

June 6, 2012

Ontario Energy Board
2300 Yonge Street
Suite 2700
Toronto, Ontario
M4P 1E4

Attention: Ms. Kirsten Walli, Board Secretary

RE: EB-2011-0210 – Union Gas Limited – 2013 Rates Application – Undertaking Responses

Dear Ms. Walli,

Please find attached responses to undertakings from Union's EB-2011-0210 technical conference. Union will file the remaining undertakings on Thursday, June 7.

If you have any questions, please contact me at (519) 436-5476.

Yours truly,

[original signed by]

Chris Ripley
Manager, Regulatory Applications

cc: Crawford Smith, Torys
EB-2011-0210 Intervenors

UNION GAS LIMITED

Undertaking of Mr. Wolnik
To Ms. Van Der Paelt

Please advise what proportion the commodity represents of total revenue.

	2007	2008	2009	2010	2011	2012	2013
	<u>Actuals</u>	<u>Actuals</u>	<u>Actuals</u>	<u>Actuals</u>	<u>Actuals</u>	<u>Forecast</u>	<u>Forecast</u>
Total Power Revenue	26.8	26.3	29.0	32.2	32.7	29.7	29.5
Total Power Commodity Revenue	8.6	5.8	4.1	4.8	4.9	4.0	3.9
% of Commodity vs Total Revenue	32.1%	22.1%	14.1%	14.9%	15.0%	13.5%	13.2%

UNION GAS LIMITED

Undertaking of Mr. Aiken
To Mr. Gardiner

Please provide both equations referred to in the response, including the regression statistics, and all the explanatory variables used.

The updated FEI curve (including *2011 actuals*) equation is:

$$\text{FEI} = 0.0002174884554047 \text{ Time}^2 + 0.0008452010552058 \text{ Time} + 0.7331471264272360$$

The persons per household estimates are obtained from a simple trend line. The updated (including *2011 actuals*) equation is:

$$\text{PPH} = -0.032370 \text{ Time} + 3.297509$$

t statistics -10.6 76.8

The R square, mean absolute percent error (MAPE) and the mean absolute deviation (MAD), shown in the tables below, indicate the estimates fit well with the observed data. The updated data is similar to the original forecast evidence which did not include the 2011 actual data.

<u>FEI Fitted Line</u>		
<u>Statistics</u>	<u>Original Evid.</u>	<u>Updated¹</u>
R ²	0.97	0.97
MAPE	0.5%	0.6%
MAD	0.000	-0.001

<u>PPH Trend Line</u>		
<u>Statistics</u>	<u>Original Evid.</u>	<u>Updated¹</u>
R ²	0.91	0.90
MAPE	1.6%	1.7%
MAD	0.000	0.000

Note 1 - updated fitted line incorporating the 2011 actuals

UNION GAS LIMITED

Undertaking of Mr. Aiken
To Mr. Gardiner

Please provide actual 2011 and forecast 2012 and 2013 figures for each of the residential equations used to forecast the residential volumes (use and volume shown as EQN. 1 and 2).

Econometric Demand Equation Estimates ¹

<u>Year</u>	<u>Southern Residential</u>		<u>Northern Residential</u>	
	<u>Use Eqn: m³</u>	<u>Volume Eqn: 10³m³</u>	<u>Use Eqn: m³</u>	<u>Volume Eqn: 10³m³</u>
Actual 2011	2,331	2,211,181	2,348	664,638
Predicted 2011	2,327	2,192,507	2,329	665,913
2012 Frcst. ²	2,270	2,198,716	2,286	675,635
2013 Frcst. ²	2,140	2,141,659	2,122	647,819

Notes:

- (1) Estimates that are subsequently averaged and adjusted for DSM plan impacts.
- (2) The 2012 forecast estimates assume the 55:45 weather normal and the 2013 forecast assumes the 20-year declining trend weather normal.

UNION GAS LIMITED

Undertaking of Mr. Aiken
To Mr. Gardiner

Please advise whether Union could discontinue the average use per customer deferral account or similar account when it files a proposal for the next multi-year incentive regulatory plan; to provide responses to J.DV-4-1-1 parts (b) and (c).

Union could close the existing average use deferral account and apply for a similar account with any potential application for its next multi-year incentive regulation framework. Board approval of the continuation of the average use deferral account as part of Union's 2013 Rates application is not required for it, or a similar account, to be a component of any application for its next multi-year incentive regulation framework.

The presence of an AU Deferral Account in 2013 does not eliminate the forecast risk associated with the margin impact of the average use forecast for the applicable general service customer classes. The AU Deferral Account is not proposed to be used for 2013 rates.

UNION GAS LIMITED

Undertaking of Mr. Brett
To Mr. Gardiner

Please provide data on split from attachment data for each year of 10-year period.

RESIDENTIAL MULTI-FAMILY ATTACHMENTS

<u>Year</u>	<u>Multi-Family</u>		<u>Share of Tot. Residential Attachments</u>	
	<u>Total</u>	<u>Cumulative</u>	<u>Total</u>	<u>Cumulative</u>
1995	3,528	3,528	12%	12%
1996	3,875	7,403	11%	12%
1997	4,203	11,606	12%	12%
1998	3,975	15,581	13%	12%
1999	2,868	18,449	12%	12%
2000	2,681	21,130	12%	12%
2001	3,000	24,130	16%	12%
2002	4,267	28,397	15%	13%
2003	4,445	32,842	16%	13%
2004	4,947	37,789	17%	14%
2005	5,109	42,898	20%	14%
2006	5,323	48,221	22%	15%
2007	4,719	52,940	22%	15%
2008	4,615	57,555	21%	15%
2009	2,327	59,882	14%	15%
2010	1,978	61,860	11%	15%
2011	1,938	63,798	11%	15%

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Mr. Isherwood

Please provide an actual numeric example of each of the categories to show how net revenue is calculated; to show all the costs associated with the transaction.

Below are the three categories that support Exchange revenue.

Base Exchange:

Example: Union sells Dawn-Niagara exchange for 20,000 GJ/d for one month at \$0.35/GJ. Union serves this exchange with TCPL IT transportation.

Revenue from Dawn-Niagara Exchange	\$217,000
Cost from Dawn-Niagara Exchange	
IT Cost	180,476
Fuel Cost	6,448
Pressure Charge	<u>12,115</u>
Total Cost	<u>199,039</u>
Net Revenue	<u>\$17,961</u>

Capacity Assignment:

Example: Union assigns to a third party 20,000 GJ/d of Empress-Union EDA capacity for one month. The same counterparty also agrees to accept Union's supply at Empress and redelivers the equivalent quantity to Dawn. Customer pays Union \$0.04/GJ. In this example, prior to the capacity assignment, the gas is not required in the EDA and would have been transported to Dawn for storage using TCPL STS service.

Revenue from pipe release	\$240,000
Costs from pipe release	=
Net Revenue	<u>\$240,000</u>

RAM Optimization:

Example: Union sells Dawn-Niagara exchange for 20,000 GJ/d for one month at \$0.35/GJ. Union serves this exchange with TCPL IT transportation funded by RAM credits.

Revenue from Dawn-Niagara exchange	\$217,000
IT minimum charge	8,643
Fuel Cost	6,448
Pressure Charge	<u>12,115</u>
Total Costs	<u>27,206</u>
Net Revenue	<u>\$189,784</u>

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Mr. Isherwood

Please advise whether Union will include a RAM forecast in the S&T forecast; since the future of the FT RAM program is unknown, does Union agree the deferral account for transportation exchange revenue is warranted.

- a) As indicated at Exhibit J.C-4-7-9, Union would consider including FTRAM revenue in its 2013 S&T revenue forecast with a deferral account to capture any variance between the revenue attributable to FTRAM included in rates and the actual revenues attributable to FTRAM. The deferral account is necessary because of the uncertainty regarding the continuation of TCPL's FTRAM program and Union's ability to optimize the FTRAM program.
- b) Union does not support the creation of a deferral account that captures transactional transportation margins in general.

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Ms. Van Der Paelt

Please provide historic numbers and basis for forecast.

Interruptible Revenues (\$Millions)	2007 <u>Actual</u>	2008 <u>Actual</u>	2009 <u>Actual</u>	2010 <u>Actual</u>	2011 <u>Actual</u>	2012 <u>Forecast</u>	2013 <u>Forecast</u>
Northern NUGS	0.37	0.32	0.36	0.44	0.48	0.55	0.43
CES Projects	0.25	0.75	-	-	-	-	0.05
OPGI Lennox	4.90	2.11	0.67	0.79	0.86	-	-
South	<u>0.16</u>	<u>0.03</u>	<u>0.02</u>	<u>0.04</u>	<u>0.02</u>	=	=
Total	<u>5.69</u>	<u>3.21</u>	<u>1.05</u>	<u>1.26</u>	<u>1.36</u>	<u>0.55</u>	<u>0.48</u>

The interruptible service forecast is part of the detailed bottom-up forecasts Union prepares for the large contract customers. Union provides historical consumption information for the customer and determines through discussion if plant operations and anticipated consumption are expected to change. The account managers reflect those changes, if any are required, into the forecast.

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Ms. Cameron

Please advise how much was turned back and how much was kept over the period shown in the tables.

Please see Attachment 1.

	Transportation Capacity Quantity (GJ/d)				Quantity Turned Back or Expired (GJ/d)				Quantity Expired (GJ/d)				Quantity Turned Back (GJ/d)			
	CDA	EDA	NCDA	Total Eastern Zone	CDA	EDA	NCDA	Total Eastern Zone	CDA	EDA	NCDA	Total Eastern Zone	CDA	EDA	NCDA	Total Eastern Zone
01-Nov-06	201,881	85,989	11,039	298,909												
01-Nov-07	91,870	85,989	11,039	188,898	110,011	-	-	110,011	71,735			71,735	38,276			38,276
01-Nov-08	71,327	85,989	11,039	168,355	20,543	-	-	20,543	4,846			4,846	15,697			15,697
01-Nov-09	71,327	61,156	11,039	143,522	-	24,833	-	24,833		20,188		20,188		4,645		4,645
01-Nov-10	71,327	61,156	11,039	143,522	-	-	-	-				0				-
01-Nov-11	71,327	59,251	10,756	141,334	-	1,905	283	2,188				0				-
01-Nov-12*	67,327	59,251	10,756	137,334	4,000	-	-	4,000	0	0	0	0	4,000	0	0	4,000

Note: Nov 1, 2012 subject to change

UNION GAS LIMITED

Undertaking of Mr. McIntosh
To Mr. Gardiner

Please provide the updated summary statistics table for each of the Northern and Southern Zones.

Union South

<u>Weather normal forecast estimate versus actual annual level</u>			
11 Observations: estimates for 2001 to 2011 inclusive			
	<u>30 yr Avg.</u>	<u>20 Yr DT</u>	<u>55:45 Blend</u>
Root Mean Square Error: RMSE	261	195	203
Average Variance from Actual	194	-37	90
Std Deviation of Variance	183	201	191
Mean Percent Error	-5.5%	0.8%	-2.7%

Union North

<u>Weather normal forecast estimate versus actual annual level</u>			
11 Observations: estimates for 2001 to 2011 inclusive			
	<u>30 yr Avg.</u>	<u>20 Yr DT</u>	<u>55:45 Blend</u>
Root Mean Square Error: RMSE	423	274	328
Average Variance from Actual	344	40	207
Std Deviation of Variance	257	285	267
Mean Percent Error	-7.4%	-1.1%	-4.5%

UNION GAS LIMITED

Undertaking of Mr. Thompson
To Mr. Gardiner

Please provide revenue differences between scenarios and 20-year trend-based revenues.

Attachment 1 in the response to Exhibit J.C-1-14-1 provides the total revenue differences for the three blended normal scenarios versus the 20-year declining trend normal for the year 2013.

UNION GAS LIMITED

Undertaking of Mr. Thompson
To Ms. Van Der Paelt

Please provide number of M1 and M2 customers that are manufacturers.

Manufacturers by General Service Rate Class
from Billing System Enquiry June 1 2012

Union South	Rate M1	6,718
	Rate M2	<u>1,505</u>
	Sub-Total	<u>8,223</u>
Union North	Rate 01	1,150
	Rate 10	<u>247</u>
	Sub-Total	<u>1,397</u>
All General Service Rates Classes		<u><u>9,620</u></u>

UNION GAS LIMITED

Undertaking of Mr. Thompson
To Ms. Cameron

Please clarify the extent to which services were used after NGEIR to optimize the value of disintegrated assets; to provide a list of the items that were available before NGEIR, a list of the items that are available and used after NGEIR to optimize both utility and non-utility, and a list of the services that Union is proposing to apply in 2013 and beyond to optimize the value of the utility and non-utility portions of integrated storage assets; to advise whether Union can provide any of these services listed in Attachment 1 for a period of two years or more; including multi-year gas loans.

Union's services from its storage assets are divided into 5 categories: long-term peak storage, short-term peak storage, off peak storage, balancing, Enbridge LBA and loans. The services available did not change as a result of NGEIR. The services do not include the ex-franchise power services ordered by the Board in NGEIR as referenced at Exhibit JT1.18.

While NGEIR determined that revenue from long-term peak storage is no longer subject to deferral, Union has continued to include all revenue from off peak storage, balancing, Enbridge LBA and loans in the short-term storage and balancing deferral account, regardless of the underlying storage asset providing the service (utility or non-utility) or term (See JT1.10).

UNION GAS LIMITED

Undertaking of Mr. Thompson
To Ms. Cameron

Please break out activities for Bluewater to Dawn, St. Clair to Dawn.

When the forecast process was completed, the St. Clair Line was still considered a non-utility asset and as a result Union did not include any St. Clair to Dawn activities in its 2012 or 2013 forecast. All forecast utilization in JC-4-14-2 is for the Bluewater to Dawn transportation path. Union expects that the 2013 utilization will be consistent with 2012 utilization, once the existing lease line is replaced in early 2013.

Union expects that the St. Clair to Dawn throughput in 2011 will continue into 2012 and 2013.

Please note that the footnote (3) at the bottom of Attachment 1 should be deleted.

UNION GAS LIMITED

Undertaking of Mr. Millar
To Ms. Elliott

Re: Pigging, please advise whether “Practical” means feasible or cost-effective.

In the case of pigging, practical means feasible which as clarified on page 124 of the Day 1 transcript, refers to “whether it’s physically possible to do it on those lines”.

Factors that deem a pipeline as not being piggable or not worth trying to make piggable are engineering related such as pipe diameter, length of the pipeline, operating characteristics (i.e. flow rates and pressure), the pipeline components such as elbows, reducers, filters, valves, etc. that are installed within the piping system and the potential for customer outage.

UNION GAS LIMITED

Undertaking of Mr. Millar
To Ms. Cummings

Please confirm there were no capital expenditures for station asset integrity from 2007 to 2010.

Prior to 2011, station integrity costs were included in Union's maintenance capital budget and were not separately identified as integrity costs.

UNION GAS LIMITED

Undertaking of Ms. Li
To Ms. Elliott

Please provide calculation of the 10.3% number.

	(\$000's)		
	<u>Total</u>	<u>Unregulated</u>	
	<u>Company</u>	<u>Storage</u>	<u>%</u>
Net Book Value of Pre'97 Assets as at December 31, 2006	731,284	75,451	10.3%

UNION GAS LIMITED

Undertaking of Mr. Shepherd
To Ms. Elliott

Please confirm that when Phantom stock is cashed in and paid out to the employee, that the amount is treated like any other bonus you would pay to the employee and is deductible.

The phantom stock paid out is a taxable benefit to the employee. The expense associated with the phantom stock paid out is not deductible for corporate tax purposes.

UNION GAS LIMITED

Undertaking of Ms. Li
To Ms. Elliott

Please disaggregate the 27,496 million.

	<u>(\$Millions)</u>
Capitalized overheads	\$23.075
Disposal costs capitalized	4.168
Depreciation - Non-deductible costs	0.292
Deductible costs included in NBV	0.253
Debt issue costs (tax vs accounting)	<u>(0.332)</u>
Total	<u>\$27.456</u>

UNION GAS LIMITED

Undertaking of Ms. Li
To Ms. Elliott

Please provide calculations for threshold test.

The quantitative thresholds for determining operating segments in accordance with CICA 1701 Segment Disclosures are as follows:

Quantitative thresholds

.19 *“An enterprise should disclose separately information about an operating segment that meets any of the following quantitative thresholds:*

- (a) its reported revenue, including both sales to external customers and intersegment sales or transfers, is 10 percent or more of the combined revenue, internal and external, of all operating segments;*
- (b) the absolute amount of its reported profit or loss is 10 percent or more of the greater, in absolute amount, of:*
 - (i) the combined reported profit of all operating segments that did not report a loss; or*
 - (ii) the combined reported loss of all operating segments that did report a loss; and*
- (c) its assets are 10 percent or more of the combined assets of all operating segments.*

The only quantitative test that can be performed based on the information available is the revenue test. Union does not prepare internal information on reported profit or total assets for its unregulated operations.

Based on the revenue test, the unregulated operations is 6% of total revenue.

UNION GAS LIMITED

Undertaking of Ms. Li
To Ms. Elliott

Please provide relevant section of USGAAP for utilities.

ASC 980 Regulated Operations

Entities

15-2 The guidance in the Regulated Operations Topic applies to general-purpose external financial statements of an entity that has regulated operations that meet all of the following criteria:

- a) The entity's rates for regulated services or products provided to its customers are established by or are subject to approval by an independent, third-party regulator or by its own governing board empowered by statute or contract to establish rates that bind customers.
- b) The regulated rates are designed to recover the specific entity's costs of providing the regulated services or products. This criterion is intended to be applied to the substance of the regulation, rather than its form. If an entity's regulated rates are based on the costs of a group of entities and the entity is so large in relation to the group of entities that its costs are, in essence, the group's costs, the regulation would meet this criterion for that entity.
- c) In view of the demand for the regulated services or products and the level of competition, direct and indirect, it is reasonable to assume that rates set at levels that will recover the entity's costs can be charged to and collected from customers. This criterion requires consideration of anticipated changes in levels of demand or competition during the recovery period for any capitalized costs. This last criterion is not intended as a requirement that the entity earn a fair return on shareholders' investment under all considerations; an entity can earn less than a fair return for many reasons unrelated to the ability to bill and collect rates that will recover allowable costs¹. For example, mild weather might reduce demand for energy utility services. In that case, rates that were expected to recover an entity's allowable costs might not do so. The resulting decreased earnings do not demonstrate an inability to charge and collect rates that would recover the entity's costs; rather, they demonstrate the uncertainty inherent in estimating weather conditions. This requirement must also be evaluated in light of the circumstances. For example, if the entity has an exclusive franchise to provide regulated services or products in an area and competition from other services or products is minimal, there is usually a reasonable expectation that it will continue to meet the other criteria. Exclusive franchises can be revoked, but they seldom are. If the entity has no exclusive franchise but has made the very large capital investment required to provide either the regulated services or products or an acceptable substitute, future competition also may be unlikely.

¹ Allowable costs – all costs for which revenue is intended to provide recovery. Those costs can be actual or estimated. In that context, allowable costs include interest cost and amounts provided for earnings on shareholders' investments.

UNION GAS LIMITED

Undertaking of Ms. Li
To Ms. Elliott

Please clarify impact to the allocation of regulated versus unregulated.

Capitalization of overheads for regulatory purposes does not impact the allocation of assets regulated versus unregulated.

Storage asset additions are classified into 4 basic categories and their allocation of regulated versus unregulated is determined as follows:

Description	Allocation Methodology
New Storage Asset – increase in capacity or deliverability	100% Allocation to unregulated
New Storage Asset – no increase in capacity or deliverability	Allocated regulated versus unregulated based on the historic allocation of assets at that location
Replacement Asset – no increase in capacity or deliverability	Allocated regulated versus unregulated based on the historic allocation of assets being replaced.
Replacement Asset – increase in capacity or deliverability	Cost of replacing the existing asset like for like is allocated regulated versus unregulated based on the historic allocation of assets being replaced. The cost of providing the incremental capacity or deliverability is allocated 100% to the unregulated operation. This results in a new blended rate for this asset.

UNION GAS LIMITED

Undertaking of Mr. Viraney
To Ms. Cummings

Please advise number of potential conversion customers in Red Lake.

Conversion customers forecasted for the Red Lake project include 1,071 residential and 182 commercial customers over a 10 year period.

UNION GAS LIMITED

Undertaking of Mr. Viraney
To Ms. Cummings

Please advise whether Union intends to adopt any or all of the recommendations outlined in “Asset Management Strategy Assessment” by Vesta Partner provided as IR No. J.B-4-1-13, Attachment 1.

Union has not determined the extent to which it will or will not adopt the recommendations outlined in the Vesta Partners’ report.

UNION GAS LIMITED

Undertaking of Mr. Viraney
To Ms. Cummings

Please advise the number of planners at Union; to comment on assessment of Union's succession planning.

The section under the "Training & Competency" heading in Vesta Partner's report (page 28) refers only to STO (Storage & Transmission Operations) planners. Union currently does not have any dedicated planners within STO. This function is performed primarily by Managers. The recommendation to have a dedicated planning function, including training for that role, will be considered in Union's Asset Management Strategy development.

The comment "that proper succession planning is also inadequate" on page 28 was made specifically in reference to Construction & Growth ("C&G"). Union does not agree with Vesta's observation. Succession planning for C&G roles is included within the Distribution Operations succession planning exercise and is effective.

UNION GAS LIMITED

Undertaking of Mr. Viraney
To Ms. Cummings

Please explain \$5.6 million adjustment in Exhibit J.O-4-15-1.

	<u>(\$Millions)</u>
CDN GAAP Pension Amortization	4.4
Payroll Accrual (S&W & Benefits)	0.8
HST Deferral	0.5
Other	<u>(0.1)</u>
Total	<u>5.6</u>

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Mr. Gardiner

Notwithstanding what could occur, to calculate unauthorized overrun penalties that could accrue for the amount of space and deliverability overruns in the Non-utility Business in October of 2011.

As indicated in Union's MPSS Rate Schedule, from the period of August 1 to December 15, the penalty charge for exceeding the storage balance is \$60/GJ. Union's excess in October 2011 was 1.6 PJ. The penalty would be \$96 million.

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Ms. Elliott

Ref: J.B-8-10-2, Attachment 1, Line 3

Union states that the non-utility storage plant allocation factor for the Dawn Plant J project should be 42.5% because (a) it is a storage and transmission asset, and (b) the project created incremental capacity.

Please show in detail how the 42.5% allocation factor was calculated.

Identify the costs that were allocated and the costs that were direct assigned, with an explanation for each.

Please provide the resulting increase in working capacity and deliverability for each storage pool.

The cost of replacing Dawn Plant A in the existing location with engines that provide the same horsepower was allocated based on the original Dawn Plant A allocation. The cost of changing locations and increasing the engine to provide incremental horsepower was charged 100% to the unregulated operation, which resulted in a new blended rate for this facility.

Dawn Plant J is a compressor plant that was constructed to replace the existing horsepower at Dawn Plant A which was decommissioned to meet the requirements of our Comprehensive Certificate of Approval Program. This project did not increase the working capacity or deliverability of individual storage pools.

Dawn Plant J
Blended Allocation to Unregulated Storage

	<u>Millions</u>	<u>Regulated</u>	<u>Unregulated</u>
Dawn A Plant - Current Allocation		80.14%	19.86%
Cost of replacing existing	\$ 29.9	\$ 24.0	\$ 5.9
Revenue Generating	\$ 11.8		\$ 11.8
	<u>\$ 41.7</u>	<u>\$ 24.0</u>	<u>\$ 17.7</u>
New Blended % for Dawn A / J		57.55%	42.45%

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Ms. Elliott

Ref: J.B-8-10-2, Attachment 1, Line 3

Please provide additional detail on Line No.144 including the type of infrastructure and its role in creating the additional services? Are these types of services also provided by the non-utility business?

The project referenced at Line No. 144 is ESPM (NGEIR). As part of the NGEIR process, Union committed to offer four new ex-franchise power services. To accommodate these new services, IT application system changes were necessary. One of the major changes was the requirement to provide additional nomination windows for power producers.

Of the four new services, three are non-utility storage or storage-related services – F24S, UPBS and DPBS. One service is provided by the regulated business – F24-T.

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Ms. Elliott

Ref: J.B-8-10-2, Attachment 1, Line 3

Please provide additional detail on Line No. 146 including the type of infrastructure and its role in meeting emerging demands? How are those demands not met?

The project description on line 144 should read “IT Demand Management” and not “IT Demand Management Bus. Dev. and S&T”. The projects submitted in the past have almost entirely supported the regulated business. The phrase “emerging demands” refers to the internal demand for capital.

The Demand Management process is an approval process generally for smaller IT application projects submitted to the IT department throughout the year by various Union Gas business leaders. Identifying specific IT projects closer to the time of undertaking the project allows for more accurate costing and benefits analysis and appropriate prioritization relative to the other IT opportunities that exist at the time. An example is the Corrosion System Upgrade implemented in 2011.

For a more complete description of this process please refer to Exhibit B1 Tab 7 page 2 lines 8 and following.

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Ms. Elliott

Ref: J.B-8-10-2, Attachment 1, Line 13

Please describe the improved injection and withdrawal capacity that will result from the Mandaumin Pool Modifications project.

Provide the working capacity and design deliverability for this pool before and after the project. Union's proposed cost allocation methodology states that if a project "improves efficiency or provides growth opportunities for the unregulated business, then the incremental cost of the project beyond the simple replacement is directly assigned to unregulated storage." (EB-2010-0039, Exhibit A, Tab 4, p. 14) Please explain why a direct allocation to non-utility storage is not necessary for this project.

The working capacity and design deliverability for this pool will not change with the proposed Mandaumin Pool modifications.

The Mandaumin pool currently has excess water content in the gas during withdrawal. Due to these water content issues, Union has had operational issues in withdrawing the full working inventory of the pool. The new facilities will provide the operational capability to assist in ensuring that no gas will be trapped in the pool.

The costs to increase the operational efficiency of the pool are allocated in proportion to the existing asset allocation because there is no incremental capability that requires a direct allocation to non-utility storage. The existing allocation assumes the full working capacity is available.

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Ms. Elliott

Ref: J.B-8-10-2, Attachment 1, Line 19

Will Union need to install emergency shut down valves on any storage injection/withdrawal wells that were put into service since the NGEIR Decision?

Please provide a table showing, for each Union storage pool, the number of storage/injection wells in operation as of 12/31/2006, 12/31/2011, and 12/31/2012 (forecast).

Union will install emergency shutdown valves in pools that contain wells with the highest risk consequence ratings. This may include wells that were put into service since the NGEIR Decision.

Pool	31-Dec-06	31-Dec-11	31-Dec-12
Dawn 59-85	7	9	9
Dawn 47-49	16	16	16
Payne	11	10	10
Dawn 156	18	22	22
Waubuno	7	7	7
Bickford	5	5	5
Terminus	8	8	8
Bentpath	7	7	7
Rosedale	5	5	5
Dawn 167	11	11	11
Enniskillen 28	8	8	8
Sombra	10	10	10
Oil Springs East	6	6	6
Dow 'A'	6	6	6
Edys Mills	5	5	5
Bentpath East	4	4	4
Booth Creek	2	2	2
Mandaumin	5	5	5
Oil City	2	2	2
Bluewater	2	2	2
Heritage	0	1	1

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Ms. Elliott

Ref: J.B-8-10-2, Attachment 1, Lines 142-147

Please confirm that the ex-franchise services referred to are the F24-T, F24-S, UPBS, and DPBS services, and that except for F24-T, these services are non-utility storage services.

Please identify the portion of the \$1.932 million of capital cost that Union proposes to include in rate base that is associated with the non-utility storage service and the portion of the cost is related to F24-T.

What this capital expenditure included in the 2007 budget that was approved in the 2007 rate case?

Please confirm that Union has been charging a rate for F24-T service that is designed to recover the incremental costs of providing this service.

Please provide the revenue Union has collected each year for F24-T service from 2007 to the present.

Response:

Union's ex-franchise power services that were developed from the NGEIR review process include 3 unregulated (non-utility) storage or storage-related services – F24S, UPBS & DPBS - and 1 regulated service – F24-T.

The asset associated with the \$1.932 million of capital for the ESPM project in 2007 is fully amortized and has no impact on the 2013 rate base.

The ESPM project was not included in the 2007 budget that was proposed in the 2007 rate case. This project was created in response to the NGEIR settlement agreement dated June 13, 2006, which was subsequent to the settlement agreement of the 2007 rate case, EB-2005-0520, on May 15, 2006.

Confirmed.

UNION GAS LIMITED
Summary F24-T Revenue
Year Ending December 31

Line		Actual	Actual	Actual	Actual	Actual	Actual
<u>No.</u>	<u>Particulars (\$000's)</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>YTD</u>
		(a)	(b)	(c)	(d)	(e)	(f)
1	F24-T Service	-	680	2,634	2,969	2,935	733

UNION GAS LIMITED

Undertaking of Mr. Shepherd
To Ms. Cummings

Please attempt to disaggregate “Service Contractors” line.

Particulars (\$ Millions)

Integrity	6.5	(Exhibit J.D-1-2-6 e))
Line Locates	3.9	(Exhibit J.D-1-2-6 e))
Customer Care Costs	3.5	(2007 Board Filed \$16.841 million vs. 2013 \$20.329)
Other	<u>0.1</u>	
Total	<u>14.0</u>	

UNION GAS LIMITED

Undertaking of Mr. Shepherd
To Ms. Cummings

Please confirm that all five member-specific project investments were done internally at Union as part of the utility.

The five projects referenced in Appendix B of the ETIC Business Plan dated December 15, 2011 are projects that Union is interested in pursuing through ETIC. None of the projects have been initiated by Union or ETIC.

UNION GAS LIMITED

Undertaking of Mr. Shepherd
To Ms. Cummings

Please confirm how many ETIC deliverables are done and how many are in progress.

Union has confirmed that the first two and the last of the list of ten deliverables on the "Virtual Organization" are completed. The remaining deliverables on this list are at various stages of development but are not yet completed. For example, the launch of the first round of projects was completed in early 2012 and LDC approval received. However there are other 2012 ETIC projects that are still being finalized and consequently LDC approvals have not been received for this next tranche of 2012 projects.

UNION GAS LIMITED

Undertaking of Mr. Shepherd
To Ms. Cummings

Please provide a breakdown of all amounts expected to be paid by ETIK to CGA for any services being provided by CGA, whether from Third Parties or from CGA internally.

ETIC's annual operating budget is \$350,000 per year and Union's annual commitment to this operating budget is \$69,650 as indicated at Exhibit J.D-7-3-1. ETIC's annual budget is provided below. Services that CGA are being provided on a cost recovery basis to ETIC are indicated below:

Line			
<u>No.</u>	<u>Expense</u>	<u>(\$000's)</u>	
1	Executive	100.0	
2	Support Staff	30.0	CGA
3	Government Relations	24.0	CGA
4	Technical	25.0	
5	Financial	60.0	
6	Rent	18.0	CGA
7	Travel	36.0	
8	Marketing/ Communication	20.0	
9	IT Support and Hardware	10.0	
10	Legal	20.0	
11	Miscellaneous	<u>7.0</u>	
12	Total	<u>350.0</u>	

UNION GAS LIMITED

Undertaking of Mr. Shepherd
To Ms. Cummings

Please provide regulatory ask paper.

Attached is a copy of the “Regulatory Ask” draft that was identified in the ETIC Business Plan.
(see my separate email). This draft was a “work in progress” and has not been finalized by ETIC.

Canada's national natural gas distribution system is entering a period of increased renewal. Originally put in place over the 1960's and 1970's (see Figure 1) an increasing proportion of Canada's natural gas grid is now approaching the end of its designed lifespan. This means an increase in the annual quantities of pipes, fittings and fixtures that will need to be replaced.

The current system was originally built at a time when customer bases were growing more rapidly (see Figure 2), were easier to attach, and vast undeveloped energy from both hydrocarbon and hydraulic sources were available to meet growing demand. But fast forward forty years and we find that, while Canada still has abundant natural gas resources, there is no longer a large and fast growing "yet to be attached" customer base and renewing the existing systems means working in the very heart of the Canadian urban and sub-urban landscape.

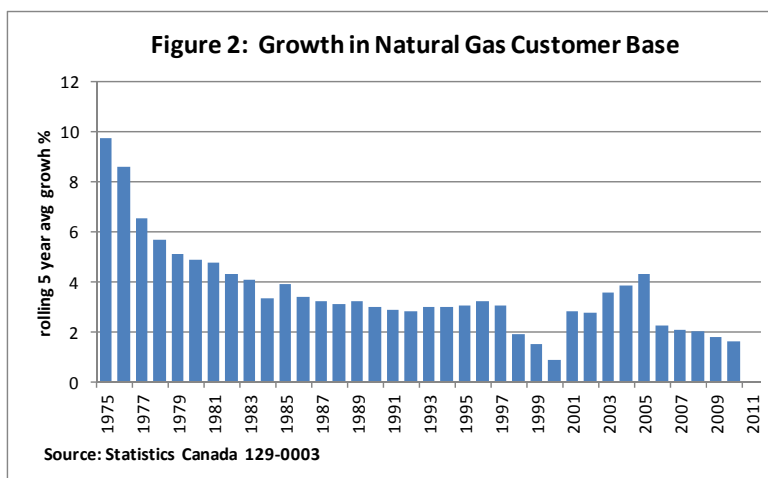
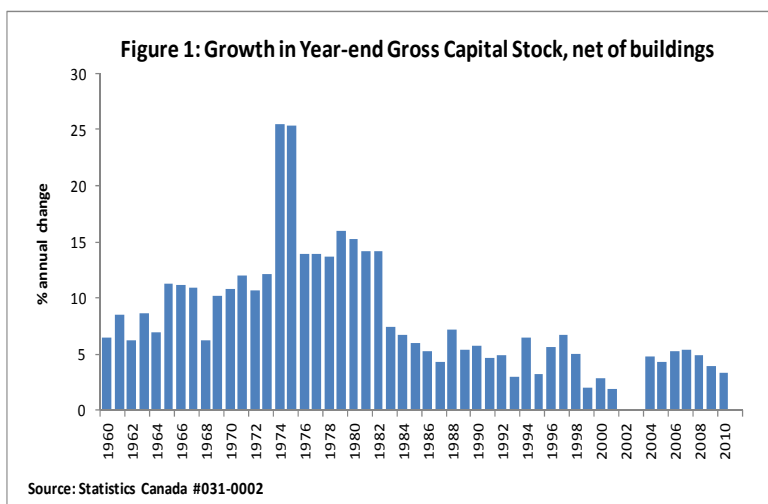
But this renewal affords the opportunity for Canada's natural gas LDC's to take advantage of forty years of innovation in energy system and energy end use design to infuse their systems and consumers homes and businesses with new innovations and technologies that will create a more integrated, efficient, clean, and more affordable energy system

For Canada's regulated natural gas utilities pushing new technology is something of a reversal. Since the days of "unbundling" Canada's regulated natural gas monopolies LDCs have been limited in the research and development spending that they could recover in rates. But by pooling their collective technology and innovation spending resources LDCs can leverage ratepayer funding with shareholder and government monies to the collective benefits of energy consumers across Canada.

Certainly cleaner and more efficient energy services will have broad public benefits including lower GHG and other emissions. But the questions remain ...

Why should LDC monopolies be moving into technology development and deployment? And, Why should LDC ratepayers foot the technology and innovation bill?

The answer follows.



1. LDC's provide an existing connection and relationship to millions of Canadian energy consumers

Natural gas is used in virtually every region of Canada. Natural gas utility franchise areas cover the country from coast to coast to coast (see Figure 3) delivering safe, clean, versatile, affordable natural gas energy to over 20 million Canadian in over 6.3 million homes, businesses, schools, and other institutions. Natural gas meets over 30 percent of Canada's energy needs making it the second more used energy form in Canada, after refined petroleum products.

This comprehensive relationship with Canada's energy consumers highlights the value in having natural gas distribution utilities play a key role in the development and deployment of new energy technologies. Technologies brought forth by the LDC will reach more consumers more quickly and be able to deliver the economic, environmental and societal benefits more quickly and more comprehensively than any new enterprise.

Figure 3: Natural Gas LDC Franchise Areas



2. LDCS's undergo regular regulatory oversight and review

Canadian natural gas utilities have decades of operational excellence under the watchful eye of both economic and operational regulatory authorities. Any major action taken by a natural gas utility, anywhere in Canada goes through an extensive regulatory review process. This existing oversight would be brought to bear on any monies used for innovation and technology support.

This degree of governance provides customer protection and allows any concerned party to appear before the appropriate regulatory authority to express their view, submit expert opinion, and supporting information to test the claims and actions and expenditures of the utility. Indeed it is commonplace for Canadian natural gas utilities to face such regular scrutiny and these regulatory review processes have well established methods and rules that are backed by the force of law.

3. LDCs are energy system program finance and business risk experts

Allowing well financed and stable LDC to initiate technology and innovation programs helps limit the program's risk. LDCs participation will leverage ratepayer's investment helping to mitigate any business and financial risks associated with new technologies and innovations. LDCs financial expertise can further limit potential cost consequences to the public. LDC participation will allow development and deployment of a number of innovations and new technologies that might not otherwise be viable. Once established and successful, these innovations could remain under LDC control or be turned back to private sector markets and operators.

4. LDCs have extensive energy service & system operational expertise

LDCs employ a highly skilled workforce, directly employing tens of thousands of energy systems experts in the form of engineers, gas fitters, and natural gas technicians' and others. Canadian natural gas LDCs have provided billions of hours of safe and reliable natural gas energy services to Canadians.

This expertise makes natural gas systems and their LDC franchise operators the ideal venues for the "real world" development and delivery of new, beneficial energy end use technologies. LDC's, through cooperative joint efforts, can bring new energy end use technologies into operation more quickly and safely than any other energy market player.

By letting LDCs return to technology research, development, and deployment they can pool their energy systems expertise and leverage their collective efforts to provide the maximum benefits available from the deployment of new energy systems and services.

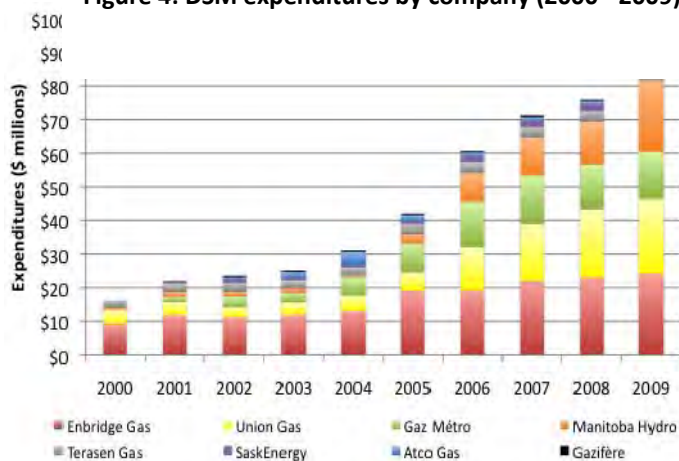
5. LDCs have a history of success operating rate payer supported programs

Canada's natural gas LDC's have shown they are innovative and, when allowed, are willing and able to make appropriate investments in cleaner, more productive energy systems and technologies.

For example from 2000 through 2009, more than 459 million dollars were invested in demand side management conservation (DSM) activities by natural gas utilities in Canada, saving almost 1.8 billion cubic metres of natural gas¹ (see Figure 4).

LDCs, regulators and consumer groups have evolved a model for such programs that allows the interests of all parties to be reflected and protected. Recreating a similar mechanism outside the regulated utility model would be unnecessarily costly and duplicative. DSM programs are but one example of the history of success that Canada's natural gas LDC's have in bringing new and innovative ideas to fruition within the regulated utility business model.

Figure 4: DSM expenditures by company (2000 - 2009)¹



¹ Canadian Natural Gas DSM Activities 2000-2009, IndEco Research,

CONCLUSIONS AND SUMMATION

Canada's natural gas LDCs are key investors in the Canadian energy marketplace. Their existing investments, financial and operational expertise, and connection to over 20 million Canadians in over 6 million homes, businesses, industries, and institutions make them an ideal interlocutor to advance energy innovation and technology in Canada.

The consumer protection afforded by the existing regulatory oversight framework will provide the due diligence to monitor and ensure that ratepayers benefit from LDC investments in innovation and technology and that these investments are both prudent and well planned.

In short, Canadian natural gas utilities' 100 plus years of energy service system construction and safe operation make them the most logical partner to bring innovation and technological advancements safely into the existing energy services system in Canada. Doing so will lead to a more efficient, cleaner integrated energy services system.

UNION GAS LIMITED

Undertaking of Mr. Shepherd
To Ms. Cummings

Please provide details of the integrated community energy systems project.

Integrated Community Energy Systems have been identified as an ETIC technology area of interest. Specific projects related to this technology area have not yet been finalized by ETIC except for the thermal metering project specified by Union in its response at Exhibit J.D-7-5-1 which includes a Union investment. Other specific project that are developed as a part of this focus area will be invested in by Union only if they relate to Union business. If they are Spectra related than they will not be invested in by Union.

UNION GAS LIMITED

Undertaking of Mr. Shepherd
To Ms. Elliott

Please consider filing the unredacted Towers Perrin Report.

Union is not prepared to provide an unredacted copy of the Towers Perrin Report. The information redacted from the report does not pertain to Union Gas.

UNION GAS LIMITED

Undertaking of Ms. Girvan
To Ms. Cummings

Please make an inquiry regarding Enbridge's ETIC Contribution Plans.

Union has inquired about Enbridge's ETIC contribution and Enbridge has not responded.

UNION GAS LIMITED

Undertaking of Ms. Girvan
To Ms. Cummings

Please reconcile the difference in pension and benefits on page 28 and page 3.

The evidence at Exhibit A2, Tab 1, Sch 1 was not updated as part of the March update. Page 28 refers to the original D1, Tab 2 evidence not the updated evidence.

UNION GAS LIMITED

Undertaking of Mr. Aiken
To Mr. Shorts

Please provide the reason for the difference in total supply at cost.

The difference is that page 2, line 1 of J.D-14-2-1, Attachment 1 includes \$426,000 of third party storage which is shown at line 18 of page 1.

UNION GAS LIMITED

Undertaking of Mr.
To Mr.

Was there a full or half year assumption in the calculation in the first year operating cost of Parkway West in J.B-1-7-8?

The figure of \$16.4 is based on a full year assumption using a depreciation rate of 3.52%.

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Mr. Wood

Please provide the highest peak day flow through the Owen Sound line for the past 10 years and the actual winter day set delivery pressure for the Kitchener Gate Station for the Winter 2011/12.

Detailed data for peak day flows is only available for the past five years. The highest peak day flows through the Owen Sound take-off for the past five years are:

Year	Volume (km3/d)	Heating Degree
2008	4,947	34.7
2009	5,138	36.1
2010	4,823	31.4
2011	4,979	35.7
2012	4,480	28.8

The actual winter set delivery pressure for the Kitchener Gate Station for Winter 2011/2012 was 1,470 kPag.

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Mr. Shorts

Please provide responsibility of system gas portfolio at Parkway.

	<u>2011/2012</u>	<u>2012/2013</u>	<u>2013/2014</u>
System:			
Parkway	31%	31%	31%
Dawn	69%	62%	62%
Kirkwall	0%	7%	7%

UNION GAS LIMITED

Undertaking of Mr. Ross
To Mr. Shorts

Please confirm whether the contracts were delivered to the Union CDA.

Confirmed. Historical TCPL contracts were delivered to Union CDA.

UNION GAS LIMITED

Undertaking of Mr. Wolnik
To Mr. Redford

Reference J.D-16-13-1

In the response to b) iii), Union implies that the increased integrity space is required because of a change in modeling assumptions.

- a) Please describe the assumption changes and if the modeling changes are intended to reflect actual storage performance.
 - b) Please indicate why these modelling changes are required at this time.
 - c) Please confirm that the additional hysteresis affects have not been influenced in any way by any of the storage development programs on existing pools (including, but not limited to, adding additional wells, delta pressuring, lowering cushion, down hole simulation programs, adding compression or de-bottlenecking gathering lines etc.) that Union has implemented over the last 10 years? If Union cannot confirm this, please explain why in detail.
-

- a) The assumptions resulting in an increase in the hysteresis component of system integrity space include the following:
 - i) The maximum hysteresis was revised to reflect well interference to better reflect actual storage performance.
 - ii) The uncertainty around the expected maximum hysteresis was changed from a range between -5 psi and +10 psi to a range between -10% and +10%.
 - iii) Changes to the methodology used to allocate the total calculated system integrity space (i.e. 9.5 PJ) to reflect diversity more accurately amongst all of the operational components.
- b) The modeling changes were incorporated at this time to provide updated information for Union's 2013 Rates proceeding.
- c) As indicated in Union's evidence Ex D1 T9 Page 3 well interference depends on the individual pool characteristics, system demands and length of sustained withdrawals or injections. All of these factors, including storage development programs, will have an influence on well interference. Due to the complexity and variability of hysteresis effects, Union cannot confirm the impact. However since the hysteresis component is a measure of the uncertainty, and not the absolute hysteresis. It is expected that the impact of these projects would be minimal.

UNION GAS LIMITED

Undertaking of Mr. Mondrow
To Mr. Wood

Please provide proportion of the volumes leaving Parkway on an annualized basis that serve in-franchise customers.

The proportion of the volumes leaving Parkway on an annualized basis to serve CDA in-franchise customers are:

2007	29.20%
2008	16.75%
2009	6.44%
2010	8.97%
2011	7.35%

UNION GAS LIMITED

Undertaking of Mr. Mondrow
To Mr. Shorts

Please provide the monthly averages for each month for the last 12 months to the end of May.

Dawn to Parkway Average Natural Gas Price Differential (US\$/MMBtu)

Jun'11	Jul'11	Aug'11	Sep'11	Oct'11	Nov'11	Dec'11	Jan'12	Feb'12	Mar'12	Apr'12	May'12
0.04	0.04	0.03	0.04	0.04	0.08	0.08	0.08	0.08	0.08	0.06	0.03

Note: Based on Dawn-Parkway Physical trading spread (USD/MMBTU) as reported by NGX

UNION GAS LIMITED

Undertaking of Mr. Brett
To Mr. Shorts

Please explain how much direct purchase gas in Union's Southern Operating region carries an obligation to deliver to Parkway.

Response:

	2011/2012	2012/2013	2013/2014
Direct Purchase			
Parkway	67%	67%	67%
Dawn	33%	33%	33%

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Mr. Shorts

Please identify Empress-to-Eastern Zone contracts turned back as of November 1, 2010, November 1, 2011 and November 1, 2012.

Please see the response at Exhibit JT1.9.

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Mr. Tetreault

Please update the Tables to include the C1 volumes if they were inadvertently omitted.

For the table at Exhibit J.G-10-10-1 c), the first line labeled "M12" includes C1 LT Firm volumes. This should be labeled "M12 + C1 LT Firm".

UNION GAS LIMITED

Undertaking of Mr. Quinn
To Mr. Tetreault

Please update the tables and show the winter peaking costs that are consistent with the term in A. To confirm, if it is 2007/2008, what the cost was associated with the peaking service for that season, as opposed to the calendar-year cost.

Response:

<u>Winter</u>	<u>(\$000's)</u>
2007/2008	2,724
2008/2009	95
2009/2010	5,727
2010/2011	4,087
2011/2012	--