

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
BOARD STAFF INTERROGATORY #11

INTERROGATORY

Issue: A-2

Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

REF: EB-2012-0451, Exhibit A, Tab 3, Schedule 5, Page 21 of 26, Expected Gas Supply Benefits Update

Preamble

The evidence states that the TCPL tolls used in the gas supply benefits calculations are based on TCPL's Restructuring Proposal as filed by TCPL on June 29, 2012 in the NEB RH-003-2011 proceeding.

Questions

- a) To what extent would the gas supply benefits change if the NEB's March 27, 2013 Decision on Tolls in proceeding RH-003-2011 is used? Please provide a rerun gas supply benefits model, with a summary of the relevant results, using the NEB's Mainline tolls Decision. Please summarize the differences.

RESPONSE

Please note that on May 15, 2013, the Company filed an update to the expected gas supply benefits associated with the GTA Project. This update can be found at Exhibit A, Tab 3, Schedule 5. This update included the tolls associated with the TransCanada Review and Variance Application and updated contracting assumptions which now assume long haul firm transportation and peaking supplies are displaced by short haul firm transportation. The rationale for this change is provided in the update to Exhibit A, Tab 3, Schedule 5, pages 21 to 30.

The tolls contained in TransCanada's Compliance Filing with the National Energy Board are the tolls associated with the NEB Decision in RH-003-2011. The expected gas supply benefits are \$1,465 million from 2015 to 2025 when the tolls from TransCanada's

Witness: J. Denomy

Compliance Filing are used. As shown in Exhibit A, Tab 3, Schedule 5, page 30, the expected gas supply benefits are \$1,632 million from 2015 to 2025 when tolls from TransCanada's Review and Variance Application are used. The expected gas supply benefits are lower when using the tolls contained in TransCanada Compliance filing because the reduction in long haul tolls is greater than the reduction in short haul tolls.

The Union Parkway Belt to Bram West CDA toll and the Niagara Falls to Enbridge Parkway CDA toll are not provided in TransCanada's Compliance Filing or in TransCanada's Review and Variance Application. The tolls for these two paths were derived by TransCanada utilizing the system average unit costs from each of the aforementioned filings and the distance associated with each path.

The table below provides tolls from TransCanada's Compliance Filing and Review and Variance Application.

Path	Review & Variance Application Tolls	Compliance Filing Tolls	Difference
Empress-EGD CDA	1.677	1.566	0.112
Union Dawn-EGD CDA	0.252	0.236	0.016
Union Parkway Belt-Bram West CDA	0.093	0.088	0.005
Niagara Falls-Enbridge Parkway CDA	0.164	0.153	0.011

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
BOARD STAFF INTERROGATORY #12

INTERROGATORY

Issue: A-2

Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

REF: EB-2012-0451, Overall Proposal
EB-2012-0433, Overall Proposal
EB-2013-0074, Overall Proposal

Questions

- a) Does the GTA Project propose to move gas with a destination outside of the Enbridge franchise or are all volumes intended to serve only in-franchise customer requirements? Please explain.
- b) With respect to EBO 134, please provide a summary assessment of the impacts of the GTA and Union projects, on the existing transportation infrastructure in Ontario and the impacts on Ontario customers in terms of costs, rates, reliability, and access to supplies.

RESPONSE

- a) Please see response to Board Staff Interrogatory #15 found at Exhibit I.A3.EGD.STAFF.15, Paragraphs b and c.
- b) Please refer to Exhibit E, Tab 1, Schedule 1, paragraph 17 for a summary of the impacts under EBO 134.

Witnesses: C. Fernandes
M. Giridhar

**ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
CONSUMERS COUNCIL OF CANADA INTERROGATORY #5**

INTERROGATORY

2. Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Pre-amble: The Board's Filing Guidelines on the Economic Tests for Transmission Pipeline Applications encourage the use of DCF sensitivity analysis.

Issue: A.2-CCC-5

Reference A/T3/S5/Attachment

- a) Please confirm that the following is the complete list of changes that were made to the original projections in the May 15th filing:
 - i) The revised assumption that Enbridge would contract for long haul FT capacity on the Mainline - rather than STFT – and that this long haul FT and peaking supplies are displaced with short haul FT capacity;
 - ii) The revised assumption that DP customers will take an additional assignment and/or contract for more long haul FT capacity on the Mainline;
 - iii) Updated Toll assumption;
 - iv) Updated Fuel Ratio assumption; and,
 - v) Updated Commodity Price assumption.

RESPONSE

- a) i) to v) Confirmed with the addition that the foreign exchange rates utilized to convert USD to CAD were updated as well.

Witness: J. Denomy

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
CONSUMERS COUNCIL OF CANADA INTERROGATORY #6

INTERROGATORY

2. Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Issue: A.2-CCC-6

Reference A/T3/S5/Attachment

- a) In the updated evidence (May 15th) Enbridge made a number of adjustments to the assumption of transportation savings. Using Table A1 please provide the specific reason for each change in Demand Tolls. Specifically, please explain why the Peaking Tolls have changed even though the footnotes (source) in the respective filings appear to have remained the same.

RESPONSE

- a) The reason for the change in demand tolls for all FT paths is the use of the tolls provided by TransCanada in its Review and Variance Application. The reason for the change in the demand charges related to peaking supplies is an update to the foreign exchange rate used to convert costs from US dollars to Canadian dollars.

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
CONSUMERS COUNCIL OF CANADA INTERROGATORY #7

INTERROGATORY

2. Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Issue: A.2-CCC-7

Reference A/T3/S5/pg.3

- a) Please clarify whether apartment data includes or excludes condominiums or whether condominiums are included in the residential category
- b) Please provide a table which shows condominiums separate from either the residential or apartment categories.

RESPONSE

- a) Condominiums may be a part of residential or apartment category depending upon how the apartment building comprising of condominiums is served. For more details, please see definition of residential and apartment customers in the interrogatory response to GEC Interrogatory #16 at Exhibit I.A1.EGD.GEC.16 g) and i), respectively.
- b) Please see the interrogatory response to GEC Interrogatory #16 at Exhibit I.A1.EGD.GEC.16 g).

Witnesses: F. Ahmad
M. Suarez

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
CONSUMERS COUNCIL OF CANADA INTERROGATORY #8

INTERROGATORY

2. Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Issue: A.2-CCC-8

Reference: E/T1/S1/pg. 8 – Summary of Inputs

- a) Please confirm that the average annual volume per customer is held constant over the analysis time horizon (40 years).
- b) If in fact average customer use is constant over the DCF analysis please explain why no adjustment is made for potential efficiencies gains over time (e.g. improved housing stock, appliance improvements and industrial process efficiencies).

RESPONSE

- a) The Company confirms that the average annual volume per customer is held constant over the 40-year analysis time horizon in the Economic Feasibility.
- b) Please see response to Board Staff Interrogatory #16 found at Exhibit I.A3.Staff.16 Part (b).

Witness: S. Murray

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
CONSUMERS COUNCIL OF CANADA INTERROGATORY #9

INTERROGATORY

2. Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Issue: A.2-CCC-9

Reference: E/S1/T1

- a) Please provide the rate classes which are included in the classifications or Residential, Commercial, Apartment, Industrial in the Summary of Inputs
- b) Please provide Enbridge's 5 year average weather normalized residential (Rate 1) and commercial class (Rate Class 6) for the years 1997-2002 as compared to the average for 2007-2012.

RESPONSE

- a) Residential customers were classified as Rate 1. Commercial, Apartment and Industrial customers were classified as Rate 6.
- b) The following 6-year average annual use per Rate 1 and Rate 6 customer have been normalized to the 2013 Budget Degree Days.

	Average Annual Use per Customer	
	Rate 1-Residential	Rate 6-Commercial
1997-2002	3,054	17,616
2007-2012	2,679	19,316

Witnesses: F. Ahmad
S. Murray
M. Suarez

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
CONSUMERS COUNCIL OF CANADA INTERROGATORY #10

INTERROGATORY

2. Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Commodity Price Assumptions

Issue: A.2-CCC-10

Reference: A/T3/S5/Attachment

- a) In the updated filing (May 15) Enbridge has changed the Fuel Ratio Assumptions, using the most recent 12 months. Similarly changes were made to the commodity price assumptions in the updated evidence. Please provide a sensitivity analysis using Table A4 and showing the updated Fuel Ratio and Commodity prices under the original STFP and DP transportation assumptions provided in the original filing.

RESPONSE

Please see the table below. This table is a revised version of Table A4 contained in the May 15, 2013 update. The table below shows what the expected gas supply benefits would be if the commodity, foreign exchange, and fuel ratio assumptions underpinning the expected gas supply benefits calculations in the April 15, 2013 update were utilized. The commodity price and foreign exchange assumptions reflect forward curves as at October 12, 2012. The fuel ratio assumptions are actual TransCanada fuel ratios from December 2011 to November 2012 and Union Gas fuel ratios are those per the M12 rate schedule effective October 1, 2012. All other assumptions contained in the table remain consistent with those filed in the May 15, 2013 update. Under this set of assumptions, the expected gas supply benefits for system gas customers are approximately \$979 million over the 2015 to 2025 timeframe. Expected gas supply savings for Direct Purchase customers are approximately \$644 million over the 2015 to

2025 timeframe. Overall, under the scenario presented in this response the expected gas supply savings over the 2015 to 2025 timeframe would be approximately \$1,624 million rather than \$1,632 million as filed in the May 15, 2013 update.

In responding to this interrogatory, the Company realized there was a typo in the May 15, 2013 update of Exhibit A, Tab 3, Schedule 5 at page 29, paragraph 63. The figure \$955 million in the first sentence of this paragraph should read \$995 million.

		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Increased Firm Transportation Scenario												
Service	TCPL FT - EGD											
Path	Empress-EGD CDA											
Contract Demand	294,494	30.1	180.8	180.3	180.3	180.3	180.8	180.3	180.3	180.3	180.8	180.3
	Demand Charges	2.1	9.3	9.9	10.0	10.2	10.3	10.4	10.5	10.7	10.8	10.9
	Fuel Charges	73.4	449.2	476.0	483.7	490.6	498.4	503.6	509.6	515.8	522.2	525.2
	Commodity Cost	105.6	639.3	666.2	674.0	681.0	689.5	694.3	700.5	706.8	713.9	716.4
	Total Cost											
Service	Peaking Supplies - EGD											
Path	Empress-EGD CDA											
Contract Demand	105,506	0.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	Demand Charges											
	Fuel Charges	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commodity Cost	0.0	5.9	6.1	6.0	6.1	6.1	6.2	6.3	6.3	6.4	6.4
	Total Cost	0.1	6.8	7.0	7.0	7.0	7.1	7.1	7.2	7.3	7.3	7.3
Service	TCPL FT - Direct Purchase											
Path	Empress-EGD CDA, Dawn-EGD CDA											
Contract Demand	200,000	16.8	100.8	100.5	100.5	100.5	100.8	100.5	100.5	100.5	100.8	100.5
	Demand Charges	1.2	5.1	5.4	5.5	5.6	5.7	5.7	5.8	5.9	6.0	6.0
	Fuel Charges	51.1	311.6	328.8	336.3	340.3	346.1	349.5	353.7	357.8	361.7	365.7
	Commodity Cost	69.0	417.5	434.7	442.3	446.4	452.5	455.7	460.0	464.2	468.4	470.2
	Total Cost											
	A-Total Cost	174.7	1,063.7	1,107.9	1,123.3	1,134.4	1,149.2	1,157.2	1,167.6	1,178.2	1,189.6	1,193.9
Expected Contracting With GTA Project Facilities Approved												
Service	Union M12 - EGD											
Path	Dawn-Parkway											
Contract Demand	200,000	1.1	6.7	6.6	6.6	6.6	6.7	6.6	6.6	6.6	6.7	6.6
	Demand Charges	0.2	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3
	Fuel Charges	26.4	163.9	170.2	178.2	178.9	182.5	184.0	186.1	188.1	189.1	190.0
	Commodity Cost	27.7	171.7	178.0	186.1	186.8	190.4	192.0	194.0	196.1	197.1	198.0
	Total Cost											
Service	TCPL FT - EGD											
Path	Niagara Falls Enbridge Parkway CDA											
Contract Demand	200,000	2.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
	Demand Charges	0.1	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Fuel Charges	57.3	343.6	357.1	369.7	371.7	378.6	381.7	385.9	390.0	394.5	396.4
	Commodity Cost	59.4	356.1	369.5	382.2	384.2	391.1	394.2	398.4	402.5	407.0	408.9
	Total Cost											
Service	Union M12 - Direct Purchase											
Path	Dawn-Parkway											
Contract Demand	200,000	1.1	6.7	6.6	6.6	6.6	6.7	6.6	6.6	6.6	6.7	6.6
	Demand Charges	0.5	2.3	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6
	Fuel Charges	55.8	336.2	349.3	365.7	367.2	374.6	377.7	381.9	386.1	388.1	390.0
	Commodity Cost	57.4	345.1	358.3	374.8	376.3	383.8	386.9	391.1	395.3	397.3	399.2
	Total Cost											
Service	TCPL FT - EGD & Direct Purchase											
Path	Parkway to Bram West CDA											
Contract Demand	800,000	4.5	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2
	Demand Charges	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Fuel Charges	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commodity Cost	4.6	27.5	27.4	27.5	27.5	27.5	27.5	27.5	27.5	27.6	27.5
	Total Cost											
	B-Total Cost	149.1	900.4	933.3	970.6	974.7	992.9	1,000.4	1,011.0	1,021.3	1,028.9	1,033.6
	Savings (A-B)	25.7	163.3	174.7	152.7	159.7	156.3	156.7	156.6	156.9	160.7	160.3

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
CONSUMERS COUNCIL OF CANADA INTERROGATORY #11

INTERROGATORY

2. Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Sensitivity Analysis

Issue: A.2-CCC-11

Reference: E/T1/S1

- a) Please explain the rationale for a 40 year project life.
- b) Please re-run the cost benefit analysis using a 25 year project life.

RESPONSE

- a) In accordance with EBO 188, the Company has employed a customer revenue horizon of 40 years from the in-service date of the initial mains.
- b) The Net Present Value and Profitability Index under a 25 year project life are \$532.4 million and 1.65, respectively.

Witness: S. Murray

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
CONSUMERS COUNCIL OF CANADA INTERROGATORY #12

INTERROGATORY

2. Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Issue: A.2-CCC-12

Reference: E/T1/S1/pg.2

- a) Please provide the following sensitivity analysis in the form of the DCF result summary shown on pages 2-5 and using the following assumptions:
- i) 10% increase capital and maintenance costs (E/T1/S1/pg.9);
 - ii) 10% reduction in Commodity Prices Assumptions (Table A3);
 - iii) 10% reduction in forecast Transportation Savings;
 - iv) A reduction of 0.5% in average annual customer (all classes) consumption in each year for the first 25 years of the project;
 - v) Removal of the Transportation Service Charge revenue after year 15 (i.e. to match the initial TCPL contract period);
 - vi) April 15 filing (original) transportation assumptions with respect to DP and STFP.
- b) Please provide another analysis using assumption changes in i) through iv), but removing adjustment (v) and using the transportation assumptions in the updated (May 15) filing.

RESPONSE

As discussed in the response to interrogatory Board Staff #48 in Exhibit I.D5.EGD.STAFF.48, the 36" shared use option with TransCanada is the base case assumption for the GTA Project and hence is used for the sensitivities requested herein.

As requested, DCF schedules have been provided as attachments for the above sensitivities. In addition, included below is a table with a summary of the results.

Witnesses: J. Denomy
S. Murray

Please note the following:

- 1) Item a (ii) would only marginal impact Transportation Savings and thus this scenario has not been included in the response;
- 2) Item a (iv) has been included as requested. However, the economic feasibility assumes all costs and distribution revenue rates are held constant in current year terms. This is consistent with past LTC applications.
- 3) Item a (v) has been included as requested. However, as per Exhibit E, Tab 1, Schedule 2, paragraph 6, the cost to terminate the TSA after the initial term or any subsequent term will be TransCanada's proportionate share of the Shared Pipeline's net book value as of the termination date. This value has not been included here but would afford an offsetting impact.

Witnesses: J. Denomy
S. Murray

SUMMARY OF INPUTS

		Attachment 1	Attachment 2	Attachment 3	Attachment 4	Attachment 5	Attachment 6
	Base Case	A.2-CCC-12(a)(i)	A.2-CCC-12(a)(iii)	A.2-CCC-12(a)(iv)	A.2-CCC-12(a)(v)	A.2-CCC-12(a)(vi)	A.2-CCC-12(b)
	36" Shared	10% increase in Capital	10% reduction in Transp. Savings	0.5% reduction in Annual Volumes	Remove Transp. Serv. Charge after Yr. 15	April 15 filing transportation assumpt.	Combination of (i), (iii), and (iv)
<u>Capital Investment</u>							
Mains							
Stations							
Land/Land Rights							
Total	\$554,575,341	\$610,032,875	\$554,575,341	\$554,575,341	\$554,575,341	\$554,575,341	\$610,032,875
<u>Future Reinforcement Projects</u>							
2017	\$21,000,000	\$23,100,000	\$21,000,000	\$21,000,000	\$21,000,000	\$21,000,000	\$23,100,000
2018	\$16,400,000	\$18,040,000	\$16,400,000	\$16,400,000	\$16,400,000	\$16,400,000	\$18,040,000
2019	\$13,000,000	\$14,300,000	\$13,000,000	\$13,000,000	\$13,000,000	\$13,000,000	\$14,300,000
2020	\$250,000	\$275,000	\$250,000	\$250,000	\$250,000	\$250,000	\$275,000
<u>Capital Maintenance Costs</u> ¹	\$5,218,238	\$5,740,062	\$5,218,238	\$5,218,238	\$5,218,238	\$5,218,238	\$5,740,062
<u>Services</u> ²	\$379,533,696	\$417,487,066	\$379,533,696	\$379,533,696	\$379,533,696	\$379,533,696	\$417,487,066
<u>Total Capital</u>	\$989,977,275	\$1,088,975,003	\$989,977,275	\$989,977,275	\$989,977,275	\$989,977,275	\$1,088,975,003
<u>Total Transportation Savings</u> ¹	\$1,632,014,615	\$1,632,014,615	\$1,468,813,153	\$1,632,014,615	\$1,632,014,615	\$392,136,859	\$1,468,813,153
<u>Total Transportation Services Charge</u> ¹	\$277,595,905	\$304,607,380	\$277,595,905	\$277,595,905	\$152,102,980	\$277,595,905	\$304,607,380
<u>Total Customer Additions (2015 - 2024)</u>	146,337	146,337	146,337	146,337	146,337	146,337	146,337
<u>Total Volumes (10³ m³)</u> ¹	24,709,032	24,709,032	24,709,032	22,537,605	24,709,032	24,709,032	22,537,605
<u>SUMMARY OF RESULTS</u>							
Net Present Value (40 years)	\$633,574,507	\$568,512,325	\$553,041,440	\$592,612,955	\$609,619,381	\$22,547,856	\$447,017,707
Profitability Index (40 years)	1.77	1.63	1.67	1.72	1.74	1.03	1.49

¹Total for the 40 year horizon of analysis.

²Services include the costs for distribution mains, services and meters based on the 2013 capital budget.

Witnesses: J. Denomy
S. Murray

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
		10/10 - 09/13	09/13 - 12/13	01/14 - 12/14	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
	Discount factors to project outset	1.000	0.991	0.985	0.902	0.852	0.805	0.760	0.718	0.678	0.640	0.605	0.571	0.540	
	INCREMENTAL CAPITAL INVESTMENT														
1.	Investment in Mains														
2.	Investment in Services														
3.	Investment in Stations														
4.	Investment in Land														
5.	Investment in Land Rights														
6.	Annual Capital Maintenance Costs														
7.	Contribution In Aid Of Construction														
8.	Net Investment Capital	(17,991,844)	(8,263,938)	(206,340,139)	(418,764,954)	(41,859,918)	(64,438,276)	(59,352,499)	(55,614,482)	(42,088,497)	(43,266,169)	(42,142,189)	(42,142,189)	(42,142,189)	
9.	Working Capital				1,101	1,346	2,730	2,873	3,264	3,599	3,851	3,851	3,851	3,851	
10.	Total Investment	(17,991,844)	(8,263,938)	(206,340,139)	(418,763,853)	(41,858,572)	(64,435,406)	(59,349,626)	(55,611,218)	(42,064,898)	(43,262,318)	(42,138,338)	(42,138,338)	(42,138,338)	
11.	PV Of Total Investment At Project Outset	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	
12.	ACCUMULATED PV OF TOTAL INVESTMENT														
	CCA TAX SHIELD														
13.	CCA Tax Shield				5,583,523	9,857,414	10,099,000	10,466,000	10,741,615	10,864,015	10,881,579	10,899,306	10,907,619	10,915,979	
14.	PV Of CCA Tax Shield At Project Outset				5,037,967	8,400,455	8,128,511	7,956,208	7,712,369	7,367,181	6,969,405	6,593,187	6,231,884	5,890,401	
15.	ACCUMULATED PV OF CCA TAX SHIELD				5,037,967	13,438,423	21,566,933	29,523,142	37,235,511	44,562,692	51,572,097	58,165,284	64,397,168	70,287,569	
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)														
16.	Gas Distribution Revenue				6,271,994	18,969,998	31,796,356	44,634,856	57,550,596	70,574,131	83,740,560	96,981,526	110,222,492	123,463,459	
17.	Transportation Services Charge				1,571,842	12,957,078	12,795,545	12,624,808	12,445,430	12,257,944	12,170,674	11,897,370	11,687,903	11,472,110	
18.	Transportation Savings				24,283,396	148,930,993	154,482,286	192,335,965	161,419,071	156,743,050	157,109,580	157,360,615	157,360,615	157,360,615	
19.	Gas Costs				(2,719,614)	(8,220,976)	(13,749,757)	(24,789,726)	(30,355,050)	(36,971,650)	(41,616,201)	(41,616,201)	(41,616,201)	(41,616,201)	
20.	O&M Expenses				(823,374)	(2,978,946)	(4,112,659)	(5,257,159)	(6,411,613)	(7,579,751)	(10,807,360)	(9,985,759)	(11,147,758)	(12,390,303)	
21.	Net Operating Cash (Before Taxes)				28,584,244	169,658,146	181,211,772	225,080,713	200,213,758	201,756,835	206,415,714	214,416,516	220,862,500	231,085,727	
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset				25,270,704	144,582,104	145,854,228	171,105,391	136,816,746	132,204,313	129,704,433	126,186,796	124,686,950	124,686,950	
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)				25,270,704	169,852,807	315,707,036	486,812,426	630,563,839	767,380,585	899,584,897	1,029,289,331	1,155,475,386	1,280,172,183	
	TAXES														
24.	Income Tax (Before Interest Tax Shield)				(7,440,933)	(44,408,288)	(47,418,781)	(58,996,865)	(52,362,908)	(52,738,379)	(53,938,469)	(56,025,295)	(57,699,978)	(60,375,630)	
25.	Municipal Tax				(505,253)	(2,079,662)	(2,272,987)	(2,451,034)	(2,617,878)	(2,744,083)	(2,832,882)	(3,000,308)	(3,126,735)	(3,253,161)	
26.	Capital Tax														
27.	Total Taxes														
28.	PV of Total Taxes At Project Outset				(7,946,186)	(46,487,960)	(49,691,759)	(61,447,899)	(54,980,786)	(55,482,463)	(56,812,353)	(59,025,603)	(60,826,713)	(63,628,791)	
29.	ACCUMULATED PV OF TOTAL TAXES				(7,029,740)	(39,996,038)	(46,712,429)	(59,475,637)	(67,624,153)	(73,454,881)	(77,948,906)	(82,547,562)	(87,312,314)	(92,334,905)	
30.	ACCUMULATED NPV AND PI														
31.	Net Present Value				(880,186,286)	(766,820,611)	(652,833,919)	(520,484,740)	(408,496,596)	(301,936,821)	(199,150,129)	(98,558,164)	(892,539)	95,359,754	
	Profitability Index				0.000	0.151	0.277	0.424	0.548	0.666	0.780	0.891	0.999	1.106	

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Chrgs start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 1 Year 12	Col. 16 Year 13	Col. 17 Year 14	Col. 18 Year 15	Col. 19 Year 16	Col. 20 Year 17	Col. 22 Year 18	Col. 23 Year 19	Col. 24 Year 20	Col. 25 Year 21	Col. 26 Year 22
	Discount factors to project outset											
	INCREMENTAL CAPITAL INVESTMENT											
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)
7.	Contribution In Aid Of Construction	-	-	(1,127,045)	-	(3,065)	(3,065)	-	-	-	(1,127,045)	-
8.	Net Investment Capital	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)
9.	Working Capital	-	-	(1,127,045)	-	(3,065)	(3,065)	-	-	-	(1,127,045)	-
10.	Total Investment	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)
11.	PV Of Total Investment At Project Outset	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)
12.	ACCUMULATED PV OF TOTAL INVESTMENT											
	CCA TAX SHIELD											
13.	CCA Tax Shield	10,589,339	9,947,762	8,787,978	8,264,644	7,764,128	7,293,970	6,852,327	6,437,467	6,047,762	5,690,620	5,355,135
14.	PV of CCA Tax Shield At Project Outset	5,396,893	4,788,430	3,773,482	3,351,740	2,973,936	2,638,735	2,341,330	2,077,458	1,843,337	1,638,183	1,456,016
15.	ACCUMULATED PV OF CCA TAX SHIELD	75,684,462	80,472,893	88,494,970	91,846,710	94,820,646	97,459,380	99,800,710	101,878,169	103,721,506	105,359,689	106,815,705
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)											
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	11,250,386	11,023,094	11,200,963	10,344,604	10,097,932	9,847,178	9,592,590	9,334,403	9,072,839	8,815,931	8,573,866
18.	Transportation Savings	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	Gas Costs	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
20.	OGM Expenses	(135,159,582)	(135,159,582)	(135,159,582)	(135,159,582)	(135,159,582)	(135,159,582)	(135,159,582)	(135,159,582)	(135,159,582)	(135,159,582)	(135,159,582)
21.	Net Operating Cash (Before Taxes)	133,139,582	133,139,582	133,139,582	133,139,582	133,139,582	133,139,582	133,139,582	133,139,582	133,139,582	133,139,582	133,139,582
22.	PV of Net Operating Cash (Before Taxes) At Project Outset	1,399,311,765	1,434,193,085	1,497,318,223	1,526,422,721	1,553,816,854	1,579,599,352	1,603,863,418	1,626,697,024	1,648,183,186	1,667,998,420	1,687,029,325
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)											
	TAXES											
24.	Income Tax (Before Interest Tax Shield)	(61,085,865)	(18,335,488)	(17,840,176)	(18,154,787)	(18,089,417)	(18,022,964)	(17,955,496)	(17,887,074)	(17,817,757)	(17,747,439)	(17,677,121)
25.	Municipal Tax	(3,253,171)	(3,253,180)	(3,256,570)	(3,256,579)	(3,256,589)	(3,256,598)	(3,256,607)	(3,256,616)	(3,256,625)	(3,256,634)	(3,256,643)
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-
27.	Total Taxes	(64,339,036)	(21,588,668)	(21,096,746)	(21,411,366)	(21,346,005)	(21,279,562)	(21,213,103)	(21,146,689)	(21,080,382)	(21,014,075)	(20,947,768)
28.	PV of Total Taxes At Project Outset	(32,790,612)	(10,391,868)	(9,058,761)	(8,863,414)	(8,676,276)	(8,490,293)	(8,304,359)	(8,118,425)	(7,932,491)	(7,746,557)	(7,560,623)
29.	ACCUMULATED PV OF TOTAL TAXES	(384,425,393)	(394,817,560)	(404,604,162)	(413,662,924)	(422,346,338)	(430,522,614)	(438,220,907)	(445,468,741)	(452,292,088)	(458,715,498)	(464,656,312)
	ACCUMULATED NPV AND PI											
30.	Net Present Value	187,105,618	216,373,500	243,664,751	292,457,876	314,649,669	335,372,608	354,730,170	372,817,878	389,723,977	405,236,580	420,028,829
31.	Profitability Index	1.207	1.239	1.270	1.324	1.348	1.371	1.393	1.413	1.431	1.449	1.465

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting. Discount period equals $3.6/12 \times 0.5 = 0.15$
- (4) Jan 1 to Dec 31 2014, mid-term discounting. Discount period equals $12/12 \times 0.5 + 3.6/12 = 0.80$
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting. Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015. Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (8) Transportation savings and Transportation Services Charges start Oct 15, 2015, mid-term discounting. Discount period equals $2.5/12 \times 0.5 + 9.5/12 + 1 + 3.6/12 = 2.196$

**GTA Project
Economic Feasibility - 40 year Horizon
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Line No.	Description	Col. 1 Year 23	Col. 27 Year 24	Col. 28 Year 25	Col. 29 Year 26	Col. 30 Year 27	Col. 31 Year 28	Col. 32 Year 29	Col. 33 Year 30	Col. 34 Year 31	Col. 35 Year 32	Col. 36 Year 33	Col. 37 Year 34	Col. 38 Year 35
	Discount factors to project outset													
	INCREMENTAL CAPITAL INVESTMENT													
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
8.	Net Investment Capital	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
9.	Working Capital	-	-	-	-	-	-	-	-	-	-	-	-	-
10.	Total Investment	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
11.	PV Of Total Investment At Project Outset	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)
12.	ACCUMULATED PV OF TOTAL INVESTMENT													
13.	CCA TAX SHIELD													
14.	CCA Tax Shield	5,031,056	4,726,619	4,440,631	4,171,974	3,919,595	3,691,442	3,477,115	3,266,840	3,069,301	2,883,724	2,709,384	2,545,601	2,392,738
15.	PV of CCA Tax Shield At Project Outset	1,291,956	1,146,389	1,017,229	902,627	800,942	712,440	638,818	562,427	499,080	442,871	382,995	348,738	315,567
16.	ACCUMULATED PV OF CCA TAX SHIELD	108,107,661	109,254,049	110,771,279	111,173,906	111,974,848	112,687,288	113,321,106	113,883,532	114,362,612	114,825,483	115,218,479	115,567,217	115,872,942
17.	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)													
18.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
19.	Transportation Services Charge	8,303,043	8,029,569	7,753,607	7,475,369	7,194,817	6,910,984	6,624,545	6,336,556	6,044,066	5,746,066	5,442,611	5,138,656	4,834,256
20.	Gas Costs	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
21.	OGM Expenses	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
22.	PV of Operating Cash (Before Taxes) At Project Outset	1,704,934,089	1,721,778,454	1,737,624,405	1,752,530,379	1,766,551,457	1,779,470,173	1,791,880,913	1,803,329,561	1,813,522,331	1,823,150,240	1,832,244,370	1,840,834,118	1,848,934,118
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)													
24.	TAXES													
25.	Income Tax (Before Interest Tax Shield)	(17,612,860)	(17,540,387)	(17,467,255)	(17,393,504)	(17,319,171)	(17,244,750)	(17,170,750)	(17,096,461)	(17,022,461)	(16,948,461)	(16,874,461)	(16,800,461)	(16,726,461)
26.	Municipal Tax	(3,260,025)	(3,260,034)	(3,260,043)	(3,260,052)	(3,260,062)	(3,260,072)	(3,260,082)	(3,260,092)	(3,260,102)	(3,260,112)	(3,260,122)	(3,260,132)	(3,260,142)
27.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
28.	Total Taxes	(20,872,885)	(20,800,421)	(20,727,298)	(20,653,556)	(20,579,232)	(20,504,908)	(20,430,584)	(20,356,260)	(20,281,936)	(20,207,612)	(20,133,288)	(20,058,964)	(19,984,640)
29.	PV of Total Taxes At Project Outset	(5,360,076)	(5,044,910)	(4,748,066)	(4,488,499)	(4,205,221)	(3,986,300)	(3,726,076)	(3,446,848)	(3,191,114)	(2,919,772)	(2,757,870)	(2,604,893)	(2,451,916)
30.	ACCUMULATED PV OF TOTAL TAXES	(475,711,061)	(480,755,971)	(485,504,037)	(489,972,537)	(494,177,758)	(498,084,148)	(501,790,224)	(505,237,072)	(508,522,331)	(511,647,958)	(514,605,828)	(517,407,720)	(520,055,632)
31.	ACCUMULATED NPV AND PI													
32.	Net Present Value	433,865,472	446,811,316	458,926,429	470,266,531	480,883,330	490,628,096	499,946,577	508,510,805	516,111,541	523,262,548	529,991,804	536,325,398	542,259,992
33.	Profitability Index	1.480	1.495	1.508	1.521	1.532	1.543	1.553	1.563	1.571	1.579	1.587	1.594	1.601

Notes:

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- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31, 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Charges start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
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Line No.	Description	Col. 39 Year 35	Col. 40 Year 36	Col. 41 Year 37	Col. 42 Year 38	Col. 43 Year 39	Col. 44 Year 40
	Discount factors to project outset						
		0.129	0.122	0.115	0.109	0.103	0.097
	INCREMENTAL CAPITAL INVESTMENT						
1.	Investment in Mairs	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-
8.	Net Investment Capital	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
9.	Working Capital	-	-	-	-	-	-
10.	Total Investment	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
11.	PV Of Total Investment At Project Outset	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)	(903,465,217)
12.	ACCUMULATED PV OF TOTAL INVESTMENT						
	CCA TAX SHIELD						
13.	CCA Tax Shield	2,400,669	2,264,515	2,127,672	1,999,111	1,878,330	15,678,486
14.	PV of CCA Tax Shield At Project Outset	310,623	276,739	245,580	217,930	193,395	1,524,651
15.	ACCUMULATED PV OF CCA TAX SHIELD	115,877,840	116,154,579	116,400,159	116,618,089	116,811,484	118,336,134
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)						
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	1,930,235	1,310,937	1,304,675	1,304,028	1,302,325	1,299,616
18.	Transportation Savings	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	Gas Costs	(14,979,357)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
20.	O&M Expenses	(9,738,513)	(6,738,513)	(6,738,513)	(6,738,513)	(6,738,513)	(6,738,513)
21.	Net Operating Cash (Before Taxes)	94,638,889	77,712,111	77,398,851	77,398,851	77,398,851	77,398,851
22.	PV of Net Operating Cash (Before Taxes) At Project Outset	9,832,563	7,938,511	7,739,883	6,832,834	6,158,022	6,089,210
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,845,766,886	1,856,432,897	1,863,672,758	1,870,510,592	1,876,968,614	1,883,067,824
	TAXES						
24.	Income Tax (Before Interest Tax Shield)	(15,380,686)	(15,758,133)	(15,756,472)	(15,756,298)	(15,755,844)	(15,755,124)
25.	Municipal Tax	(3,266,879)	(3,266,888)	(3,266,887)	(3,266,907)	(3,266,916)	(3,266,925)
26.	Capital Tax	-	-	-	-	-	-
27.	Total Taxes	(18,647,565)	(19,025,022)	(19,023,359)	(19,023,204)	(19,022,760)	(19,022,049)
28.	PV of Total Taxes At Project Outset	(2,412,817)	(2,324,984)	(2,195,710)	(2,073,787)	(1,958,604)	(1,849,794)
29.	ACCUMULATED PV OF TOTAL TAXES	(519,023,537)	(521,348,821)	(523,544,232)	(525,618,018)	(527,576,623)	(529,426,416)
	ACCUMULATED NPV AND PI						
30.	Net Present Value	542,155,772	547,773,738	553,063,468	558,045,446	562,738,258	568,512,325
31.	Profitability Index	1.600	1.606	1.612	1.618	1.623	1.6293

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals $3.6/12 \times 0.5 = 0.15$
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals $12/12 \times 0.5 + 3.6/12 = 0.80$
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting, Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31, 2015, Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (8) Transportation savings and Transportation Services Charge start Oct 15, 2015, mid-term discounting, Discount period equals $2.5/12 \times 0.5 + 9.5/12 + 1 + 3.6/12 = 2.196$

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
		10/10 - 09/13	09/13 - 12/13	01/14 - 12/14	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
	Discount factors to project outset	1.000	0.991	0.985	0.902	0.852	0.805	0.760	0.718	0.678	0.640	0.605	0.571	0.540	
INCREMENTAL CAPITAL INVESTMENT															
1.	Investment in Mairs														
2.	Investment in Services														
3.	Investment in Stations														
4.	Investment in Land														
5.	Investment in Land Rights														
6.	Annual Capital Maintenance Costs														
7.	Contribution In Aid Of Construction														
8.	Net Investment Capital	(16,356,221)	(7,512,671)	(187,581,944)	(380,695,413)	(38,051,685)	(21,000,000)	(16,400,000)	(13,000,000)	(250,000)					
9.	Working Capital				1,101	3,264	2,730	2,873	3,998	3,981					
10.	Total Investment	(16,356,221)	(7,512,671)	(187,581,944)	(380,694,312)	(38,053,125)	(58,577,394)	(53,953,944)	(50,556,356)	(38,240,489)	(38,308,295)	(38,308,295)			
11.	PV Of Total Investment At Project Outset	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)					
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)					
CCA TAX SHIELD															
13.	CCA Tax Shield				5,075,930	8,961,285	9,180,909	9,514,545	9,765,105	9,876,377	9,892,345	9,908,450	9,916,018	9,923,618	
14.	PV Of CCA Tax Shield At Project Outset				4,579,970	7,636,777	7,389,555	7,232,916	7,011,244	6,697,437	6,335,823	5,993,807	5,665,349	5,354,910	
15.	ACCUMULATED PV OF CCA TAX SHIELD				4,579,970	12,216,748	19,606,303	26,839,220	33,850,464	40,547,901	46,883,724	52,877,531	58,542,880	63,897,790	
INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)															
16.	Gas Distribution Revenue				6,271,994	18,969,988	31,796,356	44,634,856	57,550,596	70,574,131	83,740,578	96,981,526	110,222,492	123,463,459	
17.	Transportation Services Charge				1,431,043	11,789,218	11,642,370	11,487,154	11,324,084	11,153,442	11,622,370	10,825,487	10,635,423	10,439,247	
18.	Transportation Savings				21,855,056	134,037,894	139,034,057	173,102,369	145,277,164	141,731,905	141,068,745	141,398,622	141,624,554	145,256,697	
19.	Gas Costs				(2,719,614)	(8,220,976)	(13,749,757)	(19,257,757)	(24,789,726)	(30,355,050)	(35,971,650)	(41,616,201)	(47,260,752)	(52,905,303)	
20.	O&M Expenses				(823,374)	(4,912,659)	(4,112,659)	(5,257,159)	(6,411,613)	(7,579,751)	(10,807,360)	(9,955,769)	(11,147,758)	(12,339,758)	
21.	Net Operating Cash (Before Taxes)				26,015,104	153,597,187	164,610,368	204,709,482	182,950,505	184,966,577	189,652,673	197,634,035	204,073,958	213,913,342	
22.	PV of Net Operating Cash (Before Taxes) At Project Outset				23,004,415	130,895,008	132,492,045	155,619,254	131,356,575	125,430,819	121,468,246	119,552,407	116,584,206	115,430,359	
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)				23,004,415	153,899,423	286,391,468	442,010,722	573,367,297	698,798,116	820,266,362	939,818,769	1,056,412,975	1,171,843,334	
TAXES															
24.	Income Tax (Before Interest Tax Shield)				(6,772,283)	(40,202,245)	(43,074,167)	(53,657,531)	(47,851,213)	(48,355,068)	(49,565,614)	(51,650,218)	(53,326,340)	(55,903,319)	
25.	Municipal Tax				(459,321)	(1,890,602)	(2,066,343)	(2,228,213)	(2,379,889)	(2,437,620)	(2,612,610)	(2,727,553)	(2,842,486)	(2,957,419)	
26.	Capital Tax														
27.	Total Taxes				(7,231,604)	(42,092,847)	(45,140,509)	(55,885,744)	(50,231,102)	(50,849,689)	(52,178,234)	(54,377,771)	(56,168,826)	(58,860,739)	
28.	PV of Total Taxes At Project Outset				(6,398,712)	(35,871,383)	(36,332,817)	(42,484,103)	(36,065,413)	(34,484,978)	(34,481,978)	(32,894,098)	(32,091,109)	(31,762,003)	
29.	ACCUMULATED PV OF TOTAL TAXES				(6,398,712)	(42,270,095)	(78,602,912)	(121,087,015)	(157,152,428)	(191,634,972)	(225,053,950)	(257,948,049)	(290,039,158)	(321,801,161)	
ACCUMULATED NPV AND PI															
30.	Net Present Value				(800,144,489)	(697,484,087)	(593,935,304)	(473,567,236)	(371,264,830)	(273,619,117)	(179,234,027)	(86,581,912)	3,586,534	92,609,800	
31.	Profitability Index				0.000	0.151	0.277	0.423	0.548	0.667	0.782	0.895	1.004	1.113	

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Charge start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
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Line No.	Description	Col. 1 Year 11	Col. 15 Year 12	Col. 16 Year 13	Col. 17 Year 14	Col. 18 Year 15	Col. 19 Year 16	Col. 20 Year 17	Col. 21 Year 18	Col. 22 Year 19	Col. 23 Year 20	Col. 24 Year 21	Col. 25 Year 22	Col. 26 Year 23
	Discount factors to project outset													
	INCREMENTAL CAPITAL INVESTMENT													
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-	-	-	-
8.	Net Investment Capital	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
9.	Working Capital	-	-	-	-	-	-	-	-	-	-	-	-	-
10.	Total Investment	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
11.	PV Of Total Investment At Project Outset													
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
	CCA TAX SHIELD													
13.	CCA Tax Shield	9,626,672	9,043,420	8,495,563	7,989,070	7,513,313	7,058,298	6,630,882	6,229,388	5,852,243	5,497,985	5,173,291	4,868,305	4,583,305
14.	PV of CCA Tax Shield At Project Outset	4,906,266	4,353,118	3,862,360	3,430,438	3,047,036	2,703,578	2,398,850	2,128,482	1,888,598	1,675,761	1,489,258	1,323,651	1,175,187
15.	ACCUMULATED PV OF CCA TAX SHIELD	68,804,057	73,157,175	77,019,535	80,449,973	83,497,009	86,200,587	88,599,437	90,727,919	92,616,517	94,292,278	95,781,536	97,105,187	98,273,587
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)													
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	10,237,680	10,031,051	9,819,672	9,610,931	9,414,241	9,220,955	9,028,582	8,836,636	8,645,577	8,455,092	8,265,081	8,075,444	7,886,168
18.	Transportation Savings	144,985,391	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	Gas Costs	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
20.	OGM Expenses	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
21.	Net Operating Cash (Before Taxes)	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186
22.	PV of Net Operating Cash (Before Taxes) At Project Outset	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186	116,644,186
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,282,256,531	1,316,650,223	1,349,038,475	1,378,935,683	1,407,662,871	1,434,709,232	1,460,171,512	1,484,141,048	1,506,704,050	1,527,941,880	1,547,929,000	1,566,950,715	1,585,000,000
	TAXES													
24.	Income Tax (Before Interest Tax Shield)	(56,626,856)	(18,150,969)	(18,094,951)	(17,666,601)	(17,986,695)	(17,927,267)	(17,868,856)	(17,805,521)	(17,743,320)	(17,680,304)	(17,617,374)	(17,553,280)	(17,488,000)
25.	Municipal Tax	(2,957,428)	(2,957,428)	(2,957,445)	(2,960,518)	(2,960,527)	(2,960,535)	(2,960,543)	(2,960,552)	(2,960,560)	(2,960,568)	(2,960,576)	(2,960,584)	(2,960,592)
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
27.	Total Taxes	(59,584,284)	(21,108,405)	(21,052,396)	(20,627,119)	(20,947,222)	(20,887,802)	(20,829,399)	(20,766,073)	(20,703,880)	(20,640,873)	(20,577,947)	(20,514,872)	(20,451,720)
28.	PV of Total Taxes At Project Outset	(30,367,336)	(10,160,689)	(9,571,105)	(8,857,108)	(8,495,180)	(8,000,768)	(7,534,714)	(7,098,433)	(6,681,424)	(6,291,268)	(5,927,120)	(5,588,011)	(5,273,715)
29.	ACCUMULATED PV OF TOTAL TAXES	(352,168,497)	(362,329,186)	(371,900,291)	(380,757,399)	(389,252,579)	(397,253,347)	(404,788,061)	(411,883,494)	(418,564,918)	(424,856,186)	(430,773,843)	(436,323,854)	(441,517,885)
	ACCUMULATED NPV AND PI													
30.	Net Present Value	177,561,928	206,148,149	232,827,556	257,298,095	280,577,138	302,326,309	322,652,725	341,655,310	359,425,486	376,047,810	391,306,530	405,871,885	419,743,185
31.	Profitability Index	1.216	1.251	1.283	1.313	1.342	1.368	1.393	1.416	1.438	1.458	1.476	1.494	1.511

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.612*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.612 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.612 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals 12/12*0.5+1+3.612 = 1.80
- (8) Transportation savings and Transportation Services Charge start Oct 15, 2015, mid-term discounting, Discount period equals 2.512*0.5+9.512+1+3.612 = 2.196

**GTA Project
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DCF Analysis**

Line No.	Description	Col. 27 Year 23	Col. 28 Year 24	Col. 29 Year 25	Col. 30 Year 26	Col. 31 Year 27	Col. 32 Year 28	Col. 33 Year 29	Col. 34 Year 30	Col. 35 Year 31	Col. 36 Year 32	Col. 37 Year 33	Col. 38 Year 34
	Discount factors to project outset	0.257	0.243	0.229	0.216	0.204	0.193	0.182	0.172	0.163	0.154	0.145	0.137
	INCREMENTAL CAPITAL INVESTMENT												
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-	-	-
8.	Net Investment Capital	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
9.	Working Capital	-	-	-	-	-	-	-	-	-	-	-	-
10.	Total Investment	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
11.	PV Of Total Investment At Project Outset	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
12.	ACCUMULATED PV OF TOTAL INVESTMENT												
13.	CCA TAX SHIELD												
14.	CCA Tax Shield	4,573,687	4,296,926	4,036,938	3,792,704	3,563,268	3,355,856	3,161,014	2,999,855	2,790,273	2,621,567	2,463,077	2,314,183
15.	PV of CCA Tax Shield At Project Outset	1,174,505	1,042,171	924,754	820,570	728,129	647,673	576,198	511,297	453,709	402,610	357,268	317,035
16.	ACCUMULATED PV OF CCA TAX SHIELD	98,279,692	99,321,863	100,246,617	101,067,187	101,795,316	102,442,989	103,019,187	103,530,484	103,984,193	104,386,803	104,744,071	105,061,106
17.	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)												
18.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
19.	Transportation Services Charge	7,598,277	7,309,665	7,058,790	6,805,792	6,550,799	6,304,032	6,066,733	5,836,925	5,614,207	5,397,570	5,185,016	4,976,545
20.	Gas Costs	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
21.	OGM Expenses	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
22.	Net Operating Cash (Before Taxes)	67,718,685	67,718,685	67,718,685	67,718,685	67,718,685	67,718,685	67,718,685	67,718,685	67,718,685	67,718,685	67,718,685	67,718,685
23.	PV of Net Operating Cash (Before Taxes) At Project Outset	17,718,685	16,689,760	15,698,289	14,761,120	13,889,478	13,080,046	12,330,333	11,637,882	10,997,719	10,409,636	9,872,762	9,384,186
24.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,584,064,226	1,600,793,986	1,616,420,773	1,631,181,893	1,645,071,371	1,657,870,417	1,670,172,550	1,681,543,445	1,691,719,164	1,701,330,874	1,710,409,636	1,718,984,822
25.	TAXES												
26.	Income Tax (Before Interest Tax Shield)	(17,494,034)	(17,428,150)	(17,361,666)	(17,294,619)	(17,227,044)	(16,787,822)	(16,098,480)	(16,716,398)	(15,797,451)	(15,799,082)	(15,800,346)	(15,801,265)
27.	Municipal Tax	(2,963,659)	(2,963,659)	(2,963,676)	(2,963,684)	(2,963,692)	(2,966,766)	(2,966,774)	(2,966,783)	(2,966,791)	(2,966,800)	(2,966,808)	(2,966,816)
28.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-
29.	Total Taxes	(20,457,693)	(20,391,817)	(20,325,342)	(20,259,303)	(20,190,736)	(19,754,588)	(19,683,181)	(19,683,181)	(18,764,242)	(18,765,881)	(18,767,154)	(18,768,081)
30.	PV of Total Taxes At Project Outset	(5,253,457)	(4,945,808)	(4,655,969)	(4,382,985)	(4,125,835)	(3,812,593)	(3,588,702)	(3,388,702)	(3,051,138)	(2,881,991)	(2,722,167)	(2,571,160)
31.	ACCUMULATED PV OF TOTAL TAXES	(441,507,311)	(446,453,118)	(451,109,107)	(455,482,092)	(459,617,927)	(463,430,520)	(467,088,067)	(470,476,768)	(473,527,906)	(476,409,897)	(479,132,065)	(481,703,225)
32.	ACCUMULATED NPV AND PI												
33.	Net Present Value	419,506,444	432,272,568	444,228,120	455,426,826	465,918,598	475,552,724	484,773,508	493,266,998	500,845,288	507,977,617	514,691,480	521,012,540
34.	Profitability Index	1.511	1.526	1.541	1.554	1.567	1.579	1.590	1.601	1.610	1.618	1.627	1.634

Notes:

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- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31, 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Charge start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
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Line No.	Description	Col. 39 Year 35	Col. 40 Year 36	Col. 41 Year 37	Col. 42 Year 38	Col. 43 Year 39	Col. 44 Year 40
	Discount factors to project outset	0.129	0.122	0.115	0.109	0.103	0.097
	INCREMENTAL CAPITAL INVESTMENT						
1.	Investment in Mairs	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	(2,786)	-	-	-
8.	Net Investment Capital	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
9.	Working Capital	-	-	-	-	-	-
10.	Total Investment	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
11.	PV Of Total Investment At Project Outset						
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
	CCA TAX SHIELD						
13.	CCA Tax Shield	2,182,426	2,058,650	1,934,247	1,817,374	1,707,573	14,253,178
14.	PV Of CCA Tax Shield At Project Outset	282,385	251,581	223,254	198,118	175,814	1,386,046
15.	ACCUMULATED PV OF CCA TAX SHIELD	105,343,491	105,595,072	105,818,326	106,016,444	106,192,258	107,578,304
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)						
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	1,821,979	1,201,817	1,196,125	1,195,536	1,193,988	1,191,525
18.	Transportation Savings	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	Gas Costs	(14,978,387)	(12,835,757)	(12,835,757)	(12,835,757)	(12,835,757)	(12,835,757)
20.	OGM Expenses	94,818,465	94,818,465	94,818,465	94,818,465	94,818,465	94,818,465
21.	Net Operating Cash (Before Taxes)	94,818,561	7,652,876	7,277,332	6,826,607	6,214,888	6,088,689
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset	1,726,903,382	1,734,556,259	1,741,783,590	1,748,609,597	1,755,056,465	1,761,145,164
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)						
	TAXES						
24.	Income Tax (Before Interest Tax Shield)	(15,430,710)	(15,807,919)	(15,806,408)	(15,806,250)	(15,805,838)	(15,805,183)
25.	Municipal Tax	(2,969,890)	(2,969,898)	(2,969,907)	(2,969,915)	(2,969,923)	(2,969,932)
26.	Capital Tax	-	-	-	-	-	-
27.	Total Taxes	(18,400,600)	(18,777,817)	(18,776,315)	(18,776,165)	(18,775,761)	(18,775,115)
28.	PV of Total Taxes At Project Outset	(2,380,861)	(2,294,774)	(2,167,195)	(2,046,856)	(1,933,173)	(1,825,781)
29.	ACCUMULATED PV OF TOTAL TAXES	(484,084,086)	(486,378,660)	(488,546,055)	(490,592,911)	(492,526,084)	(494,351,864)
	ACCUMULATED NPV AND PI						
30.	Net Present Value	526,832,625	532,442,308	537,725,699	542,702,968	547,392,476	553,041,440
31.	Profitability Index	1.641	1.648	1.655	1.661	1.666	1.6733

Notes:

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- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
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**GTA Project
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Line No.	Description	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
	Discount factors to project outset		1.000	0.991	0.985	0.902	0.852	0.805	0.760	0.718	0.678	0.640	0.605	0.571	0.540
	INCREMENTAL CAPITAL INVESTMENT														
1.	Investment in Mairs														
2.	Investment in Services														
3.	Investment in Stations														
4.	Investment in Land														
5.	Investment in Land Rights														
6.	Annual Capital Maintenance Costs														
7.	Contribution in Aid Of Construction														
8.	Net Investment Capital		(16,356,221)	(7,512,671)	(187,581,944)	(380,695,413)	(38,054,471)	(58,580,124)	(53,956,813)	(50,558,620)	(38,244,088)	(39,332,881)	(38,311,081)	(38,311,081)	(38,311,081)
9.	Working Capital					1,101	1,904	3,841	5,456	6,770	6,730	7,185	7,732	8,275	8,813
10.	Total Investment		(16,356,221)	(7,512,671)	(187,581,944)	(380,694,312)	(38,052,567)	(58,576,263)	(53,952,281)	(50,553,141)	(38,237,118)	(39,325,696)	(38,303,349)	(38,302,806)	(38,302,267)
11.	PV Of Total Investment At Project Outset		(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)
12.	ACCUMULATED PV OF TOTAL INVESTMENT														
	CCA TAX SHIELD														
13.	CCA Tax Shield														
14.	PV Of CCA Tax Shield At Project Outset														
15.	ACCUMULATED PV OF CCA TAX SHIELD														
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)														
16.	Gas Distribution Revenue														
17.	Transportation Services Charge														
18.	Transportation Savings														
19.	Gas Costs														
20.	O&M Expenses														
21.	Net Operating Cash (Before Taxes)														
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset														
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)														
	TAXES														
24.	Income Tax (Before Interest Tax Shield)														
25.	Municipal Tax														
26.	Capital Tax														
27.	Total Taxes														
28.	PV of Total Taxes At Project Outset														
29.	ACCUMULATED PV OF TOTAL TAXES														
	ACCUMULATED NPV AND PI														
30.	Net Present Value														
31.	Profitability Index														

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**GTA Project
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Line No.	Description	Col. 1 Year 11	Col. 16 Year 12	Col. 17 Year 13	Col. 18 Year 14	Col. 19 Year 15	Col. 20 Year 16	Col. 21 Year 17	Col. 22 Year 18	Col. 23 Year 19	Col. 24 Year 20	Col. 25 Year 21	Col. 26 Year 22
	Discount factors to project outset												
	INCREMENTAL CAPITAL INVESTMENT												
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	-	(1,024,586)	-	(2,786)	(2,786)	(2,786)	(2,786)	-	(1,024,586)	(2,786)
8.	Net Investment Capital	2,700	2,686	2,673	2,660	2,646	2,633	2,620	2,607	2,594	2,581	2,568	2,555
9.	Working Capital	(86)	(100)	(113)	(1,021,926)	(140)	(153)	(166)	(179)	(192)	(205)	(1,022,018)	(231)
10.	Total Investment												
11.	PV Of Total Investment At Project Outset												
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)
	CCA TAX SHIELD												
13.	CCA Tax Shield	9,626,672	9,043,420	8,495,563	7,989,070	7,513,313	7,058,298	6,630,882	6,229,388	5,852,243	5,497,965	5,173,291	4,868,305
14.	PV of CCA Tax Shield At Project Outset	4,906,266	4,353,118	3,862,360	3,430,438	3,047,036	2,703,578	2,398,850	2,128,482	1,888,598	1,675,761	1,489,258	1,323,651
15.	ACCUMULATED PV OF CCA TAX SHIELD	68,804,057	73,157,175	77,019,535	80,449,973	83,497,009	86,200,587	88,599,437	90,727,919	92,616,517	94,292,278	95,781,536	97,105,187
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)												
16.	Gas Distribution Revenue	123,724,155	123,105,534	122,490,006	121,877,556	121,268,169	120,661,828	120,058,519	119,458,226	118,860,935	118,266,630	117,675,297	117,086,921
17.	Transportation Services Charge	10,237,680	10,031,051	9,819,672	9,608,931	9,414,241	9,189,995	8,962,036	8,730,592	8,495,877	8,258,092	8,063,521	7,804,480
18.	Transportation Savings	161,094,879	(52,738,049)	(52,474,359)	(52,211,987)	(51,950,927)	(51,691,173)	(51,432,717)	(51,175,553)	(50,919,675)	(50,665,077)	(50,411,752)	(50,159,693)
19.	Gas Costs	(53,003,064)	(12,935,757)	(12,855,597)	(12,775,357)	(12,695,117)	(12,614,877)	(12,534,637)	(12,454,397)	(12,374,157)	(12,293,917)	(12,213,677)	(12,133,437)
20.	OGM Expenses	242,171,721	242,171,721	242,171,721	242,171,721	242,171,721	242,171,721	242,171,721	242,171,721	242,171,721	242,171,721	242,171,721	242,171,721
21.	Net Operating Cash (Before Taxes)	118,717,721	32,473,116	32,473,116	32,473,116	32,473,116	32,473,116	32,473,116	32,473,116	32,473,116	32,473,116	32,473,116	32,473,116
22.	PV of Net Operating Cash (Before Taxes) At Project Outset	1,383,197,366	1,415,671,082	1,446,085,802	1,473,968,824	1,500,852,387	1,525,635,832	1,549,024,971	1,570,919,224	1,591,411,985	1,610,900,972	1,628,136,252	1,644,930,048
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)												
	TAXES												
24.	Income Tax (Before Interest Tax Shield)	(59,932,523)	(17,093,916)	(16,944,661)	(16,423,541)	(16,651,328)	(16,500,055)	(16,348,257)	(16,195,983)	(16,043,317)	(15,890,280)	(15,736,778)	(15,590,559)
25.	Municipal Tax	(2,957,428)	(2,957,436)	(2,957,445)	(2,960,518)	(2,960,527)	(2,960,535)	(2,960,543)	(2,960,552)	(2,960,560)	(2,960,568)	(2,963,642)	(2,963,651)
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-
27.	Total Taxes	(62,889,951)	(20,051,352)	(19,902,106)	(19,384,059)	(19,611,854)	(19,460,590)	(19,308,801)	(19,156,545)	(19,003,877)	(18,850,848)	(18,697,420)	(18,544,210)
28.	PV of Total Taxes At Project Outset	(32,052,080)	(9,651,869)	(9,048,146)	(8,323,348)	(7,953,619)	(7,454,095)	(6,985,332)	(6,545,483)	(6,132,810)	(5,745,674)	(5,374,569)	(5,044,733)
29.	ACCUMULATED PV OF TOTAL TAXES	(378,917,818)	(388,569,687)	(397,617,833)	(405,941,181)	(413,894,801)	(421,348,896)	(428,334,227)	(434,879,711)	(441,012,521)	(446,755,195)	(452,034,764)	(457,079,497)
	ACCUMULATED NPV AND PI												
30.	Net Present Value	251,783,080	278,958,045	304,186,980	327,177,092	348,954,072	369,186,999	387,989,656	405,466,908	421,715,457	436,824,531	450,582,499	463,663,213
31.	Profitability Index	1.307	1.340	1.370	1.398	1.425	1.450	1.472	1.494	1.513	1.532	1.549	1.565

Notes:

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- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
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Line No.	Description	Col. 27 Year 23	Col. 28 Year 24	Col. 29 Year 25	Col. 30 Year 26	Col. 31 Year 27	Col. 32 Year 28	Col. 33 Year 29	Col. 34 Year 30	Col. 35 Year 31	Col. 36 Year 32	Col. 37 Year 33	Col. 38 Year 34
	Discount factors to project outset												
	INCREMENTAL CAPITAL INVESTMENT												
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-	-	-
8.	Net Investment Capital	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
9.	Working Capital	2,542	2,530	2,517	-	-	-	-	-	-	-	-	-
10.	Total Investment	(244)	(256)	(269)	-	-	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
11.	PV Of Total Investment At Project Outset												
12.	ACCUMULATED PV OF TOTAL INVESTMENT												
		(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)
	CCA TAX SHIELD												
13.	CCA Tax Shield	4,573,687	4,296,926	4,036,938	3,792,704	3,563,268	3,355,856	3,161,014	2,999,855	2,790,273	2,621,567	2,463,077	2,314,183
14.	PV Of CCA Tax Shield At Project Outset	1,174,505	1,042,171	924,754	820,570	728,129	647,673	576,198	511,297	453,709	402,610	357,268	317,035
15.	ACCUMULATED PV OF CCA TAX SHIELD												
		98,279,692	99,321,963	100,246,617	101,067,187	101,795,316	102,442,989	103,019,187	103,530,484	103,984,193	104,386,803	104,744,071	105,061,106
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)												
16.	Gas Distribution Revenue	115,501,486	115,918,979	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384
17.	Transportation Services Charge	7,558,277	7,309,665	7,058,790	6,805,792	6,550,799	6,340,032	6,086,733	5,826,925	5,599,207	5,365,370	5,170,148	4,913,625
18.	Transportation Savings	(49,908,894)	(49,659,350)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)
19.	Gas Costs	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
20.	OGW Expenses	(1,111,111)	(1,053,087)	(995,615)	(939,815)	(885,763)	(832,436)	(780,700)	(728,560)	(676,988)	(625,071)	(572,801)	(520,179)
21.	PV Of Net Operating Cash (Before Taxes) At Project Outset	15,715,801	14,518,087	13,356,152	12,237,873	11,157,263	10,122,455	9,134,850	8,191,906	7,298,188	6,451,366	5,646,279	4,879,575
22.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)												
		1,660,657,852	1,675,363,939	1,689,119,991	1,702,057,665	1,714,224,933	1,725,397,387	1,736,163,236	1,746,083,142	1,754,888,430	1,763,205,786	1,771,062,075	1,778,482,650
	TAXES												
24.	Income Tax (Before Interest Tax Shield)	(15,436,635)	(15,282,515)	(15,128,237)	(15,061,190)	(14,993,615)	(14,554,393)	(14,985,051)	(14,482,970)	(13,564,022)	(13,565,653)	(13,566,917)	(13,567,836)
25.	Municipal Tax	(2,963,659)	(2,963,657)	(2,963,676)	(2,963,684)	(2,963,692)	(2,966,766)	(2,966,774)	(2,966,783)	(2,966,791)	(2,966,800)	(2,966,808)	(2,966,816)
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-
27.	Total Taxes	(18,400,294)	(18,246,182)	(18,091,913)	(18,024,874)	(17,957,308)	(17,521,160)	(17,831,825)	(17,449,752)	(16,530,813)	(16,532,453)	(16,533,725)	(16,534,653)
28.	PV of Total Taxes At Project Outset	(4,725,124)	(4,425,408)	(4,144,370)	(3,899,771)	(3,669,449)	(3,381,546)	(3,250,432)	(3,044,189)	(2,687,974)	(2,538,990)	(2,398,210)	(2,265,188)
29.	ACCUMULATED PV OF TOTAL TAXES												
		(461,804,622)	(466,230,030)	(470,374,400)	(474,274,171)	(477,943,621)	(481,325,167)	(484,575,598)	(487,579,788)	(490,267,762)	(492,806,752)	(495,204,961)	(497,470,149)
	ACCUMULATED NPV AND PI												
30.	Net Present Value	475,832,398	487,155,149	497,691,684	507,550,156	516,776,104	525,214,685	533,306,300	540,733,313	547,304,337	553,485,323	559,300,661	564,773,083
31.	Profitability Index	1.579	1.593	1.606	1.618	1.629	1.639	1.649	1.658	1.666	1.674	1.681	1.688

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31, 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Chrgs start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 39 Year 35	Col. 40 Year 36	Col. 41 Year 37	Col. 42 Year 38	Col. 43 Year 39	Col. 44 Year 40
	Discount factors to project outset						
		0.129	0.122	0.115	0.109	0.103	0.097
	INCREMENTAL CAPITAL INVESTMENT						
1.	Investment in Mairs	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	(2,786)	(2,786)	(2,786)	-
8.	Net Investment Capital	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
9.	Working Capital	-	-	-	-	-	-
10.	Total Investment	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
11.	PV Of Total Investment At Project Outset						
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)	(821,300,524)
	CCA TAX SHIELD						
13.	CCA Tax Shield	2,182,426	2,058,650	1,934,247	1,817,374	1,707,573	14,253,178
14.	PV Of CCA Tax Shield At Project Outset	282,385	251,581	223,254	198,118	175,814	1,386,046
15.	ACCUMULATED PV OF CCA TAX SHIELD	105,343,491	105,595,072	105,818,326	106,016,444	106,192,258	107,578,304
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)						
16.	Gas Distribution Revenue	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384
17.	Transportation Services Charge	1,821,979	1,201,817	1,196,125	1,195,536	1,193,988	1,191,525
18.	Transportation Savings	-	-	-	-	-	-
19.	Gas Costs	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)
20.	OM&M Expenses	(14,979,387)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
21.	Net Operating Cash (Before Taxes)	54,049,922	54,049,922	54,049,922	54,049,922	54,049,922	54,049,922
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset	8,828,054	8,254,855	8,254,855	8,254,855	8,254,855	5,269,119
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,785,310,705	1,791,933,019	1,798,188,173	1,804,095,410	1,809,874,538	1,814,943,635
	TAXES						
24.	Income Tax (Before Interest Tax Shield)	(13,197,281)	(13,574,490)	(13,572,960)	(13,572,822)	(13,572,409)	(13,571,754)
25.	Municipal Tax	(2,969,890)	(2,969,898)	(2,969,907)	(2,969,915)	(2,969,923)	(2,969,932)
26.	Capital Tax	-	-	-	-	-	-
27.	Total Taxes	(16,167,171)	(16,544,389)	(16,542,866)	(16,542,737)	(16,542,332)	(16,541,686)
28.	PV of Total Taxes At Project Outset	(2,091,877)	(2,021,834)	(1,909,409)	(1,803,382)	(1,703,217)	(1,608,591)
29.	ACCUMULATED PV OF TOTAL TAXES	(499,562,026)	(501,583,860)	(503,493,269)	(505,236,651)	(506,998,868)	(508,608,459)
	ACCUMULATED NPV AND PI						
30.	Net Present Value	569,791,645	574,644,306	579,212,706	583,514,679	587,566,384	592,612,955
31.	Profitability Index	1.694	1.700	1.705	1.710	1.715	1.7216

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals $3.6/12 \times 0.5 = 0.15$
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals $12/12 \times 0.5 + 3.6/12 = 0.80$
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (8) Transportation savings and Transportation Services Chrgs start Oct 15, 2015, mid-term discounting, Discount period equals $2.5/12 \times 0.5 + 9.5/12 + 1 + 3.6/12 = 2.196$

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
	Discount factors to project outset		1.000	0.991	0.985	0.902	0.852	0.805	0.760	0.718	0.678	0.640	0.605	0.571	0.540
	INCREMENTAL CAPITAL INVESTMENT														
1.	Investment in Mairs														
2.	Investment in Services														
3.	Investment in Stations														
4.	Investment in Land														
5.	Investment in Land Rights														
6.	Annual Capital Maintenance Costs														
7.	Contribution in Aid Of Construction														
8.	Net Investment Capital		(16,356,221)	(7,512,671)	(187,581,944)	(380,695,413)	(38,051,685)	(21,000,000)	(16,400,000)	(13,000,000)	(250,000)				
9.	Working Capital														
10.	Total Investment		(16,356,221)	(7,512,671)	(187,581,944)	(380,694,312)	(38,053,125)	(21,000,000)	(16,400,000)	(13,000,000)	(250,000)				
11.	PV Of Total Investment At Project Outset		(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
12.	ACCUMULATED PV OF TOTAL INVESTMENT		(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
	CCA TAX SHIELD														
13.	CCA Tax Shield														
14.	PV Of CCA Tax Shield At Project Outset														
15.	ACCUMULATED PV OF CCA TAX SHIELD														
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)														
16.	Gas Distribution Revenue														
17.	Transportation Services Charge														
18.	Transportation Savings														
19.	Gas Costs														
20.	O&M Expenses														
21.	Net Operating Cash (Before Taxes)														
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset														
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)														
	TAXES														
24.	Income Tax (Before Interest Tax Shield)														
25.	Municipal Tax														
26.	Capital Tax														
27.	Total Taxes														
28.	PV of Total Taxes At Project Outset														
29.	ACCUMULATED PV OF TOTAL TAXES														
	ACCUMULATED NPV AND PI														
30.	Net Present Value														
31.	Profitability Index														

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Charge start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 1 Year 11	Col. 12 Year 12	Col. 13 Year 13	Col. 14 Year 14	Col. 15 Year 15	Col. 16 Year 16	Col. 17 Year 17	Col. 18 Year 18	Col. 19 Year 19	Col. 20 Year 20	Col. 21 Year 21	Col. 22 Year 22	Col. 23 Year 23	Col. 24 Year 24	Col. 25 Year 25	Col. 26 Year 26
	Discount factors to project outset																
	INCREMENTAL CAPITAL INVESTMENT																
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)
7.	Contribution In Aid Of Construction	-	-	-	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)
8.	Net Investment Capital	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)
9.	Working Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.	Total Investment	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)
11.	PV Of Total Investment At Project Outset	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
12.	ACCUMULATED PV OF TOTAL INVESTMENT																
	CCA TAX SHIELD																
13.	CCA Tax Shield	9,626,672	9,043,420	8,495,563	7,989,070	7,513,313	7,058,298	6,630,882	6,229,388	5,852,243	5,497,985	5,173,291	4,868,305	4,582,243	4,321,291	4,089,258	3,875,243
14.	PV of CCA Tax Shield At Project Outset	4,906,266	4,353,118	3,862,360	3,430,438	3,047,036	2,703,578	2,398,850	2,128,482	1,888,598	1,675,761	1,489,258	1,323,651	1,181,517	1,060,761	964,258	871,243
15.	ACCUMULATED PV OF CCA TAX SHIELD	68,804,057	73,157,175	77,019,535	80,449,973	83,497,009	86,200,587	88,599,437	90,727,919	92,616,517	94,292,278	95,781,536	97,105,187	98,281,517	99,352,278	100,327,536	101,206,291
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)																
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	10,237,680	10,031,051	9,819,672	9,608,311	9,396,950	9,185,589	8,974,228	8,762,867	8,551,506	8,340,145	8,128,784	7,917,423	7,706,062	7,494,701	7,283,340	7,071,979
18.	Gas Costs	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	Gas Costs	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
20.	OGW Expenses	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
21.	Net Operating Cash (Before Taxes)	131,588,027	131,451,415	131,314,803	131,178,191	131,041,579	130,904,967	130,768,355	130,631,743	130,495,131	130,358,519	130,221,907	130,085,295	129,948,683	129,812,071	129,675,459	129,538,847
22.	PV of Net Operating Cash (Before Taxes) At Project Outset	131,588,027	131,451,415	131,314,803	131,178,191	131,041,579	130,904,967	130,768,355	130,631,743	130,495,131	130,358,519	130,221,907	130,085,295	129,948,683	129,812,071	129,675,459	129,538,847
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,391,825,329	1,426,219,122	1,460,612,915	1,495,004,708	1,529,396,501	1,563,788,294	1,598,180,087	1,632,571,880	1,666,963,673	1,701,355,466	1,735,747,259	1,770,139,052	1,804,530,845	1,838,922,638	1,873,314,431	1,907,706,224
	TAXES																
24.	Income Tax (Before Interest Tax Shield)	(60,895,870)	(18,150,969)	(18,094,951)	(17,666,601)	(17,986,695)	(15,491,919)	(15,491,917)	(15,491,914)	(15,491,912)	(15,491,910)	(15,491,908)	(15,491,906)	(15,491,904)	(15,491,902)	(15,491,900)	(15,491,898)
25.	Municipal Tax	(2,957,428)	(2,957,336)	(2,957,445)	(2,960,518)	(2,960,527)	(2,960,535)	(2,960,543)	(2,960,552)	(2,960,560)	(2,960,568)	(2,960,576)	(2,960,584)	(2,960,592)	(2,960,600)	(2,960,608)	(2,960,616)
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.	Total Taxes	(63,853,298)	(21,108,405)	(21,052,396)	(20,627,119)	(20,947,222)	(18,452,454)	(18,452,460)	(18,452,466)	(18,452,472)	(18,452,478)	(18,452,484)	(18,452,490)	(18,452,496)	(18,452,502)	(18,452,508)	(18,452,514)
28.	PV of Total Taxes At Project Outset	(32,543,054)	(10,160,689)	(9,571,105)	(8,857,108)	(8,495,180)	(7,067,943)	(6,675,534)	(6,304,911)	(5,954,864)	(5,624,253)	(5,313,642)	(5,017,689)	(4,731,736)	(4,455,783)	(4,189,830)	(3,923,877)
29.	ACCUMULATED PV OF TOTAL TAXES	(381,204,228)	(391,364,918)	(400,936,023)	(409,793,131)	(418,288,310)	(425,356,254)	(432,031,788)	(438,336,698)	(444,291,563)	(449,915,815)	(455,272,561)	(460,369,706)	(465,197,252)	(469,763,798)	(474,169,344)	(478,414,890)
	ACCUMULATED NPV AND PI																
30.	Net Present Value	258,094,995	286,681,216	313,360,622	337,831,161	361,110,205	380,272,108	398,215,514	415,025,518	430,780,519	445,552,819	458,978,446	471,984,151	484,574,866	496,750,581	508,512,296	520,859,011
31.	Profitability Index	1.314	1.349	1.382	1.411	1.440	1.463	1.485	1.505	1.524	1.542	1.559	1.575	1.591	1.606	1.621	1.636

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting. Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting. Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31, 2015. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Charges start Oct 15, 2015, mid-term discounting. Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 27 Year 23	Col. 28 Year 24	Col. 29 Year 25	Col. 30 Year 26	Col. 31 Year 27	Col. 32 Year 28	Col. 33 Year 29	Col. 34 Year 30	Col. 35 Year 31	Col. 36 Year 32	Col. 37 Year 33	Col. 38 Year 34
	Discount factors to project outset	0.257	0.243	0.229	0.216	0.204	0.193	0.182	0.172	0.163	0.154	0.145	0.137
	INCREMENTAL CAPITAL INVESTMENT												
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-	-	-
8.	Net Investment Capital	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
9.	Working Capital	-	-	-	-	-	-	-	-	-	-	-	-
10.	Total Investment	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
11.	PV Of Total Investment At Project Outset	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
12.	ACCUMULATED PV OF TOTAL INVESTMENT												
13.	CCA TAX SHIELD												
14.	CCA Tax Shield	4,573,687	4,296,926	4,036,938	3,792,704	3,563,268	3,355,856	3,161,014	2,999,855	2,790,273	2,621,567	2,463,077	2,314,183
15.	PV Of CCA Tax Shield At Project Outset	1,174,505	1,042,171	924,754	820,570	728,129	647,673	576,198	511,297	453,709	402,610	357,268	317,035
16.	ACCUMULATED PV OF CCA TAX SHIELD	98,279,692	99,321,963	100,246,617	101,067,187	101,795,316	102,442,989	103,019,187	103,530,484	103,984,193	104,386,803	104,744,071	105,061,106
17.	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)												
18.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
19.	Transportation Services Charge	-	-	-	-	-	-	-	-	-	-	-	-
20.	Gas Costs	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
21.	OGM Expenses	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
22.	Operating Cash (Before Taxes)	61,420,606	61,420,606	61,420,606	61,420,606	61,420,606	61,420,606	61,420,606	61,420,606	61,420,606	61,420,606	61,420,606	61,420,606
23.	PV Of Operating Cash (Before Taxes) At Project Outset	15,772,576	13,896,982	12,469,808	11,293,853	10,150,988	9,043,736	8,043,736	7,143,736	6,343,736	5,643,736	5,043,736	4,543,736
24.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,672,071,952	1,686,968,534	1,701,038,642	1,714,327,296	1,726,876,164	1,738,337,798	1,749,533,707	1,760,108,020	1,770,095,247	1,779,527,984	1,788,437,017	1,796,851,420
25.	TAXES												
26.	Income Tax (Before Interest Tax Shield)	(15,491,091)	(15,491,089)	(15,491,087)	(15,491,084)	(15,491,082)	(14,948,714)	(15,490,265)	(15,490,263)	(15,490,261)	(15,490,259)	(15,490,256)	(15,490,254)
27.	Municipal Tax	(2,963,659)	(2,963,657)	(2,963,676)	(2,963,684)	(2,963,692)	(2,966,766)	(2,966,774)	(2,966,783)	(2,966,791)	(2,966,800)	(2,966,808)	(2,966,816)
28.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-
29.	Total Taxes	(18,454,750)	(18,454,756)	(18,454,763)	(18,454,768)	(18,454,774)	(17,915,480)	(18,457,040)	(18,457,046)	(18,457,052)	(18,457,058)	(18,457,064)	(18,457,071)
30.	PV of Total Taxes At Project Outset	(4,739,109)	(4,475,995)	(4,227,489)	(3,992,781)	(3,771,103)	(3,457,649)	(3,364,398)	(3,177,607)	(3,001,188)	(2,834,563)	(2,677,189)	(2,528,563)
31.	ACCUMULATED PV OF TOTAL TAXES	(464,829,358)	(469,305,353)	(473,532,843)	(477,525,823)	(481,296,727)	(484,754,376)	(488,118,773)	(491,296,381)	(494,297,568)	(497,132,132)	(499,809,321)	(502,337,873)
32.	ACCUMULATED NPV AND PI												
33.	Net Present Value	484,192,123	495,655,181	506,422,254	516,538,697	526,046,590	534,696,249	543,103,958	551,011,960	558,451,709	565,452,493	572,041,605	578,244,490
34.	Profitability Index	1.590	1.603	1.617	1.629	1.640	1.651	1.661	1.671	1.680	1.688	1.696	1.704

Notes:

- (1) September 12 2013 is project outset as time 0.
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- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Charges start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
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Line No.	Description	Col. 39 Year 35	Col. 40 Year 36	Col. 41 Year 37	Col. 42 Year 38	Col. 43 Year 39	Col. 44 Year 40
	Discount factors to project outset	0.129	0.122	0.115	0.109	0.103	0.097
	INCREMENTAL CAPITAL INVESTMENT						
1.	Investment in Mairs	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-
8.	Net Investment Capital	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
9.	Working Capital	-	-	-	-	-	-
10.	Total Investment	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
11.	PV Of Total Investment At Project Outset	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
12.	ACCUMULATED PV OF TOTAL INVESTMENT						
	CCA TAX SHIELD						
13.	CCA Tax Shield	2,182,426	2,058,650	1,934,247	1,817,374	1,707,573	14,253,178
14.	PV Of CCA Tax Shield At Project Outset	282,385	251,581	223,254	198,118	175,814	1,386,046
15.	ACCUMULATED PV OF CCA TAX SHIELD	105,343,491	105,595,072	105,818,326	106,016,444	106,192,258	107,578,304
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)						
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	-	-	-	-	-	-
18.	Transportation Savings	-	-	-	-	-	-
19.	Gas Costs	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
20.	OGM Expenses	(14,979,357)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
21.	Net Operating Cash (Before Taxes)	59,376,365	61,420,606	61,420,606	61,420,606	61,420,606	61,420,606
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset	59,382,814	7,450,008	7,089,273	6,692,677	6,293,833	5,897,829
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,804,534,234	1,812,040,240	1,819,129,513	1,825,825,190	1,832,149,124	1,838,121,953
	TAXES						
24.	Income Tax (Before Interest Tax Shield)	(14,947,886)	(15,489,438)	(15,489,435)	(15,489,433)	(15,489,431)	(15,489,429)
25.	Municipal Tax	(2,969,890)	(2,969,888)	(2,969,907)	(2,969,915)	(2,969,923)	(2,969,932)
26.	Capital Tax	-	-	-	-	-	-
27.	Total Taxes	(17,917,776)	(18,459,326)	(18,459,342)	(18,459,348)	(18,459,354)	(18,459,360)
28.	PV of Total Taxes At Project Outset	(2,318,388)	(2,255,853)	(2,130,609)	(2,012,319)	(1,900,596)	(1,795,075)
29.	ACCUMULATED PV OF TOTAL TAXES	(504,656,261)	(506,912,115)	(509,042,724)	(511,055,043)	(512,955,638)	(514,750,714)
	ACCUMULATED NPV AND PI						
30.	Net Present Value	583,891,301	589,393,034	594,574,952	599,456,429	604,055,580	608,619,381
31.	Profitability Index	1.711	1.718	1.724	1.730	1.735	1.7422

Notes:

- (1) September 12 2013 is project outset as time 0.
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- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals $3.6/12 \times 0.5 = 0.15$
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals $12/12 \times 0.5 + 3.6/12 = 0.80$
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (8) Transportation savings and Transportation Services Charge start Oct 15, 2015, mid-term discounting, Discount period equals $2.5/12 \times 0.5 + 9.5/12 + 1 + 3.6/12 = 2.196$

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
		10/10 - 09/13	09/13 - 12/13	01/14 - 12/14	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
	Discount factors to project outset	1.000	0.991	0.985	0.902	0.852	0.805	0.760	0.718	0.678	0.640	0.605	0.571	0.540	
INCREMENTAL CAPITAL INVESTMENT															
1.	Investment in Mairs						(21,000,000)	(16,400,000)	(13,000,000)	(250,000)					
2.	Investment in Services				(37,570,328)	(38,051,685)	(37,577,338)	(37,554,031)	(37,555,834)	(37,991,302)	(38,308,295)	(38,308,295)	(38,308,295)	(38,308,295)	
3.	Investment in Stations					-	-	-	-	-	-	-	-	-	
4.	Investment in Land					-	-	-	-	-	-	-	-	-	
5.	Investment in Land Rights					-	-	-	-	-	-	-	-	-	
6.	Annual Capital Maintenance Costs				(590)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	
7.	Contribution In Aid Of Construction	(16,356,221)	(7,512,671)	(187,581,944)	(380,695,413)	(38,054,471)	(58,580,124)	(53,956,817)	(50,558,620)	(38,244,088)	(39,332,881)	(38,311,081)	(38,311,081)	(38,311,081)	
8.	Net Investment Capital				1,101	1,346	2,730	2,873	3,264	3,599	3,851	3,851	3,851	3,851	
9.	Working Capital	(16,356,221)	(7,512,671)	(187,581,944)	(380,694,312)	(38,053,125)	(58,577,394)	(53,953,944)	(50,555,356)	(38,240,489)	(39,329,030)	(38,307,230)	(38,307,230)	(38,307,230)	
10.	Total Investment	(821,330,163)													
11.	PV Of Total Investment At Project Outset	(821,330,163)													
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	
CCA TAX SHIELD															
13.	CCA Tax Shield				5,075,930	8,961,285	9,180,909	9,514,545	9,765,105	9,876,377	9,892,345	9,908,450	9,916,018	9,923,618	
14.	PV Of CCA Tax Shield At Project Outset				4,579,970	7,636,777	7,389,555	7,232,916	7,011,244	6,697,437	6,335,823	5,993,807	5,665,349	5,349,910	
15.	ACCUMULATED PV OF CCA TAX SHIELD				4,579,970	12,216,748	19,606,303	26,839,220	33,850,464	40,547,901	46,883,724	52,877,531	58,542,880	63,897,790	
INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)															
16.	Gas Distribution Revenue				6,271,994	18,969,988	31,796,356	44,634,856	57,550,596	70,574,131	83,740,560	96,981,526	110,222,492	123,463,459	
17.	Transportation Services Charge				1,431,043	11,789,218	11,642,370	11,487,154	11,324,084	11,153,642	11,022,378	10,825,487	10,635,423	10,439,247	
18.	Transportation Savings				9,940,576	39,292,931	41,088,269	38,639,412	36,051,085	33,462,916	30,874,572	28,286,076	25,697,439	23,109,347	
19.	Gas Costs				(2,719,614)	(8,220,976)	(13,749,757)	(19,257,757)	(24,789,726)	(30,355,050)	(35,971,650)	(41,612,011)	(47,260,752)	(52,905,303)	
20.	O&M Expenses				(823,374)	(2,978,946)	(4,112,659)	(5,257,159)	(6,411,613)	(7,579,751)	(8,750,380)	(9,955,759)	(11,147,758)	(12,337,758)	
21.	Net Operating Cash (Before Taxes)				13,506,624	58,852,224	66,664,579	68,246,505	75,724,426	81,659,757	86,039,380	93,717,489	99,852,343	107,696,894	
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset				11,970,439	50,153,668	53,657,170	51,880,700	54,369,357	55,375,681	55,106,276	56,691,406	57,048,948	58,114,074	
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)				11,970,439	62,124,107	115,781,276	167,661,976	222,031,333	277,407,015	332,513,291	389,204,697	446,253,645	504,367,719	
TAXES															
24.	Income Tax (Before Interest Tax Shield)				(3,457,535)	(15,094,830)	(17,118,533)	(17,494,848)	(19,436,302)	(20,978,761)	(22,108,091)	(24,112,333)	(25,707,612)	(27,955,696)	
25.	Municipal Tax				(459,321)	(1,890,602)	(2,066,343)	(2,228,213)	(2,379,889)	(2,494,621)	(2,612,620)	(2,727,553)	(2,842,486)	(2,957,419)	
26.	Capital Tax														
27.	Total Taxes				(3,916,856)	(16,985,432)	(19,184,875)	(19,723,061)	(21,816,191)	(23,478,382)	(24,720,711)	(26,838,886)	(28,550,098)	(30,713,115)	
28.	PV of Total Taxes At Project Outset				(3,474,708)	(14,474,928)	(15,441,575)	(15,993,386)	(16,663,800)	(15,917,933)	(15,833,056)	(16,235,933)	(16,311,616)	(16,573,188)	
29.	ACCUMULATED PV OF TOTAL TAXES				(3,474,708)	(17,949,636)	(33,391,211)	(48,384,597)	(64,048,398)	(79,966,330)	(95,799,387)	(112,035,320)	(128,346,936)	(144,920,123)	
ACCUMULATED NPV AND PI															
30.	Net Present Value			(821,330,163)	(808,254,462)	(764,938,945)	(719,333,795)	(675,213,564)	(629,496,763)	(583,341,577)	(537,732,534)	(491,283,255)	(444,880,573)	(397,984,777)	
31.	Profitability Index			0.000	0.016	0.069	0.124	0.178	0.234	0.290	0.345	0.402	0.458	0.515	

Notes:

- (1) September 12 2013 is project outset as time 0.
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- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.612*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.612 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.612 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals 12/12*0.5+1+3.612 = 1.80
- (8) Transportation savings and Transportation Services Charges start Oct 15, 2015, mid-term discounting, Discount period equals 2.512*0.5+9.512+1+3.612 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
DCF Analysis**

Line No.	Description	Col. 1 Year 12	Col. 16 Year 13	Col. 17 Year 14	Col. 18 Year 15	Col. 20 Year 16	Col. 21 Year 17	Col. 22 Year 18	Col. 23 Year 19	Col. 24 Year 20	Col. 25 Year 21	Col. 26 Year 22
	Discount factors to project outset											
	INCREMENTAL CAPITAL INVESTMENT											
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)
7.	Contribution In Aid Of Construction	-	-	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)
8.	Net Investment Capital	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)
9.	Working Capital	-	-	-	-	-	-	-	-	-	-	-
10.	Total Investment	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)
11.	PV Of Total Investment At Project Outset											
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
	CCA TAX SHIELD											
13.	CCA Tax Shield	9,626,672	9,043,420	7,989,070	7,513,313	7,058,298	6,630,882	6,229,388	5,852,243	5,497,965	5,173,291	4,868,305
14.	PV of CCA Tax Shield At Project Outset	4,906,266	4,353,118	3,430,438	3,047,036	2,703,578	2,398,850	2,128,482	1,888,598	1,675,761	1,489,258	1,323,651
15.	ACCUMULATED PV OF CCA TAX SHIELD	68,804,057	73,157,175	80,449,973	83,497,009	86,200,587	88,599,437	90,727,919	92,616,517	94,292,278	95,781,536	97,105,187
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)											
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	10,237,680	10,031,051	10,249,931	9,414,241	9,189,995	8,962,036	8,730,592	8,495,877	8,258,092	8,063,521	7,804,480
18.	Transportation Savings	38,473,086	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	Gas Costs	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
20.	OM&M Expenses	(14,979,357)	(14,979,357)	(14,979,357)	(14,979,357)	(14,979,357)	(14,979,357)	(14,979,357)	(14,979,357)	(14,979,357)	(14,979,357)	(14,979,357)
21.	Net Operating Cash (Before Taxes)	110,138,823	110,138,823	110,138,823	110,138,823	110,138,823	110,138,823	110,138,823	110,138,823	110,138,823	110,138,823	110,138,823
22.	PV of Net Operating Cash (Before Taxes) At Project Outset	54,393,893	54,393,893	54,393,893	54,393,893	54,393,893	54,393,893	54,393,893	54,393,893	54,393,893	54,393,893	54,393,893
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	560,496,552	594,890,345	627,278,496	657,175,705	685,902,892	712,949,253	736,411,533	764,944,072	806,181,902	825,769,021	844,590,736
	TAXES											
24.	Income Tax (Before Interest Tax Shield)	(28,401,095)	(18,150,969)	(17,666,601)	(17,986,695)	(17,927,267)	(17,968,856)	(17,805,521)	(17,743,320)	(17,680,304)	(17,245,374)	(17,559,280)
25.	Municipal Tax	(2,957,428)	(2,957,436)	(2,960,518)	(2,960,527)	(2,960,535)	(2,960,543)	(2,960,552)	(2,960,560)	(2,960,568)	(2,960,576)	(2,963,651)
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-
27.	Total Taxes	(31,358,523)	(21,108,405)	(20,627,119)	(20,947,222)	(20,887,399)	(20,935,399)	(20,766,073)	(20,703,880)	(20,640,873)	(20,209,017)	(20,522,931)
28.	PV of Total Taxes At Project Outset	(15,981,979)	(10,160,689)	(8,857,081)	(8,495,180)	(8,000,768)	(7,534,714)	(7,085,433)	(6,681,424)	(6,291,268)	(5,817,657)	(5,580,011)
29.	ACCUMULATED PV OF TOTAL TAXES	(160,902,103)	(171,062,792)	(180,633,897)	(189,491,005)	(205,986,952)	(213,521,667)	(220,617,100)	(227,298,524)	(233,589,792)	(239,407,448)	(244,987,460)
	ACCUMULATED NPV AND PI											
30.	Net Present Value	(352,931,656)	(324,345,435)	(297,666,029)	(273,195,490)	(228,167,275)	(207,840,859)	(188,838,275)	(171,068,098)	(154,445,775)	(139,187,054)	(124,821,699)
31.	Profitability Index	0.570	0.605	0.638	0.667	0.722	0.747	0.770	0.792	0.812	0.831	0.848

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting. Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting. Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31, 2015. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Chrgs start Oct 15, 2015, mid-term discounting. Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
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Line No.	Description	Col. 27 Year 23	Col. 28 Year 24	Col. 29 Year 25	Col. 30 Year 26	Col. 31 Year 27	Col. 32 Year 28	Col. 33 Year 29	Col. 34 Year 30	Col. 35 Year 31	Col. 36 Year 32	Col. 37 Year 33	Col. 38 Year 34
	Discount factors to project outset	0.257	0.243	0.229	0.216	0.204	0.193	0.182	0.172	0.163	0.154	0.145	0.137
	INCREMENTAL CAPITAL INVESTMENT												
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-	-	-
8.	Net Investment Capital	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
9.	Working Capital	-	-	-	-	-	-	-	-	-	-	-	-
10.	Total Investment	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
11.	PV Of Total Investment At Project Outset	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
12.	ACCUMULATED PV OF TOTAL INVESTMENT												
	CCA TAX SHIELD												
13.	CCA Tax Shield	4,573,687	4,296,926	4,036,938	3,792,704	3,563,268	3,355,856	3,161,014	2,999,855	2,790,273	2,621,567	2,463,077	2,314,183
14.	PV of CCA Tax Shield At Project Outset	1,174,505	1,042,171	924,754	820,570	728,129	647,673	576,198	511,297	453,709	402,610	357,268	317,035
15.	ACCUMULATED PV OF CCA TAX SHIELD	98,279,692	99,321,863	100,246,617	101,067,187	101,795,316	102,442,989	103,019,187	103,530,484	103,984,193	104,386,803	104,744,071	105,061,106
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)												
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	7,558,277	7,309,665	7,058,790	6,805,792	6,550,799	6,304,032	6,066,733	5,836,925	5,615,207	5,401,570	5,195,146	5,000,000
18.	Transportation Savings	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	Gas Costs	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
20.	OGM Expenses	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
21.	Net Operating Cash (Before Taxes)	57,983,185	57,718,163	57,453,141	57,188,119	56,923,097	56,658,075	56,393,053	56,128,031	55,863,009	55,597,987	55,332,965	55,067,943
22.	PV of Net Operating Cash (Before Taxes) At Project Outset	19,718,163	18,689,760	17,661,357	16,632,954	15,604,551	14,576,148	13,547,745	12,519,342	11,490,939	10,462,536	9,434,133	8,405,730
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	862,304,247	879,974,007	894,660,794	909,421,915	923,311,393	936,110,438	948,412,572	959,783,466	969,959,185	979,570,896	988,649,657	997,224,843
	TAXES												
24.	Income Tax (Before Interest Tax Shield)	(17,494,034)	(17,428,150)	(17,361,666)	(17,294,619)	(17,227,044)	(16,787,822)	(17,098,480)	(16,716,398)	(15,797,451)	(15,799,082)	(15,800,346)	(15,801,265)
25.	Municipal Tax	(2,963,659)	(2,963,659)	(2,963,676)	(2,963,684)	(2,963,692)	(2,966,766)	(2,966,774)	(2,966,783)	(2,966,791)	(2,966,800)	(2,966,808)	(2,966,816)
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-
27.	Total Taxes	(20,457,693)	(20,391,817)	(20,325,342)	(20,259,303)	(20,193,736)	(19,754,588)	(20,065,254)	(19,683,181)	(18,764,242)	(18,765,881)	(18,767,154)	(18,768,081)
28.	PV of Total Taxes At Project Outset	(5,253,457)	(4,945,808)	(4,638,159)	(4,330,510)	(4,022,861)	(3,715,212)	(3,407,563)	(3,100,000)	(2,792,441)	(2,793,991)	(2,795,541)	(2,797,091)
29.	ACCUMULATED PV OF TOTAL TAXES	(250,240,916)	(255,186,724)	(259,842,713)	(264,225,697)	(268,351,532)	(272,184,125)	(275,821,672)	(279,210,374)	(282,261,512)	(285,143,503)	(287,865,671)	(290,438,831)
	ACCUMULATED NPV AND PI												
30.	Net Present Value	(110,987,140)	(98,221,016)	(86,265,464)	(75,066,758)	(64,574,986)	(54,940,861)	(45,720,077)	(37,226,586)	(29,648,296)	(22,515,967)	(15,802,104)	(9,481,044)
31.	Profitability Index	0.865	0.880	0.895	0.909	0.921	0.933	0.944	0.955	0.964	0.973	0.981	0.988

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting. Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting. Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31, 2015. Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Charge start Oct 15, 2015, mid-term discounting. Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

**GTA Project
Economic Feasibility - 40 year Horizon
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Line No.	Description	Col. 39 Year 35	Col. 40 Year 36	Col. 41 Year 37	Col. 42 Year 38	Col. 43 Year 39	Col. 44 Year 40
	Discount factors to project outset						
		0.129	0.122	0.115	0.109	0.103	0.097
	INCREMENTAL CAPITAL INVESTMENT						
1.	Investment in Mairs	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-
8.	Net Investment Capital	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
9.	Working Capital	-	-	-	-	-	-
10.	Total Investment	(1,024,586)	(2,786)	(2,786)	(2,786)	(2,786)	(2,786)
11.	PV Of Total Investment At Project Outset						
12.	ACCUMULATED PV OF TOTAL INVESTMENT	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)	(821,330,163)
	CCA TAX SHIELD						
13.	CCA Tax Shield	2,182,426	2,058,650	1,934,247	1,817,374	1,707,573	14,253,178
14.	PV Of CCA Tax Shield At Project Outset	282,385	251,581	223,254	198,118	175,814	1,386,046
15.	ACCUMULATED PV OF CCA TAX SHIELD	105,343,491	105,595,072	105,818,326	106,016,444	106,192,258	107,578,304
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)						
16.	Gas Distribution Revenue	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942	130,083,942
17.	Transportation Services Charge	1,821,979	1,201,817	1,196,125	1,195,536	1,193,988	1,191,525
18.	Transportation Savings	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)	(55,727,578)
19.	Gas Costs	(14,978,387)	(12,835,757)	(12,835,757)	(12,835,757)	(12,835,757)	(12,835,757)
20.	OGM Expenses	94,188,385	92,838,423	91,488,461	90,138,499	88,788,537	87,438,575
21.	Net Operating Cash (Before Taxes)	91,818,561	7,652,876	7,277,332	6,826,607	6,375,888	6,008,689
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset	1,005,143,404	1,012,796,280	1,020,023,612	1,026,849,618	1,033,296,486	1,039,385,185
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)						
	TAXES						
24.	Income Tax (Before Interest Tax Shield)	(15,430,710)	(15,807,919)	(15,806,408)	(15,806,250)	(15,805,838)	(15,805,183)
25.	Municipal Tax	(2,969,890)	(2,969,890)	(2,969,907)	(2,969,915)	(2,969,923)	(2,969,932)
26.	Capital Tax	-	-	-	-	-	-
27.	Total Taxes	(18,400,600)	(18,777,817)	(18,776,315)	(18,776,165)	(18,775,761)	(18,775,115)
28.	PV of Total Taxes At Project Outset	(2,380,861)	(2,294,774)	(2,167,195)	(2,046,856)	(1,933,173)	(1,825,781)
29.	ACCUMULATED PV OF TOTAL TAXES	(292,817,691)	(295,112,465)	(297,279,660)	(299,326,516)	(301,259,689)	(303,085,470)
	ACCUMULATED NPV AND PI						
30.	Net Present Value	(3,660,959)	1,948,724	7,232,115	12,209,384	16,898,892	22,547,856
31.	Profitability Index	0.996	1.002	1.009	1.015	1.021	1.0275

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Chrgs start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

#REF!
Economic Feasibility - 40 year Horizon
DCF Analysis

Line No.	Description	Col. 1	Col. 2	Col. 3	01/14 - 12/14	Col. 4	Year 1	Col. 5	Year 2	Col. 6	Year 3	Col. 7	Year 4	Col. 8	Year 5	Col. 9	Year 6	Col. 10	Year 7	Col. 11	Year 8	Col. 12	Year 9	Col. 13	Year 10	Col. 14
	Discount factors to project outset		1.000	0.991	0.985	0.902	0.852	0.805	0.760	0.718	0.678	0.640	0.605	0.571	0.540											
	INCREMENTAL CAPITAL INVESTMENT																									
1.	Investment in Mairs																									
2.	Investment in Services																									
3.	Investment in Stations																									
4.	Investment in Land																									
5.	Investment in Land Rights																									
6.	Annual Capital Maintenance Costs																									
7.	Contribution In Aid Of Construction																									
8.	Net Investment Capital																									
9.	Working Capital																									
10.	Total Investment																									
11.	PV Of Total Investment At Project Outset																									
12.	ACCUMULATED PV OF TOTAL INVESTMENT																									
	CCA TAX SHIELD																									
13.	CCA Tax Shield																									
14.	PV Of CCA Tax Shield At Project Outset																									
15.	ACCUMULATED PV OF CCA TAX SHIELD																									
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)																									
16.	Gas Distribution Revenue																									
17.	Transportation Services Charge																									
18.	Transportation Savings																									
19.	Gas Costs																									
20.	O&M Expenses																									
21.	Net Operating Cash (Before Taxes)																									
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset																									
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)																									
	TAXES																									
24.	Income Tax (Before Interest Tax Shield)																									
25.	Municipal Tax																									
26.	Capital Tax																									
27.	Total Taxes																									
28.	PV of Total Taxes At Project Outset																									
29.	ACCUMULATED PV OF TOTAL TAXES																									
	ACCUMULATED NPV AND PI																									
30.	Net Present Value																									
31.	Profitability Index																									

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.612*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Charge start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

#REF!
Economic Feasibility - 40 year Horizon
DCF Analysis

Line No.	Description	Col. 1 Year 11	Col. 15 Year 12	Col. 16 Year 13	Col. 17 Year 14	Col. 18 Year 15	Col. 19 Year 16	Col. 20 Year 17	Col. 21 Year 18	Col. 22 Year 19	Col. 23 Year 20	Col. 24 Year 21	Col. 25 Year 22	Col. 26 Year 23
	Discount factors to project outset													
	INCREMENTAL CAPITAL INVESTMENT													
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-	-	-	-	-	-	-	-
8.	Net Investment Capital	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)
9.	Working Capital	2,700	2,686	2,673	2,660	2,646	2,633	2,620	2,607	2,594	2,581	2,568	2,555	2,542
10.	Total Investment	(365)	(378)	(392)	(1,124,385)	(418)	(432)	(445)	(458)	(471)	(484)	(1,124,477)	(510)	(510)
11.	PV of Total Investment At Project Outset	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)
12.	ACCUMULATED PV OF TOTAL INVESTMENT													
	CCA TAX SHIELD													
13.	CCA Tax Shield	10,589,339	9,947,762	9,345,119	8,787,978	8,264,644	7,764,128	7,293,970	6,852,327	6,437,467	6,047,762	5,690,620	5,355,135	5,035,135
14.	PV of CCA Tax Shield At Project Outset	5,396,893	4,788,430	4,248,596	3,773,482	3,351,740	2,973,936	2,638,735	2,341,330	2,077,458	1,843,337	1,638,183	1,456,016	1,295,016
15.	ACCUMULATED PV OF CCA TAX SHIELD	75,684,462	80,472,893	84,721,488	88,494,970	91,846,710	94,820,646	97,459,380	99,800,710	101,878,169	103,721,506	105,359,689	106,815,705	108,115,705
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)													
16.	Gas Distribution Revenue	123,724,155	123,105,534	122,490,006	121,877,556	121,268,169	120,661,828	120,058,519	119,458,226	118,860,935	118,266,630	117,675,297	117,086,921	116,498,545
17.	Transportation Services Charge	11,250,386	11,023,094	10,790,577	10,558,163	10,325,749	10,093,335	9,860,921	9,628,507	9,396,093	9,163,679	8,931,265	8,698,851	8,466,437
18.	Transportation Savings	144,985,391	144,985,391	144,985,391	144,985,391	144,985,391	144,985,391	144,985,391	144,985,391	144,985,391	144,985,391	144,985,391	144,985,391	144,985,391
19.	Gas Costs	(53,003,064)	(52,738,049)	(52,473,034)	(52,208,019)	(51,943,004)	(51,678,000)	(51,413,000)	(51,148,000)	(50,883,000)	(50,618,000)	(50,353,000)	(50,088,000)	(49,823,000)
20.	OGM Expenses	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
21.	Net Operating Cash (Before Taxes)	119,011,770	118,435,713	117,860,656	117,285,599	116,710,542	116,135,485	115,560,428	114,985,371	114,410,314	113,835,257	113,260,200	112,685,143	112,110,086
22.	PV of Net Operating Cash (Before Taxes) At Project Outset	109,076,597	108,076,597	107,076,597	106,076,597	105,076,597	104,076,597	103,076,597	102,076,597	101,076,597	100,076,597	99,076,597	98,076,597	97,076,597
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,281,115,003	1,314,066,246	1,346,922,372	1,379,778,507	1,412,634,642	1,445,490,777	1,478,346,912	1,511,203,047	1,544,059,182	1,576,915,317	1,609,771,452	1,642,627,587	1,675,483,722
	TAXES													
24.	Income Tax (Before Interest Tax Shield)	(55,853,504)	(17,278,435)	(17,123,579)	(16,968,723)	(16,813,867)	(16,659,011)	(16,504,155)	(16,349,299)	(16,194,443)	(16,039,587)	(15,884,731)	(15,729,875)	(15,575,019)
25.	Municipal Tax	(3,253,171)	(3,253,180)	(3,253,189)	(3,253,198)	(3,253,207)	(3,253,216)	(3,253,225)	(3,253,234)	(3,253,243)	(3,253,252)	(3,253,261)	(3,253,270)	(3,253,279)
26.	Capital Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
27.	Total Taxes	(59,106,675)	(20,531,615)	(20,376,768)	(19,853,666)	(19,330,564)	(18,807,462)	(18,284,360)	(17,761,258)	(17,238,156)	(16,715,054)	(16,191,952)	(15,668,850)	(15,145,748)
28.	PV of Total Taxes At Project Outset	(30,123,921)	(9,883,047)	(9,263,943)	(8,644,839)	(8,025,735)	(7,406,631)	(6,787,527)	(6,168,423)	(5,549,319)	(4,930,215)	(4,311,111)	(3,692,007)	(3,072,903)
29.	ACCUMULATED PV OF TOTAL TAXES	(853,103,251)	(362,986,298)	(372,250,241)	(380,775,243)	(388,917,097)	(396,546,700)	(403,695,610)	(410,383,494)	(416,668,238)	(422,546,044)	(427,945,771)	(433,105,164)	(438,015,164)
	ACCUMULATED NPV AND PI													
30.	Net Present Value	100,260,636	128,117,262	153,958,041	177,497,916	199,768,675	220,444,224	239,643,405	257,475,635	274,041,715	289,434,564	303,446,415	316,754,023	329,361,631
31.	Profitability Index	1.111	1.142	1.170	1.196	1.221	1.244	1.265	1.285	1.303	1.320	1.336	1.351	1.366

Notes:

- (1) September 12 2013 is project outset as time 0.
- (2) Oct 1 2010 to Sep 12 2013 - Project planning and engineering.
- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting. Discount period equals 3.612*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting. Discount period equals 12/12*0.5+3.612 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting. Discount period equals 12/12*0.5+1+3.612 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015. Discount period equals 12/12*0.5+1+3.612 = 1.80
- (8) Transportation savings and Transportation Services Charges start Oct 15, 2015, mid-term discounting. Discount period equals 2.512*0.5+9.512+1+3.612 = 2.196

#REF!
Economic Feasibility - 40 year Horizon
DCF Analysis

Line No.	Description	Col. 1 Year 23	Col. 27 Year 24	Col. 28 Year 25	Col. 29 Year 26	Col. 30 Year 27	Col. 31 Year 28	Col. 32 Year 29	Col. 33 Year 30	Col. 34 Year 31	Col. 35 Year 32	Col. 36 Year 33	Col. 37 Year 34
	Discount factors to project outset												
	INCREMENTAL CAPITAL INVESTMENT												
1.	Investment in Mairs	-	-	-	-	-	-	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
7.	Contribution In Aid Of Construction	(3,065)	-	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
8.	Net Investment Capital	2,542	2,530	2,517	(548)	-	-	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
9.	Working Capital	(522)	(535)	(548)	(548)	-	-	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
10.	Total Investment	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
11.	PV Of Total Investment At Project Outset	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)
12.	ACCUMULATED PV OF TOTAL INVESTMENT												
	CCA TAX SHIELD												
13.	CCA Tax Shield	5,031,056	4,726,619	4,440,631	4,171,974	3,919,595	3,691,442	3,477,115	3,266,840	3,069,301	2,883,724	2,709,384	2,545,601
14.	PV of CCA Tax Shield At Project Outset	1,291,956	1,146,389	1,017,229	902,627	800,942	712,440	638,818	562,427	499,080	442,871	382,995	348,738
15.	ACCUMULATED PV OF CCA TAX SHIELD	108,107,661	109,254,049	110,271,279	111,173,906	111,974,848	112,687,288	113,321,106	113,883,532	114,382,612	114,825,483	115,218,479	115,567,217
	INCREMENTAL OPERATING CASH FLOWS (BEFORE TAXES)												
16.	Gas Distribution Revenue	116,501,486	115,918,979	115,339,384	114,759,309	114,179,817	113,599,884	113,020,944	112,442,556	111,864,168	111,285,780	110,707,392	110,129,004
17.	Transportation Services Charge	8,303,043	8,029,569	7,756,095	7,482,621	7,209,147	6,935,673	6,662,200	6,388,726	6,115,252	5,841,778	5,568,304	5,294,830
18.	Transportation Savings	(49,908,894)	(49,658,350)	(49,407,806)	(49,157,262)	(48,906,718)	(48,656,174)	(48,405,630)	(48,155,086)	(47,904,542)	(47,654,000)	(47,403,456)	(47,152,912)
19.	Gas Costs	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
20.	OGW Expenses	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)	(12,935,757)
21.	Net Operating Cash (Before Taxes)	45,931,857	45,931,857	45,931,857	45,931,857	45,931,857	45,931,857	45,931,857	45,931,857	45,931,857	45,931,857	45,931,857	45,931,857
22.	PV of Net Operating Cash (Before Taxes) At Project Outset	1,562,390,118	1,577,270,710	1,592,151,302	1,607,031,894	1,621,912,486	1,636,793,078	1,651,673,670	1,666,554,262	1,681,434,854	1,696,315,446	1,711,196,038	1,726,076,630
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)												
	TAXES												
24.	Income Tax (Before Interest Tax Shield)	(15,555,461)	(15,394,753)	(15,233,826)	(15,072,899)	(14,911,972)	(14,751,045)	(14,590,118)	(14,429,191)	(14,268,264)	(14,107,337)	(13,946,410)	(13,785,483)
25.	Municipal Tax	(3,260,025)	(3,260,034)	(3,260,043)	(3,260,052)	(3,260,062)	(3,260,071)	(3,260,080)	(3,260,089)	(3,260,098)	(3,260,107)	(3,260,116)	(3,260,125)
26.	Capital Tax	(18,815,486)	(18,654,787)	(18,493,870)	(18,332,953)	(18,172,036)	(18,011,119)	(17,850,202)	(17,689,285)	(17,528,368)	(17,367,451)	(17,206,534)	(17,045,617)
27.	Total Taxes	(37,630,972)	(37,309,574)	(37,000,000)	(36,690,426)	(36,380,852)	(36,071,278)	(35,761,704)	(35,452,130)	(35,142,556)	(34,832,982)	(34,523,408)	(34,213,834)
28.	PV of Total Taxes At Project Outset	(4,831,744)	(4,524,510)	(4,217,276)	(3,910,042)	(3,602,808)	(3,295,574)	(2,988,340)	(2,681,106)	(2,373,872)	(2,066,638)	(1,759,404)	(1,452,170)
29.	ACCUMULATED PV OF TOTAL TAXES	(437,936,909)	(442,461,419)	(446,985,929)	(451,510,439)	(456,034,949)	(460,559,459)	(465,083,969)	(469,608,479)	(474,132,989)	(478,657,499)	(483,182,009)	(487,706,519)
	ACCUMULATED NPV AND PI												
30.	Net Present Value	329,125,292	340,627,763	351,323,859	361,323,727	370,674,703	379,223,923	387,413,236	394,910,986	401,504,456	407,704,120	413,534,851	419,019,806
31.	Profitability Index	1.364	1.377	1.389	1.400	1.410	1.420	1.429	1.437	1.444	1.451	1.458	1.464

Notes:

- (1) September 12 2013 is project outset as time 0.
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- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals 3.6/12*0.5 = 0.15
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals 12/12*0.5+3.6/12 = 0.80
- (5) Year 1 - capital spending Jan 1 to Dec 31 2015, mid-term discounting, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31 2015, Discount period equals 12/12*0.5+1+3.6/12 = 1.80
- (8) Transportation savings and Transportation Services Charges start Oct 15, 2015, mid-term discounting, Discount period equals 2.5/12*0.5+9.5/12+1+3.6/12 = 2.196

#REF!
Economic Feasibility - 40 year Horizon
DCF Analysis

Line No.	Description	Col. 39 Year 35	Col. 40 Year 36	Col. 41 Year 37	Col. 42 Year 38	Col. 43 Year 39	Col. 44 Year 40
	Discount factors to project outset						
	INCREMENTAL CAPITAL INVESTMENT						
1.	Investment in Mairs	-	-	-	-	-	-
2.	Investment in Services	-	-	-	-	-	-
3.	Investment in Stations	-	-	-	-	-	-
4.	Investment in Land	-	-	-	-	-	-
5.	Investment in Land Rights	-	-	-	-	-	-
6.	Annual Capital Maintenance Costs	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
7.	Contribution In Aid Of Construction	-	-	-	-	-	-
8.	Net Investment Capital	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
9.	Working Capital	-	-	-	-	-	-
10.	Total Investment	(1,127,045)	(3,065)	(3,065)	(3,065)	(3,065)	(3,065)
11.	PV Of Total Investment At Project Outset	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)	(903,435,579)
12.	ACCUMULATED PV OF TOTAL INVESTMENT						
	CCA TAX SHIELD						
13.	CCA Tax Shield	2,400,669	2,264,515	2,127,672	1,999,111	1,878,330	15,678,486
14.	PV Of CCA Tax Shield At Project Outset	310,623	276,739	245,580	217,830	193,395	1,524,651
15.	ACCUMULATED PV OF CCA TAX SHIELD	115,877,840	116,154,579	116,400,159	116,618,089	116,811,484	118,336,134
	INCREMENTAL OPERATING CASHFLOWS (BEFORE TAXES)						
16.	Gas Distribution Revenue	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384	115,339,384
17.	Transportation Services Charge	1,930,235	1,310,937	1,304,675	1,304,028	1,302,325	1,299,616
18.	Transportation Savings	-	-	-	-	-	-
19.	Gas Costs	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)	(49,411,053)
20.	OGW Expenses	(24,979,357)	(24,935,757)	(24,935,757)	(24,935,757)	(24,935,757)	(24,935,757)
21.	Net Operating Cash (Before Taxes)	54,949,560	54,938,510	54,938,510	54,938,510	54,938,510	54,938,510
22.	PV Of Net Operating Cash (Before Taxes) At Project Outset	842,061	639,760	627,083	519,064	500,263	5,276,628
23.	ACCUMULATED PV OF NET OPERATING CASH (BEFORE TAXES)	1,889,036,411	1,694,672,661	1,700,939,744	1,706,888,808	1,712,449,071	1,717,728,699
	TAXES						
24.	Income Tax (Before Interest Tax Shield)	(13,147,267)	(13,524,705)	(13,523,043)	(13,522,869)	(13,522,415)	(13,521,695)
25.	Municipal Tax	(3,266,879)	(3,266,888)	(3,266,897)	(3,266,907)	(3,266,916)	(3,266,925)
26.	Capital Tax	-	-	-	-	-	-
27.	Total Taxes	(16,414,146)	(16,791,593)	(16,789,940)	(16,789,776)	(16,789,331)	(16,788,620)
28.	PV of Total Taxes At Project Outset	(2,123,833)	(2,052,044)	(1,937,924)	(1,830,313)	(1,728,648)	(1,632,604)
29.	ACCUMULATED PV OF TOTAL TAXES	(476,430,015)	(478,482,059)	(480,419,963)	(482,250,296)	(483,978,944)	(485,611,548)
	ACCUMULATED NPV AND PI						
30.	Net Present Value	424,048,658	428,909,603	433,484,341	437,791,023	441,846,032	447,017,707
31.	Profitability Index	1.469	1.475	1.480	1.485	1.489	1.4948

Notes:

- (1) September 12 2013 is project outset as time 0.
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- (3) Sep 12 2013 to Dec 31 2013, mid-term discounting, Discount period equals $3.6/12 \times 0.5 = 0.15$
- (4) Jan 1 to Dec 31 2014, mid-term discounting, Discount period equals $12/12 \times 0.5 + 3.6/12 = 0.80$
- (5) Year 1 - capital spending Jan 1 to Dec 31, 2015, mid-term discounting, Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (6) 50% effectivity considered for the first year of customer additions revenue.
- (7) First year of customer additions revenues Jan 1 to Dec 31, 2015, Discount period equals $12/12 \times 0.5 + 1 + 3.6/12 = 1.80$
- (8) Transportation savings and Transportation Services Charge start Oct 15, 2015, mid-term discounting, Discount period equals $2.5/12 \times 0.5 + 9.5/12 + 1 + 3.6/12 = 2.196$

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #3

INTERROGATORY

Issue A2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Ref: EB-2012-0451 Exhibit A, Tab 3, Schedule 1, Page 3-4 pant 6 & Exhibit A, Tab 3, Schedule 5 and Table 1

- a) Please provide more detail on historic customer additions and volume growth 2004-2012 (Board Approved) and forecast 2012-2024.
- b) Please chart/graph the historic actuals and forecasts for each segment
- c) Please reconcile to the second reference.

RESPONSE

- a) Please see responses to Environmental Defence Interrogatories #2 through 8, inclusive, at Exhibits I.A4.EGD.ED.2 to I.A4.EGD.ED.8.
- b) Please see a) above.
- c) Table 1 in Exhibit A, Tab 3, Schedule 5 shows the total number of customers (unlocked customers, not incremental) for Franchise Areas 10, 20, 30, 40, and 50, which comprise the Central Weather Zone. Customer numbers shown in the table referenced in part a) above are incremental and represent the GTA Project Influence Area which resides in Franchise Areas 10, 20, and 30.

Witnesses: F. Ahmad
M. Suarez

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #4

INTERROGATORY

Issue A2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Ref: EB-2012-0451 Exhibit A, Tab 3, Schedule 5, Pages 6-9, Figures 2-5

- a) Please provide for both the Central and GTA-Project Influence Area more details on volume use by sector on peak design day 2004-2012.
- b) Please provide by sector (using prior question as reference) or in aggregate the forecast 2012-2024.

RESPONSE

- a) Enbridge is unable to provide the requested information. Peak day demand forecasts are not broken out by sector for gas supply demand. Please see Board Staff Interrogatory #15 at Exhibit I.A3.EGD.STAFF.15 for an explanation and please see the response to Environmental Defence Interrogatory #7 at Exhibit I.A4.EGD.ED.7 for a summary of the historical and forecast derived peak load in m³/d from 2006 to 2025 used for network planning purposes.
- b) Please see the response to a) above.

Witness: E. Naczynski
 J. Denomy

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #5

INTERROGATORY

Issue A2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Ref: EB-2012-0451 Exhibit A, Tab 3, Schedule 5, Table 2 & Exhibit A, Tab3, Schedule 5.

Please provide a version of Table 2 with a column for the Board-approved Peak Day Design gas supply portfolio and one for the first full year of the GTA project operation 2015/16.

- a) Comment on any material changes.
- b) If not covered above, please explain any forecast pathway, services and toll changes related to the NEB Decision on TCPL Services and Tolls.

RESPONSE

Please see the response to CCC Interrogatory #20 at Exhibit I.A4.EGD.CCC.20.

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #6

INTERROGATORY

Issue A2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Ref: EB-2012-0451 Exhibit A, Tab3, Schedule 5, Attachment Table A4

- a) Please provide a version of the referenced Table showing the baseline GTA supply and transportation costs for each Scenario- Current 2012 and Future 2015/16 contracting with and without the GTA Project and the Union Kirkwall to Parkway built
- b) Please provide explanations of assumptions and results.
- c) Confirm/reconcile the costs to those shown in Exhibit E/Tab1/Schedule 1 Page 8-9-Input assumptions.

RESPONSE

- a) The requested information is not relevant as the Design Criteria utilized in 2012 are different from those that have been used in 2016. The relevant comparison is what Enbridge would have to contract for in order to meet peak day demand with and without the GTA Project facilities in place. Please see the response to CCC Interrogatory #20 at Exhibit I.A4.EGD.CCC.20.
- b) Please see response to a) above.
- c) Please see response to a) above.

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #7

INTERROGATORY

Issue A2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Ref: EB-2012-0451 Exhibit E, Tabl, Schedule 1, Page 8-9-Input assumptions

Preamble: The reference shows the following average use data (103m 3)-Residential 2568, Commercial20230, Apartment 154877, Industrial109481

- a) Please provide the comparable Board-approved volumes from the rebasing Rate Case. (EB-2011-0210)
- b) Please quantify and discuss the basis of any material differences in the above input assumptions.

RESPONSE

- a) In the Company's Evidence Update filed June 1, 2012 for EB-2011-0354 as part of its 2013 Rebasing Application (Exhibit C5, Tab 2, Schedule 3, Page 1), average uses for General Service were forecast at 2,491 m³ for residential customers, 19,648 m³ for commercial customers, 151,222 m³ for apartment customers, and 108,350 m³ for industrial customers. These average uses were normalized to the proposed 2013 degree days.
- b) In its Decision on the Settlement Agreement for EB-2011-0354 dated November 2, 2012, the Board approved a different level of 2013 degree days from the original forecast proposed. Average uses were normalized to the Board-approved 2013 Degree Days and filed EB-2011-0354 at Exhibit N1, Tab 1, Schedule 1, Appendix C. The input assumptions for the economic tests reflect the Board's decision in the 2013 proceeding.

Witnesses: F. Ahmad
M. Suarez

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #8

INTERROGATORY

Issue A2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Ref: EB-2012-0451 Exhibit E, Tabl, Schedule 1/Page 3, Para 10

Please provide a breakout that shows how many customer additions are related to future Transmission and Distribution System Expansion(s) 2017 \$21m; 2018 \$16.4m, 2019 \$13m.; 2020 \$0.3m.

RESPONSE

As noted in Exhibit E, Tab 1, Schedule 1, page. 3, footnote 3, Enbridge is not asking for approval of these projects in this application. These capital amounts have only been included in the feasibility analysis for completeness.

Witness: E. Naczynski

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #9

INTERROGATORY

Issue A2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Ref: Exhibit A, Tab 3, Schedule 5 &

Exhibit E, Tabl, SI Attachment

Please provide the analysis that leads to the gas cost savings described in Exhibit A, Tab 3, Schedule 5, and calculated in Exhibit E, Tabl, Schedule 1, Attachment.

RESPONSE

Please see Exhibit A, Tab 3, Schedule 5, Attachment, Tables A1 through A4 for the assumptions and expected gas supply benefits calculations.

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #10

INTERROGATORY

Issue A2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Ref: EB-2012-0451 Exhibit A, Tab 3, Schedule 5 Attach Table A4 &

Exhibit E, Tabl, SI Attachment Page 1 (updated) inputs and results

- a) Please provide the latest Board-approved Transportation cost schedule.

Compare to Table A4 Increased Firm Transportation Scenario and discuss differences.
- b) Please provide the analysis that leads to the transportation tolls filed in Exhibit A Tab 3 Schedule 5 and Exhibit E, Tabl, Schedule 1, I)ara 11 and Schedule 1, page 8.

RESPONSE

- a) and b) Please refer to Exhibit A, Tab 3, Schedule 5, Attachment, Table A1 for the toll assumptions utilized in the expected gas supply benefits calculations. Please refer to the response to BOMA Interrogatory #41 at Exhibit I.A1.EGD.BOMA.41 for a link to the Review and Variance Application filed by TransCanada. Union's filing for EB-2013-0074 can be found at the following link:

http://www.rds.ontarioenergyboard.ca/webdrawer/webdrawer.dll/webdrawer/search/ec&sm_udf10=eb-2013-0074&sortd1=rs_dateregistered&rows=200

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
ENERGY PROBE RESEARCH FOUNDATION INTERROGATORY #11

INTERROGATORY

Issue A2 Do the proposed facilities meet the Board's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013 and E.B.O. 188 as applicable?

Ref: EB-2012-0451 Exhibit E, Tab I, Schedule I plus attachment

- a) Provide all input assumptions and calculations underlying the 10 year Incremental Operating Cash flows Before Taxes (lines 16-23 of Schedule).
- b) Reconcile to Attachment Page I.
- c) Please provide a populated live Excel Spreadsheet for Profitability Analysis corresponding to the Attachment Pages 2-5 and including Tabs and linkages for all input assumptions/calculations corresponding to EB Tab1 Schedule 1 pages 8 and 9 and Attachment page I

RESPONSE

The response was filed in confidence with the Board. Parties who signed a Declaration and Undertaking will also receive copies.

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #24

INTERROGATORY

REF: EB-2012-0451 EX. E, Tab 1 Schedule 3 and EX. A, Tab 3 Schedule 5

1. Please provide the specific reference(s) from EBO 134 that EGD is relying on in producing its Discounted Cash Flow Analysis using Transportation savings.
 - a. Please provide the specific references that support the comparison of the economics of the application with a future hypothetical state as is defined in Schedule 5 called the Long Haul scenario.
 - b. Please provide the results of the DCF analysis if transportation savings are not incorporated.

RESPONSE

The DCF analysis was prepared in accordance with both EBO 188 and EBO 134 as per Exhibit E, Tab 1, Schedule 1, paragraph 4. EBO 188 specifies under Section 2.2 Specific Parameters, part (e), the requirement to use "gas costs based on the weighted Average Cost of Gas ("WACOG") excluding commodity costs." The Company confirms the use of WACOG in the feasibility. The forecasted gas costs for the Project can be found at Exhibit E, Tab 1, Schedule 1, Attachment, pages 2 to 5, Line 19.

- a) The assumptions behind the economic comparison are explained in Exhibit A, Tab 3, Schedule 5.
- b) Please see response to Board Staff Interrogatory #14 at Exhibit I.A3.EGD.STAFF.14.

Witnesses: C. Fernandes
S. Murray

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #25

INTERROGATORY

REF: EB-2012-0451 EX. A, Tab 3 Schedule 5, pages 21-30

Preamble: Evidence in the referenced section builds a case for a hypothetical dramatic shift in gas supply arrangements due to recent changes triggered by TCPL's recently concluded rates proceeding.

Please provide specific evidentiary references that support EGD's conclusion that STFT services may not be available by 2016 necessitating a shift to Long Haul Firm Service contracting.

RESPONSE

The evidence referred to describes upcoming shifts in gas supply arrangements based on real events that are currently unfolding in the market for natural gas in Canada. Specific evidentiary references are as follows:

- 1) TransCanada Tariff Amendments: Exhibit A, Tab 3, Schedule 5, Page 24, Paragraph 50; and,
- 2) TransCanada Energy East Pipeline: Exhibit A, Tab 3, Schedule 5, Page 23, Paragraph 48 and Page 24, Paragraph 49.

The Tariff amendments, if approved, will no longer provide Enbridge with the opportunity to lock in discretionary service at a known price on the Mainline prior to the winter season. TransCanada is requesting the ability to offer discretionary services when it chooses rather than at set times throughout the year. Enbridge cannot plan for discretionary service on the hope that TransCanada will make it available when Enbridge requires it. Nor has the NEB mandated price caps or STFT availability for LDC's such as Enbridge. Please see Exhibit A, Tab 3, Schedule 5, Page 23, Paragraph 47.

Witness: J. Denomy

The Energy East Pipeline will convert a portion of Mainline capacity from natural gas transportation service to oil transportation service and consequently reduce available capacity on the Mainline. TransCanada currently estimates that post conversion available capacity on the Mainline to the Enbridge EDA and points east would be less than current firm transportation contracts to the Enbridge EDA and points east by approximately 300 TJ/d. Capacity to the Enbridge CDA would be reduced with the conversion to oil, however, TransCanada has not provided an indication of the amount that available capacity would be reduced in relation to existing firm transportation contracts to the Enbridge CDA.

In combination with the requested Tariff amendments, the Energy East Pipeline will make discretionary service scarce relative to today. Please refer to the response to BOMA Interrogatory #41 a) at Exhibit I.A1.EGD.BOMA.41 for a link to the TransCanada Compliance Filing and the TransCanada Review and Variance Application.

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #26

INTERROGATORY

REF: EB-2012-0451 EX. A, Tab 3 Schedule 5, pages 21-30

Under the Long Haul scenario, does EGD have sufficient storage to make this scenario feasible from a seasonable balancing perspective?

1. If not, what has been assumed about the excess summer transport?
2. If optimization is expected, has EGD estimated and included the benefits of optimizations in reducing the cost of transport?

RESPONSE

- 1) The Increased Long Haul Scenario was presented as a conservative estimate of the expected gas supply benefits from the GTA Project. It assumed 100% utilization of Long Haul Transport and displacement of an equivalent amount of other purchases to meet storage requirements. Enbridge did not take into account the potential for higher storage requirements under this scenario, nor did it factor in the alternative of less than 100% utilization in estimating gas supply benefits.
- 2) Enbridge does not incorporate Transactional Services opportunities into its gas supply plans, nor has it incorporated Transactional Services opportunities into the expected gas supply benefits.

Witness: J. Denomy

ENBRIDGE GAS DISTRIBUTION INC. RESPONSE TO
FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #27

INTERROGATORY

REF: EB-2012-0451 EX. A, Tab 3 Schedule 5, pages 21-30

Under the Long Haul scenario, does EGD have the authority to require Direct Purchase customers to accept an additional 151TJ of assigned capacity?

RESPONSE

No.

The Long Haul Scenario recognizes that both utilities and the direct purchase market will shift their procurement practices in response to the changes described in the references below:

- 1) TransCanada Tariff Amendments: Exhibit A, Tab 3, Schedule 5, Paragraph 50;
and,
- 2) TransCanada Energy East Pipeline: Exhibit A, Tab 3, Schedule 5, Paragraph 48.

As a result, absent the GTA Project or other short haul option, the utility and DP customers will switch to long haul firm transport and no longer rely on discretionary services. The GTA Project creates market access to short haul firm transport.

Witnesses: J. Denomy