therefore 23 cents per litre. However the regulation does allow marketers to charge less than the maximum price to encourage competition. A comparison of actual retail prices in Saint John versus the regulated maximum price over the past year indicates that the actual retail price was

[1] NYMEX Rulebook 150.03

around 0.5 cents per litre lower than the regulated maximum. The total available spot-to-retail margin was therefore 22.5 cents per litre. This represents the maximum available margin.

Small Commercial (SGSC)

The Small Commercial rate class represents relatively small volume customers whose purchases would entitle them to a small discount to the residential heating oil price. Customers in the Small Commercial rate class could expect to receive a discount in the range of 2 cents per litre relative to the retail furnace oil price. This translates to a spread of 20.5 cents over the NYH spot price.

General Service (GS)

The General Service rate class represents customers that purchase in the range of 27,000 litres annually. Based on this volume, a discount of 3 cents per litre relative to the residential heating oil price would be typical, or a 19.5 cent per litre spread over the NYH spot price.

Contract General Service (CGS)

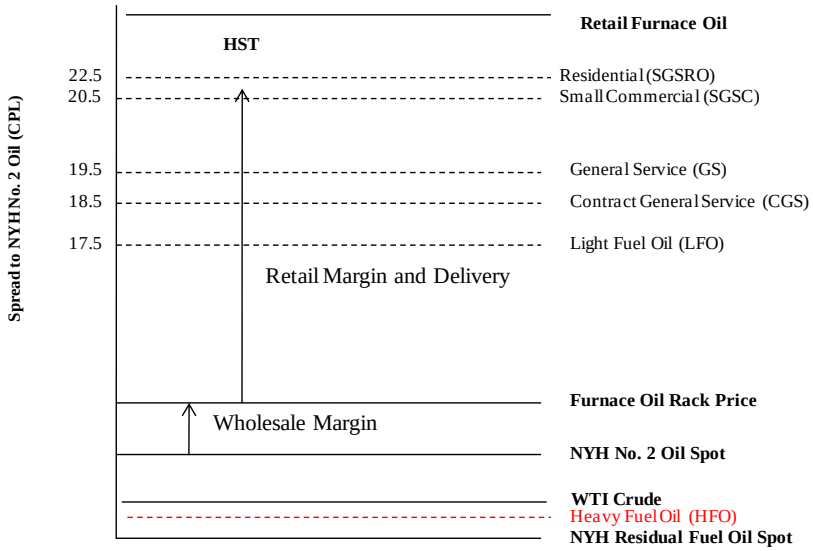
The Contract General Service rate class is characterized by large volume purchasers. Customers with this level of purchasing power can typically buy at a discount of 4 cents per litre off the residential furnace oil price, or an 18.5 cent per litre spread over the NYH spot price.

Light Fuel Oil Prices (LFO)

The LFO rate class is characteristic of large industrial accounts with significant purchasing power. Customers purchasing No. 2 oil in the order of 865,000 litres would generally receive a discount of about 5 cents per litre off the residential price. A 5 cent per litre discount would translate into a spread of 17.5 cents per litre over the NYH No. 2 oil spot price.

Figure 8 summarizes our recommendations for market spreads for the five light fuel oil rate classes.

Figure 8: Recommended Spread Over New York Harbour No. 2 Oil

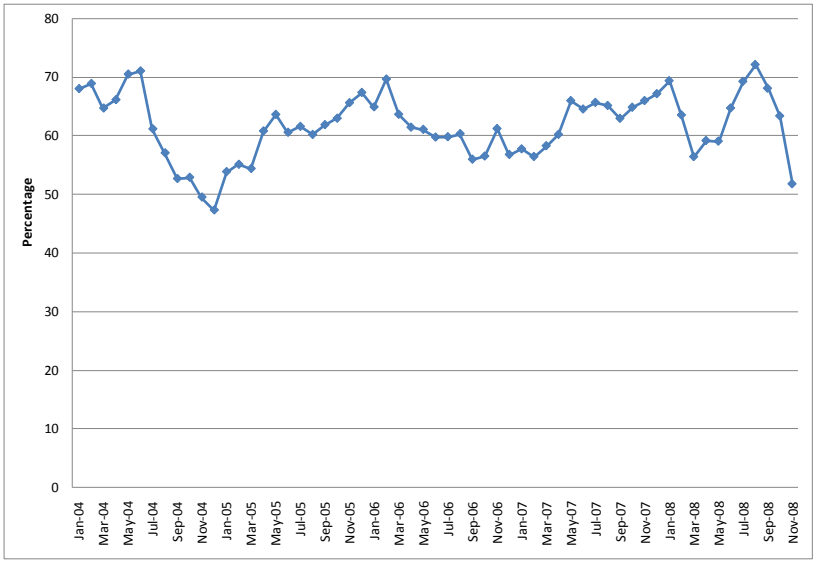


Heavy Fuel Oil (HFO)

As discussed earlier, there is no established futures market for residual fuels, and the price relationship of residuals to either LFO's or crude oil is not particularly tight. Of those two benchmarks however, WTI would serve as the better basis for establishing an objective reference point for an HFO price predictor.

Over the past five years, the NYH spot price for residual fuels has averaged 62 percent of the WTI crude spot price with a standard deviation of five percentage points. While the price relationship is highly variable as evidenced in Figure 9, the WTI price benchmark is the best available petroleum basis. We recommend the HFO price be calculated at 62 percent of the WTI crude price.

Figure 9: NYH Residual Fuel Oil as a Percentage of WTI Spot Price



Source: EIA

V: Conclusion

We recommend that EGNB use WTI crude oil (for HFO) and No. 2 Oil futures (for furnace/LFO) as the basis for the application of our proposed price spread as follows:

Table 1: Recommended Market Spreads

Rate Class	Benchmark (NYMEX futures)	Spread
SGSRO	No. 2 Heating Oil	22.5 cpl
SGSC	No. 2 Heating Oil	20.5 cpl
GS	No. 2 Heating Oil	19.5 cpl
CGS	No. 2 Heating Oil	18.5 cpl
LFO	No. 2 Heating Oil	17.5 cpl
HFO	WTI	62%

Our methodology and associated price differentials represent the best available approach for benchmarking EGNB's proposed gas rates against furnace oil prices, across EGNB's range of rate classes.

Annex A: Our Project Qualifications and Experience

MJ Ervin & Associates Inc. specializes in the downstream sector of the petroleum industry. As downstream industry consultants, our knowledge, experience, and contacts with this industry in Canada are unmatched. In particular, our experience in conducting and presenting petroleum prices has given us a reputation as the premier source for this type of information. Some of our project experience that is directly relevant to this report includes:

PETROLEUM MARKET REGULATORY ANALYSIS IN NOVA SCOTIA

For the Province of Nova Scotia, and in partnership with consultants Gardner Pinfold, we conducted a comprehensive review of the Nova Scotia retail fuel industry. We documented and analyzed the infrastructure trends in that province, and we identified and assessed the regulatory options for addressing the principal stakeholder issues. We participated in interviews of a variety of industry stakeholders, and we collected, presented, and analyzed a number of price and margin data related to fuel prices.

MARKET PRICE MONITORING AND ANALYSIS

From 1999 to 2006, our firm operated the Canadian Petroleum Markets Data Service (CPMDS), a web-based market information and data resources service for subscribers. CPMDS offered our clients up to date petroleum markets information and analysis of crude, wholesale, and retail gasoline and furnace fuel prices and operating margins. Natural Resources Canada (NRCan) purchased our historical price database in April 2006. Since that time, we have been under contract with NRCan to provide the data to populate their Fuel Focus database.

We also produced a regular industry newsletter entitled FuelFacts, in collaboration with Purvin & Gertz Inc., and funded by the Canadian Petroleum Products Institute. FuelFacts provided subscribers with a twice-monthly overview and analysis of retail, wholesale and crude market activity, aimed at the non-industry observer.

COMPETITIVENESS STUDIES

In 1997 we released a major industry study of competitiveness in the Canadian Petroleum Retail industry, for a consortium of clients which included two federal government ministries and the Canadian Petroleum Products Institute. Entitled the "Canadian Petroleum Markets Study", this 105-page document still serves as an oft-cited reference for understanding the petroleum marketing industry in general, and competitiveness issues in particular. The study provided some unique insights into the state of competitiveness and price differentiation in the Canadian petroleum marketing industry, one of the most competitive markets in the industrialized world.

REGULATORY ANALYSIS

We have been directly involved in examining and preparing analytical reports on a number of industry regulatory issues, including:

- Assisting the **State of Hawaii's Division of Consumer Advocacy** during the pre-implementation phase of Hawaii's price regulation statutes. Our assistance consisted of performing detailed reviews of the statutes and

intervener submissions, and providing the Consumer Advocate with assistance in preparing its own position and submission to the state regulator.

- Assisting a major Eastern Canada marketer with their submission to the **Québec Regie de l'Energie**, concerning the setting of below-cost selling laws.

- Helping a national industry association make representations to several regional municipalities on the matter of regulating retail petroleum service offerings.

- Preparing a government briefing package to provide an overview of the background, issues, merits and drawbacks of a range of regulatory options pertaining to petroleum marketing and pricing.

PERFORMANCE BENCHMARKING

Since 1991, MJ Ervin & Associates has worked with Canada's top petroleum marketers to conduct a comprehensive annual performance benchmark analysis of their bulk plant, retail and commercial cardlock operations. We take in detailed, confidential operating data on thousands of marketing facilities across Canada, and provide our clients with detailed analysis (over 50,000 data measurements) of their overall site performance relative to the industry in general. Our clients have used this information to set strategic goals, and to identify "performance gaps" in their operations. Our reports have become an intrinsic part of strategic planning processes at companies like Shell Canada and Imperial Oil. We have also conducted intra-organizational benchmarking for Shell UK and Shell Canada, using this exclusive benchmarking tool.

GOVERNMENT BRIEFINGS

We have conducted well over 20 comprehensive briefings to governmental organizations at ministerial and senior departmental levels, on the issue of petroleum marketing competitiveness. This has included briefings to Federal caucus committees, task forces, provincial governments, and several municipal governments.

SEMINARS

We have provided a hundreds of individuals and dozens of organizations across North America with a comprehensive two-day familiarization workshop into the Canadian and US petroleum refining and marketing industry. Clients have included petroleum employees, lawyers, investment analysts, and third-party vendor organizations.

Annex B: Professional Resumes

MICHAEL J. ERVIN

Mr. Ervin is the President of MJ Ervin & Associates. His functional specialties include marketing economics, operations management and reviews, feasibility studies, and marketing strategy and planning.

Mr. Ervin has had a successful and varied career in the downstream petroleum industry spanning twenty-eight years. Management assignments have taken him to all regions of Canada, working with major integrated oil companies such as Gulf Canada, as well as regional refiners and marketers. A great deal of Mr. Ervin's time in industry was in the heating fuels sector, and this experience included responsibilities for setting heating fuel discounts for commercial customers. He has an extensive background in marketing, and has supplemented his base of experience with undergraduate and graduate studies in Business Administration. Prior to forming MJ Ervin & Associates in 1991, Mr. Ervin was a Senior Consultant with Peat Marwick Stevenson & Kellogg, an international consulting firm.

Mr. Ervin is active in explaining the petroleum marketing industry to the public through speaking engagements and the media. He has also written feature articles for several industry trade journals.

Mr. Ervin is a serving officer in the Canadian Forces Reserve, holding the rank of Commander. From 2000 to 2003 he served as Commanding Officer of HMCS Tecumseh, Calgary's Naval Reserve establishment, and was an Honorary Aide-de-Camp to Her Excellency, Madame Adrienne Clarkson, Governor General of Canada. He is an avid runner, and has completed over 17 marathons, including the 2006 Boston Marathon. Mr. Ervin is a private pilot, and enjoys downhill and cross-country skiing, and summer hiking and backpacking.

Mr. Ervin has had a principal role in a number of petroleum marketing consulting and management assignments, including:

Canadian Petroleum Markets Data Service (CPMDS) – Mr. Ervin implemented an extensive petroleum markets price data collection and reporting service, available to subscribers and the general public through a web-based system. This service is a central source of petroleum markets data, meeting the critical information needs of a variety of organizations with an interest in the downstream petroleum sector.

FuelFacts – Mr. Ervin's firm published a twice-monthly newsletter entitled FuelFacts, in collaboration with Purvin & Gertz Inc. This publication served to provide timely and comprehensive analysis of petroleum markets in Canada, and was directed towards a primary audience of elected officials and media organizations.

Canadian Petroleum Markets Study - Mr. Ervin conducted a major review of competitiveness in the Canadian retail petroleum sector for Industry Canada, Natural Resources Canada, and the Canadian Petroleum Products Institute, in 1997. In this study, he developed several unique models and views of industry competitiveness that have been widely cited in explaining the downstream sector to the public.

Regulatory Issues - Mr. Ervin has appeared before the Quebec Regie de l'Energie as an expert witness in the petroleum marketing industry, particularly in Canadian

wholesale and retail marketing, cardlock and bulk operations, with emphasis on price economics, performance benchmarking and analysis, and marketing mix and infrastructure issues. Mr. Ervin's testimony played an important role in assisting the Regie in determining appropriate provisions of that province's retail petroleum pricing laws.

CATHY HAY

Ms. Cathy Hay is an MBA with extensive marketing experience in the downstream oil industry. Cathy is currently a Senior Associate at MJ Ervin & Associates, providing specialized consulting services in all aspects of petroleum marketing, including performance benchmarking, price/margin analysis, and industry economic research and analysis.

Cathy's career in the downstream industry spans over 23 years. Her experience includes strategic and operational planning, marketing management, relationship marketing, pricing and business process re-engineering. Prior to joining MJ Ervin & Associates Cathy was employed at Petro-Canada and Calgary Co-operative Association. During her tenure at Petro-Canada, Cathy held a number of progressively responsible positions in the marketing area including, Wholesale Category Manager, Re-engineering Project Manager, Retail Pricing Manager, and Credit Card Marketing Manager.

Ms. Hay has a broad range of expertise within the downstream sector, including petroleum price and market analysis; regulatory structures relating to the marketing of petroleum products; and competitiveness dynamics at the retail and wholesale level