

RESPONSE TO BOARD STAFF QUESTIONS

NRG QRAM APPLICATION EB-2011-0208

1. On page 5 and 6 of Schedule 1, the evidence indicates that the Empress price over the July 2011 through June 2012 period (Western Deliveries) is based on a combination of actual contracted prices and forecasted prices. Similarly, the Parkway price over the same period is also based on a combination of actual and forecasted prices. In addition, on page 7 of the evidence (Schedule 1), NRG has forecasted the need to purchase gas in September 2011. The forecasted price for this Ontario delivered gas is 4.338/GJ and is based on price forecasts for the May 11, 2011 through May 31, 2011 period for September 2011 deliveries. Please answer the following questions with respect to the above evidence:

a) For each of the above instances, please provide a detailed description of how the forecasted prices are calculated. Please provide the calculation.

A description of how the forecasted prices are calculated for each of the Western Deliveries, Parkway Deliveries and Dawn Purchases is provided below. The calculations for each of these three delivery points has been provided in the attachments that follow.

The source of the gas pricing information used is the Shell Energy North America report titled 'Daily Energy Market Update' ("Market Update"). It provides indicative natural gas prices for five periods that are relevant to the period being forecast (July, 2011 through June, 2012). These periods are July 2011, August 2011, June 2011 through October 2011, November 2011 through March 2012 and November 2011 through October 2012. NRG used the individual July and August figures directly in the forecast. The June 2011 through October 2011 price period is used for the months of September and October. The November 2011 through March 2012 price period is used for the months November 2011 through March 2012 inclusive. The November 2011 through October 2012 price period has been used to forecast the prices in the months April 2012 through June 2012.

Western Deliveries

The calculations used to forecast the Western Deliveries prices are shown in Attachment 1. As shown in the table provided there, the only calculations used is the calculation of the 10 day average. The prices used are shown in the Market Update as the price at Empress, AB in Cdn\$/GJ.

Parkway Deliveries

The calculations used to forecast the Parkway Deliveries prices are shown in Attachment 2. The relevant prices available in the Market Update are prices at Henry Hub, along with a Niagara, ON Basis. These two prices are added together to arrive at a proxy for the Parkway price. These prices from the Market Report are in US\$/MMBtu and as a result need to be converted to Cdn\$/GJ. This is accomplished through the use of a conversion factor of 1.05462 to convert MMBtu to GJ and through the use of the foreign exchange rate. The formula used is (Henry Hub

Price + Niagara Basis) / 1.05462 x Foreign Exchange Rate. These calculations are done for each of the five periods noted above.

Dawn Purchases

The calculations used to forecast the Dawn Purchase prices are shown in Attachment 3. The relevant prices available in the Market Update are prices at Henry Hub, along with a Dawn, ON Basis. These two prices are added together to arrive at a proxy for the Dawn price. These prices from the Market Report are in US\$/MMBtu and as a result need to be converted to Cdn\$/GJ. This is accomplished through the use of a conversion factor of 1.05462 to convert MMBtu to GJ and through the use of the foreign exchange rate. The formula used is (Henry Hub Price + Dawn Basis) / 1.05462 x Foreign Exchange Rate. These calculations are done for June 2011 through October 2011 period as this period includes the month of September, when the gas is forecast to be purchased.

b) Please provide the source of the data used.

The source of the gas prices is the Shell Energy North America report titled 'Daily Energy Market Update'. The source of the foreign exchange rates used in the calculations is the daily noon exchange rates: 10-year lookup from the Bank of Canada available on their website at www.bankofcanada.ca/rates/exchange.

**Attachment 1
Western Deliveries**

	Jul-11	Aug-11	Jun-11 Oct-11	Nov-11 Mar-12	Nov-11 Oct-12
11-May-11	3.280	3.270	3.300	3.720	3.700
12-May-11	3.350	3.340	3.370	3.800	3.770
13-May-11	3.430	3.430	3.460	3.860	3.830
16-May-11	3.540	3.530	3.560	3.940	3.900
17-May-11	3.410	3.410	3.430	3.840	3.820
18-May-11	3.400	3.400	3.430	3.830	3.810
23-May-11	3.490	3.490	3.510	3.880	3.850
25-May-11	3.580	3.570	3.600	3.950	3.920
26-May-11	3.530	3.530	3.540	3.900	3.870
31-May-11	3.780	3.790	3.790	4.080	4.020
10 Day Average	\$ 3.479	\$ 3.476	\$ 3.499	\$ 3.880	\$ 3.849

**Attachment 2
Parkway Deliveries**

	HENRY HUB (US\$/MMBtu)	Niagara Basis	MMBtu - GJ	F/X	\$/ GJ (Cdn)	HENRY HUB (US\$/MMBtu)	Niagara Basis	MMBtu - GJ	F/X	\$/ GJ (Cdn)	HENRY HUB (US\$/MMBtu)	Niagara Basis	MMBtu - GJ	F/X	\$/ GJ (Cdn)
	Jul-11				Jul-11	Aug-11				Aug-11	Jun-11 Oct-11				Jun-11 Oct-11
11-May-11	4.240	0.30	1.05462	0.9582	\$ 4.12	4.280	0.28	1.05462	0.9582	\$ 4.14	4.270	0.31	1.05462	0.9582	\$ 4.16
12-May-11	4.260	0.30	1.05462	0.9658	\$ 4.18	4.300	0.27	1.05462	0.9658	\$ 4.19	4.290	0.31	1.05462	0.9658	\$ 4.21
13-May-11	4.310	0.29	1.05462	0.9709	\$ 4.23	4.350	0.28	1.05462	0.9709	\$ 4.26	4.340	0.31	1.05462	0.9709	\$ 4.28
16-May-11	4.380	0.32	1.05462	0.9703	\$ 4.32	4.420	0.29	1.05462	0.9703	\$ 4.33	4.410	0.33	1.05462	0.9703	\$ 4.36
17-May-11	4.250	0.32	1.05462	0.9773	\$ 4.23	4.290	0.29	1.05462	0.9773	\$ 4.24	4.280	0.33	1.05462	0.9773	\$ 4.27
18-May-11	4.270	0.32	1.05462	0.9723	\$ 4.23	4.320	0.29	1.05462	0.9723	\$ 4.25	4.300	0.34	1.05462	0.9723	\$ 4.28
23-May-11	4.390	0.32	1.05462	0.9774	\$ 4.37	4.440	0.27	1.05462	0.9774	\$ 4.37	4.430	0.32	1.05462	0.9774	\$ 4.40
25-May-11	4.420	0.33	1.05462	0.9765	\$ 4.40	4.470	0.30	1.05462	0.9765	\$ 4.42	4.460	0.33	1.05462	0.9765	\$ 4.44
26-May-11	4.360	0.33	1.05462	0.9809	\$ 4.36	4.410	0.29	1.05462	0.9809	\$ 4.37	4.400	0.32	1.05462	0.9809	\$ 4.39
31-May-11	4.670	0.35	1.05462	0.9688	\$ 4.61	4.700	0.31	1.05462	0.9688	\$ 4.60	4.630	0.40	1.05462	0.9688	\$ 4.62
10 Day Average					4.306					4.317					4.341

	HENRY HUB (US\$/MMBtu)	Niagara Basis	MMBtu - GJ	F/X	\$/ GJ (Cdn)	HENRY HUB (US\$/MMBtu)	Niagara Basis	MMBtu - GJ	F/X	\$/ GJ (Cdn)
	Nov-11 Mar-12				Nov-11 Mar-12	Nov-11 Oct-12				Nov-11 Oct-12
11-May-11	4.760	0.42	1.05462	0.9582	\$ 4.71	4.760	0.33	1.05462	0.9582	\$ 4.62
12-May-11	4.780	0.41	1.05462	0.9658	\$ 4.75	4.790	0.33	1.05462	0.9658	\$ 4.69
13-May-11	4.820	0.41	1.05462	0.9709	\$ 4.81	4.820	0.33	1.05462	0.9709	\$ 4.74
16-May-11	4.880	0.43	1.05462	0.9703	\$ 4.89	4.870	0.34	1.05462	0.9703	\$ 4.79
17-May-11	4.780	0.43	1.05462	0.9773	\$ 4.83	4.780	0.34	1.05462	0.9773	\$ 4.74
18-May-11	4.800	0.44	1.05462	0.9723	\$ 4.83	4.810	0.35	1.05462	0.9723	\$ 4.76
23-May-11	4.900	0.42	1.05462	0.9774	\$ 4.93	4.900	0.34	1.05462	0.9774	\$ 4.86
25-May-11	4.920	0.43	1.05462	0.9765	\$ 4.95	4.910	0.34	1.05462	0.9765	\$ 4.86
26-May-11	4.850	0.42	1.05462	0.9809	\$ 4.90	4.840	0.34	1.05462	0.9809	\$ 4.82
31-May-11	5.080	0.43	1.05462	0.9688	\$ 5.06	5.040	0.34	1.05462	0.9688	\$ 4.94
10 Day Average					4.867					4.783

**Attachment 3
Dawn Purchases**

	HENRY HUB (US\$/MMBtu)	Dawn Basis	MMBtu -GJ	Foreign Exchange	\$/ GJ (Cdn)
	Jun-11				
	Oct-11				
11-May-11	4.270	0.31	1.05462	0.9582	\$ 4.16
12-May-11	4.290	0.31	1.05462	0.9658	\$ 4.21
13-May-11	4.340	0.31	1.05462	0.9709	\$ 4.28
16-May-11	4.410	0.33	1.05462	0.9703	\$ 4.36
17-May-11	4.280	0.32	1.05462	0.9773	\$ 4.26
18-May-11	4.300	0.33	1.05462	0.9723	\$ 4.27
23-May-11	4.430	0.32	1.05462	0.9774	\$ 4.40
25-May-11	4.460	0.32	1.05462	0.9765	\$ 4.43
26-May-11	4.400	0.32	1.05462	0.9809	\$ 4.39
31-May-11	4.630	0.39	1.05462	0.9688	\$ 4.61
10 Day Average					<u>4.338</u>