

Amended Written Direct Testimony of Andrew J. Harrington and Shelley L. Black

Q 1: Please state your names and positions.

A 1: My name is Andrew Joseph Harrington. I am the General Manager of Enbridge Gas New Brunswick Inc. the general partner of Enbridge Gas New Brunswick Limited Partnership. My Curriculum Vitae is attached as Exhibit A, Schedule 1.

My name is Shelley Lynn Black and I am the Manager, Regulatory Affairs and Upstream for EGNB. My Curriculum Vitae is attached as Exhibit A, Schedule 2.

Q 2: What is the purpose of this evidence?

A 2: In its June 23, 2000 decision on an application by Enbridge Gas New Brunswick Limited Partnership, as represented by its general partner Enbridge Gas New Brunswick Inc. (“EGNB” or “Company”) for approval of its rates, the Board of Commissioners of Public Utilities of New Brunswick (“Board”) approved EGNB’s market-based approach for setting its distribution rates during the development period. In a decision dated April 30, 2004, the Board approved EGNB’s current distribution rates for Small General Service (“SGS”), General Service (“GS”), Contract General Service (“CGS”), Off Peak Service (“OPS”), Contract Large Volume Off Peak Service (“CLVOPS”) and Natural Gas Vehicle Fueling (“NGVF”). In a decision dated July 19, 2000, the Board approved EGNB’s current Contract Large General Service LFO (“LFO”) rate.

On November 22, 2004, EGNB filed an application to change its market-based distribution rates. This evidence presents the proposed rates, which are filed as Exhibit A, Schedule 3, as well as supporting data, assumptions and methodology used in generating them. This pre-filed evidence accompanies EGNB’s application to change its market-based distribution rates for the SGS, GS, CGS, LFO, OPS, CLVOPS and NGVF rate categories.

Q 3: EGNB has stated previously that its distribution rates are market-based. Please explain the purpose of market-based rates.

A 3: Market-based rates are predicated on local market conditions with the objective of providing potential end-use customers with an economic incentive to convert to natural gas.

Q 4: Does EGNB continue to feel that the market-based methodology of setting its rates best suits the greenfield market in New Brunswick?

A 4: Yes, the market-based approach for setting rates continues to enable EGNB to establish rates based on local market conditions and supports EGNB's objective to provide potential end-use customers with sufficient economic incentive to convert to natural gas.

Q 5: Could you review the Board approved methodology for setting distribution rates?

A 5: In general, the methodology for establishing distribution rates is as follows:

- Establish a relevant retail oil price for typical customers in each rate class.
- Calculate the annual oil cost for a typical customer in each rate class.
- Discount the annual cost by the appropriate amount to establish a target annual natural gas cost.
- Calculate the target burner tip natural gas unit price by dividing the target annual natural gas cost by the expected natural gas consumption.
- Calculate the distribution rate by subtracting the commodity price for natural gas.

EGNB has adopted targeted annual savings for the market categories that, when combined with other benefits of natural gas and other economic considerations, such as the typical age of heating systems and switching costs, should provide sufficient incentive for customers to switch to natural gas:

- For the residential and small commercial sector (SGS): 20% opposite home heating oil,
- For the medium to large commercial sector (GS, CGS): 15% opposite light fuel oil,
- For the large industrial sector (LFO): 10% opposite light fuel oil.

The following table summarizes this approach. Additionally, an example of the SGS rate class has been provided and follows later within the response to Question 12. The example provides typical expected end-use costs associated with the application of the above noted methodology.

The rate schedules filed as Exhibit A, Schedule 3 also include rates for OPS, CLVOPS, and NGVF classes. The calculation of these rates is consistent with the methodology approved by the Board in 2000 and is simply a function of the GS and CGS rates. The OPS and CLVOPS rates are set at 75% of the proposed GS and CGS rates, respectively. The NGVF rate is set at the same level as the GS rate.

Derivation of Target Distribution Rates

Line	Item	SGS	GS	CGS	LFO
(1)	Retail Oil Price (\$/L)	0.6366	0.5227	0.5152	0.4856
(2)	Retail Oil Price (\$/GJ)	16.50	13.54	13.35	12.58
(3)	Typical Annual Oil Consumption (L)	3,773	37,411	140,102	821,217
(4)	Typical Annual Oil Consumption (GJ)	146	1,447	5,418	31,759
(5)	Annual Oil Cost (\$) (Line 1 x Line 3)	2,402	19,555	72,179	398,780
(6)	Target Savings Level (%)	20%	15%	15%	10%
(7)	Target Annual Savings (\$) (Line 5 x Line 6)	480	2,933	10,827	39,878
(8)	Typical Annual Natural Gas Cost (\$) (Line 5 minus Line 7)	1,922	16,622	61,352	358,902
(9)	Typical Annual Natural Gas Consumption (GJ)	114	1,175	4,400	31,745
(10)	Target Natural Gas Burner Tip Unit Price (\$/GJ) (Line 8 divided by Line 9)	16.86	14.15	13.94	11.31
(11)	Commodity Price (\$/GJ)	10.15	10.15	10.15	10.15
(12)	Target Distribution Rate (\$/GJ) (Line 10 minus Line 11)	6.7068	3.9960	3.7937	1.1558
Breakdown of Distribution Charge between Monthly and Delivery Charges:					
(13)	Annual Target Distribution Charge per Customer (\$) (Line 12 x Line 9)	765	4,695	16,692	36,690
(14)	Monthly Customer Charge (\$)	12.00	16.00	N/A	N/A
(15)	Annual Customer Charge (\$) (Line 14 x 12 months)	144	192	N/A	N/A
(16)	Monthly Demand Charge (\$/GJ)	N/A	N/A	5.20	5.20
(17)	Average Monthly Contract Demand (GJ)	N/A	N/A	45.90	90.80
(18)	Annual Demand Charge (\$) (Line 16 x 12 months x Line 17)	N/A	N/A	2,864	5,666
(19)	Annual Delivery Charge per Customer (\$) (Line 13 minus Line 15 minus Line 18)	621	4,503	13,828	31,024
(20)	Delivery Charge per GJ (\$) (Line 19 divided by Line 9)	5.4436	3.8326	3.1427	0.9773

EGNB continues to feel that oil is the most appropriate benchmark against which to set its rates: it is generally the least expensive of the existing energy alternatives, meaning that natural gas will be even more competitive against other alternate energy sources such as propane. Electricity rates in New Brunswick are artificially low and static, making it difficult to provide a consistent economic incentive for customers to convert to natural gas. Propane is not considered to be an appropriate benchmark as it is significantly more expensive than either oil or electricity.

Also, generally speaking, oil and natural gas commodity prices tend to track one another, that is, when the price of oil goes up so does the price of natural gas, and vice-versa.

Q 6: Does the proposed CLGS-LFO delivery rate of \$0.9773 represent all blocks in this rate class?

A 6: No, the delivery rate of \$0.9773 for the first 33,000 GJs is designed to deliver the target savings of 10% to the average customer in the CLGS-LFO class:

Monthly Distribution Delivery Charge:	Current	Proposed
Demand Charge per GJ of Contract Demand (\$ per GJ)	5.20	5.20
For the first 33,000 GJ delivered per month (\$ per GJ)	0.7901	0.9773
For the next 25,000 GJ delivered per month (\$ per GJ)	0.1900	0.1900
For volumes delivered in excess of 58,000 GJ per month (\$ per GJ)	0.0800	0.0800

The second and third blocks of this rate class apply to only very large customers with significantly greater volumes and purchasing power than the average customer. EGNB is not proposing an adjustment to the second and third blocks.

Q 7: Why has EGNB reduced target savings from 15% to 10% in the CLGS-LFO class?

A 7: EGNB is attempting to strike a balance between providing sufficient incentive to convert to natural gas and recovering as much of its costs as possible during the development period. EGNB is comfortable that the 10% targeted savings will provide a sufficient incentive for customers to convert.

Q 8: Do end-use customers have to realize the precise savings level in order to convert to or continue consuming natural gas?

A 8: No, end-user conversion decisions are based upon their own unique circumstances and as such, conversions are achievable at various pricing levels. The emphasis of this pricing mechanism is on “target” savings because the Company does not and cannot control all components of the delivered price of natural gas or competing fuels.

These target savings are guidelines and will evolve with the market for natural gas. The actual savings realized by a customer will be based on the combined costs of distribution and commodity compared with a customer’s alternate energy costs and will vary from customer to customer and over time as energy prices evolve.

Price is only one of the factors influencing a customer’s decision to switch to or continue consuming natural gas. In practice, EGNB is aware of end-user situations in which customers have made the switch to natural gas in the face of price premiums to their incumbent energy choice, demonstrating that price was only one aspect of the decision and not always the primary factor driving a customer’s choice.

Q 9: Could a rate increase hinder future customers converting to natural gas?

A 9: An increase in distribution rates could impact a customer’s decision to convert to natural gas, however, natural gas prices are only one factor that potential end-use consumers consider when making the decision to convert. Capital costs to convert (and any off-setting incentives), environmental benefits, maintenance cost

reductions, reliability and flexibility are other examples of related factors that consumers also take into consideration.

Further, it is important to remember that if EGNB determines at any time that distribution rates are acting as a deterrent to customer acquisition or retention, it can apply to the Board to use the rate rider mechanism to lower rates.

Q 10: Does EGNB feel that the distribution rate increases, effective May 1, 2004, had an impact on customers converting to natural gas during the year?

A 10: No, EGNB does not feel that the distribution rate increase had an impact on customers decision to convert to natural gas during 2004.

In fact, as at October 31, 2004 year-to-date distribution revenue signings are 3.5 times the revenue signed in the same period during 2003. This represents the highest growth period for EGNB since commencing operations. EGNB is confident that natural gas is the preferred fuel of choice for potential end-users and is committed to ensuring future development of the New Brunswick natural gas industry.

Q 11: Can you please indicate what retail oil prices EGNB proposes to use in setting rates and the methodology EGNB used in establishing them?

A 11: The following table presents, by rate class, the retail oil price that is being used in establishing the proposed rates (see Line 1 and 2 of the table in A4)

Rate Class	Retail Oil Price	
	\$/l	\$/GJ
SGS	0.637	16.50
GS	0.523	13.54
CGS	0.515	13.35
LFO	0.486	12.58

For its forecast, EGNB has used the closing settlement prices for West Texas Intermediate (WTI) crude oil from NYMEX (New York Mercantile Exchange) as the anticipated price of crude oil over the forecast period - in this case February 2005 through January 2006. WTI was selected as it is the commonly traded North American index for crude oil prices. Since NYMEX is a market view of forward pricing which changes on a daily basis as a result of market conditions and expectations, a 21-day average¹ is utilized to estimate monthly crude costs over the forecast period. The anticipated crude oil cost for this period using this methodology is \$US 48.87 /barrel (bbl). These crude prices are converted to Canadian dollars using a similar 21-day average of the future strip for the Canada/US exchange rate. The exchange rate derived using this approach is \$CDN 1.23 per \$US.

In order to calculate retail oil prices, a “market spread” is needed for the New Brunswick market (the difference between the cost of crude oil and the price of refined products or distillates). For New Brunswick, historical information was used to estimate the typical market spread for each of the products and sectors. This historical information included prices collected by EnerData (Statistics Canada), New Brunswick Department of Energy as well as data independently collected by EGNB. These spreads were then added to the Canadian dollar value for the NYMEX strip for crude oil. The above table contains retail oil price estimates derived in this manner. Note that, due to the competitive nature of the retail oil market, significant variations of these typical amounts have been observed, i.e. these prices will vary on an individual customer basis.

Q 12: Once retail oil prices are established, how has EGNB developed target natural gas burner tip prices?

¹ 21 day average is an industry standard to reduce the effect of possible market anomalies of a particular trading day

A 12: Please refer to the following table illustrating the derivation of target natural gas burner tip prices for a typical residential customer. After deriving the retail oil price, the annual oil cost is calculated (Line 3 in the example).

Next, the target annual savings is calculated based on the targeted savings previously discussed, i.e. 20% for the SGS class, 15% for the GS and CGS classes and 10% for the LFO class. To arrive at the target annual savings level, the annual oil cost is multiplied by the targeted savings level appropriate to the SGS rate class (Line 5).

Subtracting the target annual savings from the customer's annual oil cost leaves the target annual natural gas cost (Line 9).

Finally, dividing the target annual natural gas cost by the typical annual natural gas consumption results in the target natural gas burner tip price (Line 12).

SGS Target Burner Tip Price							
Example – Typical Residential Customer using Oil Fired Equipment							
Line							
(1)	Typical Annual Oil Consumption		3,773 Litres	OR	146		GJs
(2)	Forecast Retail Oil Price		\$ 0.637 /litres	OR	\$ 16.50		/GJ
(3)	Annual Oil Cost						\$2,402
<u>Calculating Target Annual Savings</u>							
(4)			Annual Oil Cost				\$ 2,402
(5)			X		20%	x	20%
(6)			<u>Target Annual Savings</u>				<u>\$ 480</u>
<u>Calculating Target Annual Natural Gas Cost</u>							
(7)			Annual Oil Cost				\$ 2,402
(8)			- Target Annual Savings			-	480
(9)			<u>Target Annual Natural Gas Cost</u>				<u>\$ 1,922</u>
<u>Calculating Target Burner Tip Price</u>							
(10)	Target Annual Natural Gas Cost						\$ 1,922
(11)	Typical Annual Natural Gas Consumption						114 GJ
(12)	Target Natural Gas Burner Tip Price						\$ 16.86 /GJ

What is important to realize in this example is that EGNB has dealt with typical customer characteristics in the development of its rates. At an individual level, end-use customers will experience variations from the typical levels used in deriving the rates.

Q 13: Referring to the previous examples, why is the expected consumption for the competitive energy (in this case oil) different than that presented for natural gas?

A 13: Different heating equipment (water heaters, furnaces or boilers) have different operating efficiencies. For example, a typical high-efficiency gas furnace will convert 92% of the energy input that goes into the equipment into heat energy.

Equipment vintage, maintenance history and energy source all have an impact on its operating efficiency.

EGNB has used 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. Again, the actual efficiency of gas and alternative equipment will vary by customer and will impact actual savings realized.

Rate Class	Natural Gas	Oil
SGS	87%	68%
GS, CGS	80%	65%
LFO	80%	80%

Q 14: Returning to the methodology outlined in the response to Question 4, once the target burner tip price is established, how does EGNB arrive at the distribution rate?

A 14: The distribution rate represents the burner tip price less the commodity price. The commodity price is the amount end-use customers will pay to have their gas supply delivered to EGNB's distribution system..

Q 15: How did EGNB arrive at the commodity price?

A 15: EGNB has used the price of Enbridge Utility Gas ("EUG") as the reference price for commodity for the purpose of setting its proposed distribution rates. As a result, the current 12-month forecast EUG price of \$10.15/GJ has been used as the commodity price.

Q 16: How did EGNB develop the forecast of the commodity price?

A 16: The forecast EUG price is based on the methodology prescribed in the *Gas Distributor Marketing Regulation – Gas Distribution Act, 1999* ("Marketing

Regulation”). As set out in section 4(1) of the *Marketing Regulation*, the price of EUG is based on the forecast average price of gas for the following 12 months based upon the cost to EGNB of purchasing gas and then selling gas to customers.

Q 17: Why is EGNB proposing to use EUG as the reference price for commodity?

A 17: First, the price of EUG is publicly available in the marketplace. Second, almost two thirds of gas users are currently purchasing EUG. The following table presents the percentage of natural gas consumers by rate class who have chosen EUG for their gas supply:

Rate Class	EUG	Others
SGS	66%	34%
GS	34%	66%
CGS	31%	69%
LFO	24%	76%
Total	66%	34%

Though EUG serves fewer customers in the commercial GS and CGS rate classes and industrial LFO rate classes, EGNB believes the use of EUG is necessary because of its price transparency. In addition, EGNB believes that larger customers with greater purchasing power are able to contract for natural gas at a more favorable pricing than EUG, resulting in additional savings.

It is important to note that EGNB’s objective in choosing EUG is to provide a reasonable approximation of what customers will pay on average for the provision of commodity. Each supplier will take into account its own value proposition objectives and related cost structures when establishing its prices. This is another reason why targeted savings need to be considered as an order of magnitude rather than a hard target.

Q 18: What would be the outcome if marketers charge more than EUG?

A 18: Everything else being equal, if a marketer charges more than EUG then the savings achieved by the impacted customers will be less than the targeted savings. As previously mentioned, the targeted savings are more an indication of an order of magnitude rather than an absolute target to reach. Indeed, it would be impossible to achieve a specific savings level for each customer as many variables impact a customer's actual realized savings.

Q 19: What are the implications if the actual cost of natural gas proves to be materially higher or oil materially lower than reflected in setting the rates?

A 19: If the competitive advantage of natural gas were to deteriorate to the point where it is negatively impacting customer additions, EGNB would apply to the Board to adjust its rates.

*** I have no further questions.