

REFERENCE:

Tab 7 Figures 7.5 and 7.6

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Update the table previously provided in PUB/Centra II-172c of the 2013/14 GRA to show the Furnace Replacement Program fund activity and number of furnace and boiler replacements between 2012/13 and 2017/18 (actual), as well as 2018/19 to 2027/28 (outlook).
- b) Clarify whether the estimated cost to “complete the transformation of standard efficiency furnaces and boilers over the next 10 years” is \$14.2 million (as shown in Tab 7 p. 11) or \$14.9 million (as shown in Figure 7.5). Similarly, clarify whether the estimated number of boilers to be replaced over the next 10 years is 78 (as shown in Tab 7 p. 11) or 94 (as shown in Figure 7.5).

RESPONSE:

- a) Please see the attachment to this response for an update to the previously provided table.
- b) The estimated cost to “complete the transformation of standard efficiency furnaces and boilers over the next 10 years” is \$14.9 million as shown in Figure 7.5. The estimated number of boilers to be replaced to the end of fiscal year 2025/26, the time at which standard efficiency furnaces are estimated to be depleted from the market, is 78. An additional two years of program participation brings the total number of boilers to be replaced over the next 10 years to 94 as shown in Figure 7.5.

Furnace Replacement Fund ending March 31 (000's)	2008/9 Actual	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Actual	2013/14 Actual	2014/15 Actual	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2019/20 Forecast	2020/21 Forecast	2021/22 Forecast	2022/23 Forecast	2023/24 Forecast	2024/25 Forecast	2025/26 Forecast	2026/27 Forecast	2027/28 Forecast
Opening Balance	\$ 2,327	\$ 5,972	\$ 9,050	\$ 11,644	\$ 14,145	\$ 16,071	\$ 18,176	\$ 19,272	\$ 20,971	\$ 22,922	\$ 24,856	\$ 27,151	\$ 26,149	\$ 7,551	\$ 5,779	\$ 4,120	\$ 2,655	\$ 1,348	\$ 117	\$ 82
Funding from SGS Class	\$ 3,855	\$ 3,800	\$ 3,762	\$ 3,838	\$ 3,800	\$ 3,800	\$ 3,800	\$ 3,800	\$ 3,800	\$ 3,800	\$ 3,800	\$ 545	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Disbursements	\$ (264)	\$ (815)	\$ (1,312)	\$ (1,627)	\$ (2,167)	\$ (2,012)	\$ (3,191)	\$ (2,394)	\$ (2,170)	\$ (2,298)	\$ (2,137)	\$ (2,395)	\$ (2,192)	\$ (2,002)	\$ (1,830)	\$ (1,591)	\$ (1,383)	\$ (1,260)	\$ (38)	\$ (40)
Interest	\$ 54	\$ 93	\$ 144	\$ 290	\$ 287	\$ 322	\$ 336	\$ 293	\$ 320	\$ 433	\$ 632	\$ 848	\$ 895	\$ 229	\$ 171	\$ 126	\$ 76	\$ 29	\$ 4	\$ 2
Proposed Disposition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (17,300)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Ending Balance	\$ 5,972	\$ 9,050	\$ 11,644	\$ 14,145	\$ 16,071	\$ 18,176	\$ 19,272	\$ 20,971	\$ 22,922	\$ 24,856	\$ 27,151	\$ 26,149	\$ 7,551	\$ 5,779	\$ 4,120	\$ 2,655	\$ 1,348	\$ 117	\$ 82	\$ 45
Number of Furnace Installations	280	508	445	662	630	605	796	673	547	561	510	459	413	372	335	284	242	217	0	0
Number of Boiler Installations	5	9	16	18	9	18	21	11	11	12	10	10	10	10	10	10	9	9	8	8
Cumulative Furnace Installations	280	788	1,233	1,895	2,525	3,130	3,926	4,599	5,146	5,707	6,217	6,676	7,089	7,461	7,796	8,080	8,322	8,539	8,539	8,539
Cumulative Boiler Installations	5	14	30	48	57	75	96	107	118	130	140	150	160	170	180	190	199	208	216	224

**Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-101a-b**

REFERENCE:

Appendix 7.5

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Provide the 2018/19 Q2 and Q3 quarterly reports on AEP and FRP, as well as any subsequent reports (if available).
- b) Update the table provided in response to PUB/Centra I-59h from the 2013/14 Centra GRA to show actuals from 2012/13 to 2017/18 as well as the 2018/19 and 2019/20 forecast years.

RESPONSE:

- a) Please see the Attachments 1 & 2 to this response for the 2018/19 Q2 and Q3 quarterly reports.

The 2018/19 Q3 report includes an updated furnace replacement market assessment. The revised estimate of standard efficiency furnaces remaining in the LICO 125% market is approximately 6,700 as opposed to 4,600 previously filed in Tab 7, page 11.

- b) Please see below for an update to the previously provided table.

	Actual					Forecast		
	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Residential Natural Gas DSM Budget	\$ 9,451,585	\$ 7,592,206	\$10,558,718	\$ 7,616,575	\$ 7,741,831	\$ 7,687,170	\$ 7,145,900	\$ 7,071,291
AEP Natural Gas Budget	\$ 5,806,856	\$ 5,383,778	\$ 8,170,053	\$ 5,411,857	\$ 4,960,338	\$ 5,180,289	\$ 4,837,862	\$ 5,212,256
AEP Natural Gas as % of Total Residential Budget	61.4%	70.9%	77.4%	71.1%	64.1%	67.4%	67.7%	73.7%
Cumulative Residential Natural Gas Budget	\$ 9,451,585	\$17,043,792	\$27,602,510	\$35,219,085	\$42,960,916	\$50,648,086	\$50,106,816	\$57,178,107
Cumulative AEP Natural Gas Budget	\$ 5,806,856	\$11,190,633	\$19,360,686	\$24,772,543	\$29,732,881	\$34,913,170	\$34,570,744	\$39,782,999
Cumulative AEP Natural Gas as % of Total Residential Budget	61.4%	65.7%	70.1%	70.3%	69.2%	68.9%	69.0%	69.6%

Quarterly Report

July 1 to September 30, 2018

Q2

Affordable Energy Program and Furnace Replacement Program



Centra Gas Manitoba Inc.

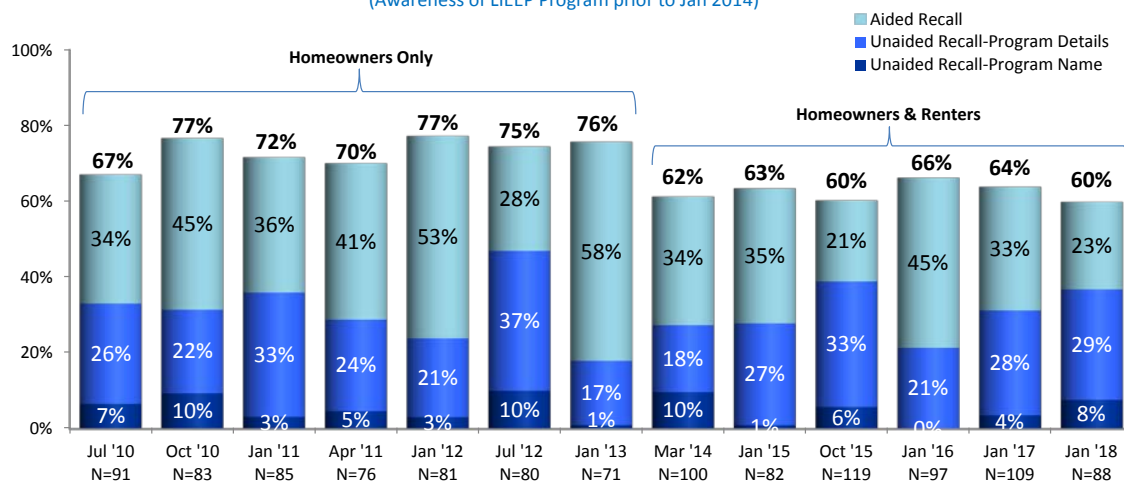
Affordable Energy Program Awareness

The most recent survey of program awareness, conducted in January 2018, indicated 60% of LICO-125¹ respondents have heard of Manitoba Hydro's *Affordable Energy Program* ("AEP"). This includes 8% of LICO-125 respondents who independently recall (unaided awareness) the AEP or Power Smart Affordable Energy Program name, 29% who say they are aware of the key details of the AEP such as helping lower income customers upgrade their insulation or furnaces/boilers but cannot recall the program name (unaided awareness of program details), and 23% who say they recognized the program name after the AEP name is stated (aided awareness).

Unaided recall has increased compared to the previous survey conducted in January 2017 which may indicate that the advertising message "Affordable Energy can be..." assists in recognition of the program name. Overall awareness has stayed relatively unchanged since the March 2014 survey. A much higher proportion of AEP Eligible respondents who own their home are aware of the AEP program and/or its ads (63%) compared to those who rent their home (44%). Currently homeowner awareness levels are slightly lower than prior to 2014 when awareness was only measured among LICO respondents who own their home. Renter levels of awareness have been typically lower, thus decreasing the overall awareness of surveyed respondents to 60%. With continued marketing that specifies renters are also eligible, it is expected that over time the awareness level will increase to a similar level as homeowners.

AEP Eligible Respondent Awareness of AEP

(Awareness of LIEEP Program prior to Jan 2014)



Unaided Awareness Question: "Do you or do you not recall seeing or hearing any Manitoba Hydro advertising regarding ways to upgrade your home's energy efficiency and save on your energy bill? [If Yes...] Being as specific as you can, what do you recall seeing or hearing in those ads? (Recall Programs details if mention .. "Insulate your home for FREE", "A new natural gas furnace for \$9.50 a month" or "It's True")

Aided Awareness Question: "Do you or do you not recall seeing or hearing any Manitoba Hydro advertising with "It's True" that qualifying households can "Insulate your home for FREE" or get a "new natural gas furnace for \$9.50 a month"?

¹ 'LICO - 125' is defined as the Low Income Cut Offs, as estimated by Statistics Canada, for urban centres with more than 500,000 residents. The AEP adds an additional 25% to the LICO qualifier for urban centres with more than 500,000 residents. This has been done to allow more Manitoba customers to qualify for the AEP.

Target Furnace Replacement Market - As at September 30, 2018

The following table has been updated to provide an estimate of the standard furnaces being used in Manitoba and an indication for the target market for Centra's Furnace Replacement Program. Marketplace data is from the 2014 Residential Survey. Calculations were slightly adjusted in Q2 of 2018-19 based on new preliminary survey data.

AEP Standard Efficiency Furnace Target Market Review (updated as of September 30, 2018)			
Furnace Marketplace at Dec 1, 2014¹	LICO 125%	Non-LICO	All Dwellings
Standard Furnaces			
Owners	7,500	17,700	25,200
Rentals	1,200	900	2,100
Total Standard Furnaces (2014 ¹ Survey)	8,700	18,600	27,300
Estimated Installation from Dec 1/14 to Sep 30/18²			
Total	4,600	17,100	21,700
Estimated Remaining Standard Furnaces at Sep 30, 2018			
Total	4,200	1,500	5,700
All Natural Gas Furnaces (2014 survey)³	54,400	176,200	230,600
Standard % of Marketplace⁴	8%	1%	2%

¹Statistics from the November 2014 Residential Survey, gas heat billed customers - excluding boilers and including apts.

² Estimated total number of natural gas furnace replacements from December 1, 2014 to September 30, 2018 is based on permit data of a total of 30,954 furnace replacements (1,492 this quarter). It is assumed that 70% of all furnaces replaced since December 2014 were standard efficient furnaces. The breakdown between LICO and Non-LICO has been further refined based on analysis from the 2014 survey.

³Represents the total number of natural gas furnaces in the marketplace, including those in renter-occupied dwellings.

⁴ The standard furnaces being replaced in the lower income market are reflective of Manitoba Hydro's Affordable Energy Program, normal furnace failures and marketing efforts by the HVAC industry. Although the lower income market might not be influenced by the HVAC marketing efforts as much as other market sectors, the average age of the furnaces within the lower income market is higher and therefore, it is expected that this market sector might experience higher overall failure rates.

Target Insulation Upgrade Market - As at September 30, 2018

The following table provides an updated estimate of the target insulation upgrade market in Manitoba.

Q2 - 2018/19 Report - without apartments

Estimated Insulation Target Market Review¹	LICO 125%	Non-LICO Dwellings	All Dwellings
Dwellings with Insulation Rated "Poor/Fair"			
Owners	20,500	40,900	61,400
Renters	6,600	2,700	9,300
Total Dwellings with Insulation Rated "Poor/Fair" (2014 Insulation Upgrade Target Market) ²	27,100	43,600	70,700
Estimate of Number of Dwellings Insulated from December 2014 to September 30, 2018 ³	3,100	1,200	4,300
Insulation Upgrade Target	24,000	42,300	66,400
<i>Total Dwellings</i>	109,200	286,700	395,900
Fair/Poor % of Marketplace	22%	15%	17%

¹ Numbers may not add up due to rounding.

² Statistics from November 2014 Residential Survey, gas and electric heated billed customers; excludes apartments. The table reflects LICO 125% and uses the two categories of "poor and fair" to determine the target market.

³ Number of "Poor/Fair" insulation dwellings insulated from Dec 1, 2014 to Sep 30, 2018 is based on:

- LICO 125% dwellings: based on the total individual and community homes insulated through the AEP since December 1, 2014.
- Non-LICO dwellings: based on the approximate number of dwellings insulated through the Home Insulation Program from December 1, 2014 to September 30, 2018 (7,664), prorated based on the proportion of "poor/fair" insulated dwellings in the November 2014 Residential Survey (16%).

Affordable Energy Program Highlights – July 1 to September 30, 2018

The following provides a high level overview of the status of the Affordable Energy Program to date, with more details provided in the following section of the report.

A. Homes Completed

Program Participation Overview	FY 2018/19 Q2 (Jul 1 – Sep 30, 2018)	Cumulative (to Sep 30, 2018)
Individual	436	11,018
Community	58	3,390
Indigenous	47	6,156
MURBs	12	3,178
Total	553	23,742

B. Furnace and Boiler Installations Completed

Program Participation Overview	FY 2018/19 Q2 (Jul 1 – Sep 30, 2018)	Cumulative (to Sep 30, 2018)
Individual: Furnace	103	5,483
Boiler	2	131
Community: Furnace	2	434
Boiler	0	6
Indigenous	N/A	N/A
Total: Furnace	105	5,917
Boiler	2	137*

*Adjusted for 1 boiler install that was missed being counted in May 2018.

C. Furnace Replacement Program

Affordable Energy FRP	Furnace	Boilers
Scheduled Installation	148	2
Estimated Installation (next 6 months)	329	N/A*

*Due to the traditionally low number of boiler replacements, they are challenging to estimate.

D. Furnace & Boiler Failures

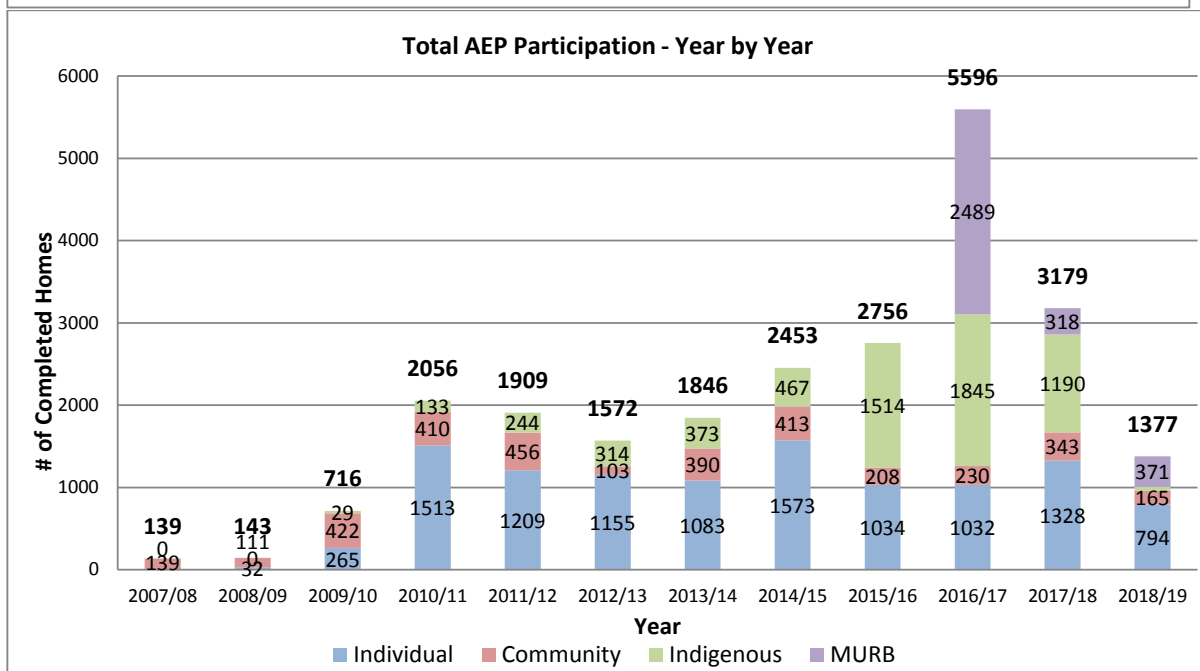
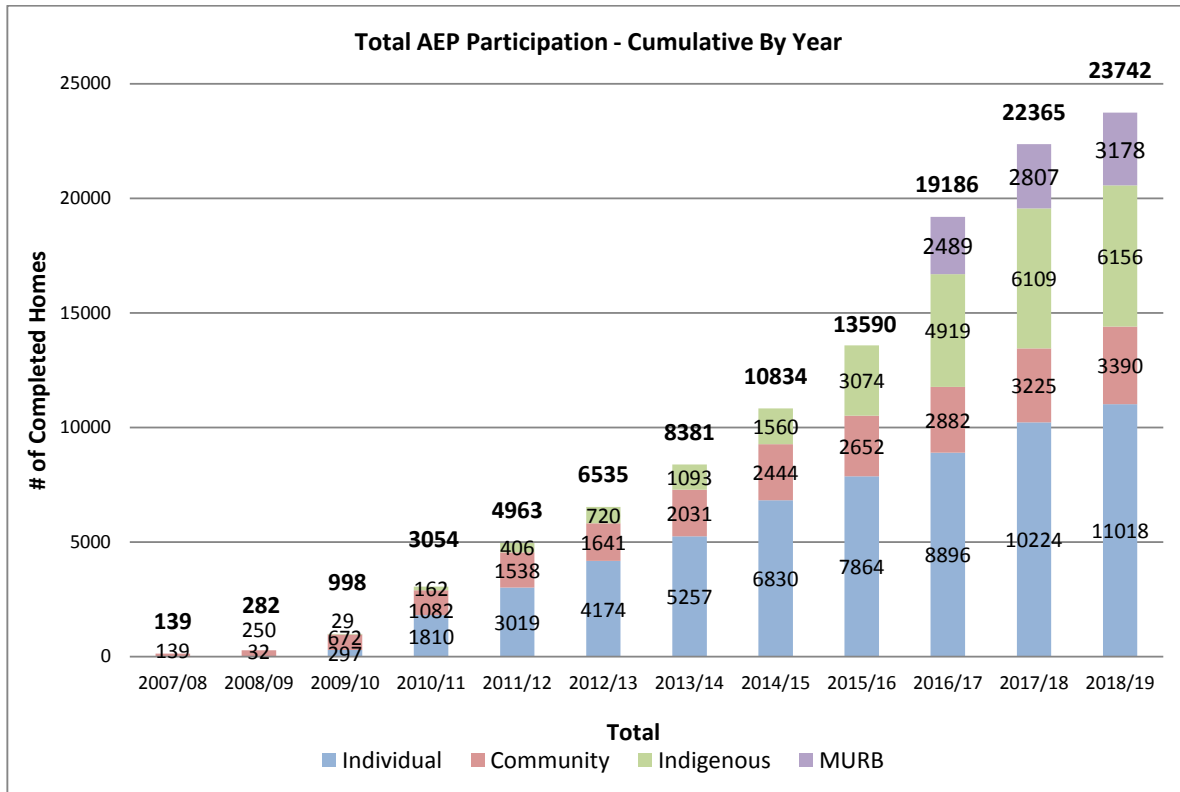
Furnace and Boiler Failures	Jul 1, 2018 to Sep 30, 2018	Cumulative to Sep 30, 2018
Furnaces Replaced due to Failure	0	172
Furnaces Replaced Before the End of Life	105	4,889
Boilers Replaced due to Failure	0	5
Boilers Replaced Before the End of Life	2	132

Affordable Energy Program Highlights – July 1 to September 30, 2018

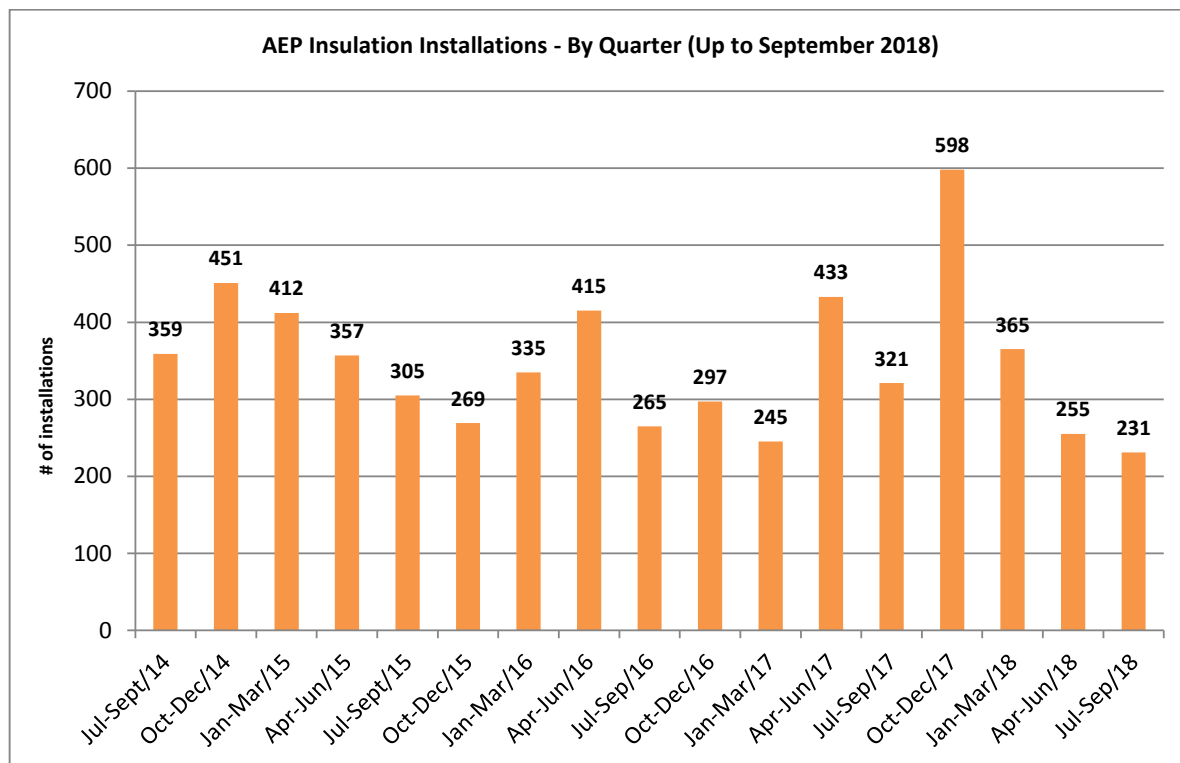
E. Insulation Installations Completed

Program Participation Overview	FY 2018/19 Q2 (Jul 1 – Sep 30, 2018)	Cumulative (to Sep 30, 2018)
Individual	150	5,736
Community	51	2,685
Indigenous	30	3,760
Total	231	12,181

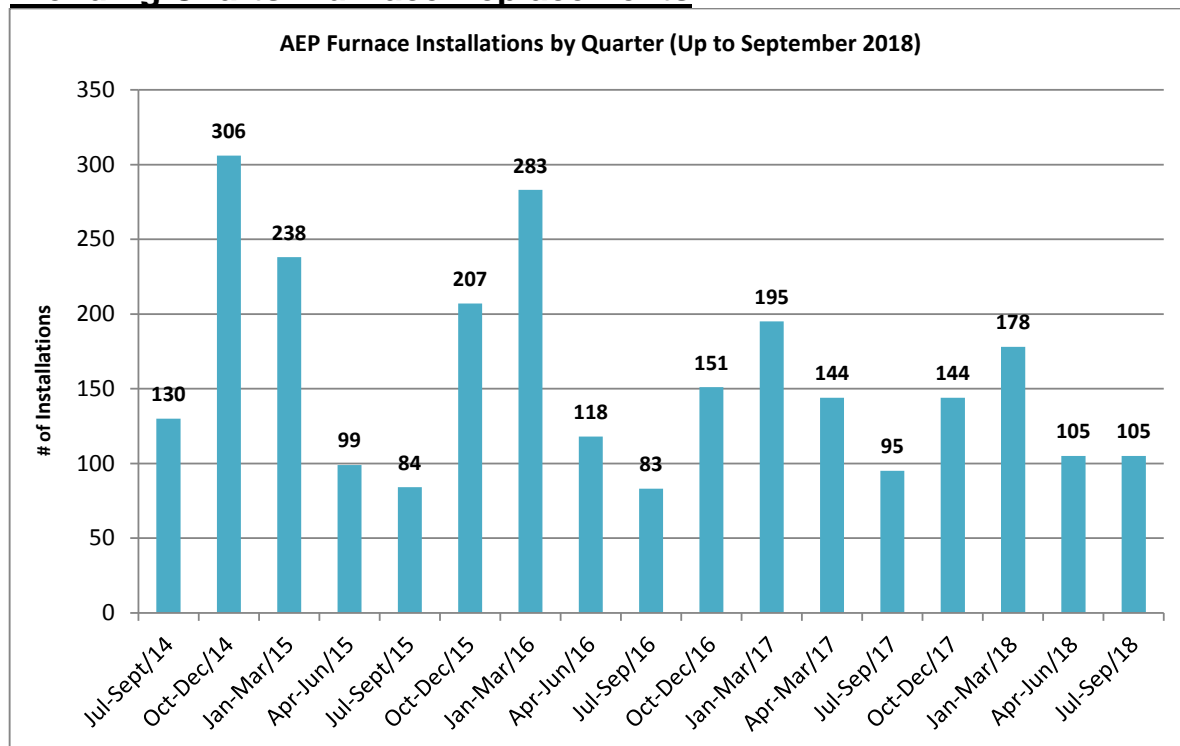
Trending Charts: AEP Completed Homes since Program Inception



Trending Charts: AEP Insulation Installation



Trending Charts: Furnace Replacements



Marketing Activities

Below is a review of marketing efforts undertaken by Manitoba Hydro up to June 30, 2018. On April 3, 2018, the Provincial Government sent Manitoba Hydro a letter requesting that all non-essential Power Smart advertising be discontinued. This has resulted in a decrease in advertising and promotional activities.

I. ADVERTISING AND PROMOTIONAL ACTIVITIES

a) Manitoba Hydro Advertising

The following is a list of the media and advertising which took place in the market during the quarter:

- a) In July 2018 a bill insert was sent to residential customers across the Province.
- b) On August 18, 2018 an Affordable Energy Program staff member, along with the North End Community Renewal Corporation (NECRC) Energy Advocate, set up a booth at the 20th annual Picnic in the Park. The event is organized and hosted by NECRC and held in St John's Park in the North End of Winnipeg. An estimated 2,000 community members attended the event. Program brochures for the AEP and other Power Smart programs were distributed and attendees were encouraged to fill out an energy saving tips quiz to be entered into a prize draw. Overall the event was well organized with strategic initiatives undertaken by the organizing committee to have attendees visit over 20 information tables and thus encourage discussion on various local program offerings.
- c) On August 21st, AEP program staff participated in a conference call with contacts from the City of Winnipeg (Environmental Coordinator, Office of Sustainability) and Empower Me (Director). Empower Me is an equity-based energy transformation program designed for and delivered by underserved and underrepresented populations such as new Canadians, Indigenous people living off reserve, seniors and families living in energy poverty. Since 2012, the program has been active in BC and Alberta providing education on programming opportunities from a variety of organizations (energy, water, transport, safety, comfort) to these populations which often have language, trust, accessibility and socio-economic barriers. Empower Me was interested in learning about the AEP and other DSM programming in Manitoba. Program staff explained that the AEP has partnered with the North End Community Renewal Corporation to have an energy advocate who is from the neighborhood promote the program and has seen success with this approach. Future collaboration possibilities were discussed with the understanding of the pending development of Efficiency Manitoba.
- d) On September 28, 2018 an autodialer campaign was held to promote the AEP to customers in arrears.
- e) In September 2018 a bill insert for AEP paired with the Neighbors Helping Neighbors donation form was sent to residential customers across the Province.

b) Street Approach Pilot Project

Manitoba Hydro staff and NECRC staff canvassed ten streets this quarter for the Neighbourhood Power Smart Street Pilot Project;

- a. July 12, 2018 – Magnus Ave between Andrews and McGregor
- b. July 19, 2018 – Flora Ave between Salter and Andrews
- c. July 26, 2018 – Pritchard Ave between Sinclair and Artillery
- d. August 2, 2018 – Aberdeen Ave between McKenzie and Parr
- e. August 9, 2018 – Bannerman Ave between Charles and Aikins
- f. August 16, 2018 – Boyd Ave between Parr and Arlington

- g. August 23, 2018 – Cathedral Ave between McGregor and McKenzie
- h. September 6, 2018 – Burrows Ave between the Red River and Main
- i. September 13, 2018 – Church Ave between McGregor and McKenzie
- j. September 20, 2018 – Manitoba Ave between Artillery and Battery

Furnace Contractors

The furnace contractors on the participation list for AEP are noted below.

In Winnipeg	Outside Winnipeg
<ul style="list-style-type: none"> • Always Affordable Air • A.P.H Mechanical Services Ltd. • Balcaen and Sons Ltd. (J.M.) • College Electric Ltd. • Crosshair Contracting • Fair Service and Air Conditioning • Gallery Mechanical • Global Mechanical Inc. • Heritage Heating and Air Conditioning Ltd. • Home Service Plus Winnipeg Heating and Cooling Ltd. • Kirkfield Heating and Air Conditioning Ltd. • Lynn's Heating, Cooling, Sewer and Drain • Machine Wellness • Martin's Heating & Construction • Mr. Furnace Heating and Air Conditioning • Ontime Electric, Plumbing, Heating and Air Conditioning • Provincial Heating and Cooling Inc. • R&R Heating and Cooling Services Ltd. • Reliable Heating & Air Conditioning • Reliance Superior Heating & Air Conditioning • S.S. Plumbing and Heating Co. Ltd. • Sarte Heating and Cooling Ltd. • Sunrise Heating and Cooling Ltd • Tench Plumbing and Heating Ltd. • Tradesman Mechanical Services Ltd. 	<ul style="list-style-type: none"> • A Plus Plumbing & Heating – Dauphin • Boissevain Plumbing - Boissevain • Brown's Plumbing and Heating Ltd. – Steinbach, Morris • Cross Plumbing & Heating - Virden • DB Higgenbotham – Virden • Dave Henderson - Hamiota • Edwards Plumbing & Heating – Dauphin • First Call Plumbing & Heating – Brandon • Future Mechanical Systems Ltd. – Gimli • G & E Schroeder – Morden, Winkler • Heartland Plumbing & Heating - Carberry • Heritage Heating and Air Conditioning Ltd. – Lac du Bonnet, Pinawa • Jim's Heating & Plumbing - Morris • John's Plumbing Heating Air Conditioning Ltd. – Winkler, Morden • Kozak Plumbing & Heating - Carman • Lance Wagner Plumbing and Heating Ltd. - Brandon • Lemazing Mechanical Inc. – Grunthal • Lynn's Heating, Cooling, Sewer and Drain – Winnipeg Beach • Mullin Plumbing & Geothermal – Swan River • Polar Plumbing and Heating Ltd. – Winkler, Morden • Pringle's Plumbing and Heating Ltd. – Selkirk • R&R Heating and Cooling – Portage la Prairie • Rogers Plumbing & Heating - Gretna • South Central Plumbing & Heating – Portage la Prairie, Carberry (Neepawa, Gladstone, MacGregor, Treherne, Holland) • Steiner Plumbing and Heating – Dauphin • Sunrise Heating and Cooling Ltd – Tyndall • Swan-Pas Refrigeration & Air Conditioning – Swan River • Titanium Mechanical – Steinbach • Trav's Plumbing and Heating – Winkler, Morden • Westside Plumbing & Heating - Brandon

Customers can choose from any of the above contractors in their geographical area. If the customer shows no preference they are provided with the name of one of the contractors on a rotational basis. Centra is not experiencing any capacity issues in meeting the demands of the Furnace Replacement Program.

Centra has a standard comprehensive contract for all participating contractors. The contract includes pricing schedule, terms and conditions and warranty. The terms of the contracts are the same for all participating contractors.

Financial

Centra Gas Manitoba Inc. Quarterly Gas Furnace Replacement Program Report For 2018/19 Q2 July 1, 2018 to September 30, 2018) (000s)	
Beginning Balance July 1, 2018	\$ 25,008
Disbursements*	(352)
Additional Funding from SGS Customer Class	212
Accrued Interest	155
Ending Balance September 30, 2018	\$ 25,023**

Centra Gas Manitoba Inc. Quarterly Gas Furnace Replacement Program Report Cumulative Since Program Inception as at September 30, 2018 (000s)	
Beginning Balance August 1, 2007	\$ -
Disbursements (life to date)	(18,922)
Additional Funding from SGS Customer Class (life to date)	41,053
Accrued Interest (life to date)	2,892
Ending Balance September 30, 2018	\$ 25,023**

* Note disbursements include both incentives and administration. Calculations using installations and disbursements may not reflect accurate cost per unit figures due to timing differences.

**Numbers may not add up due to rounding.

Quarterly Report

October 1 to December 31, 2018

Q3

Affordable Energy Program and Furnace Replacement Program



Centra Gas Manitoba Inc.

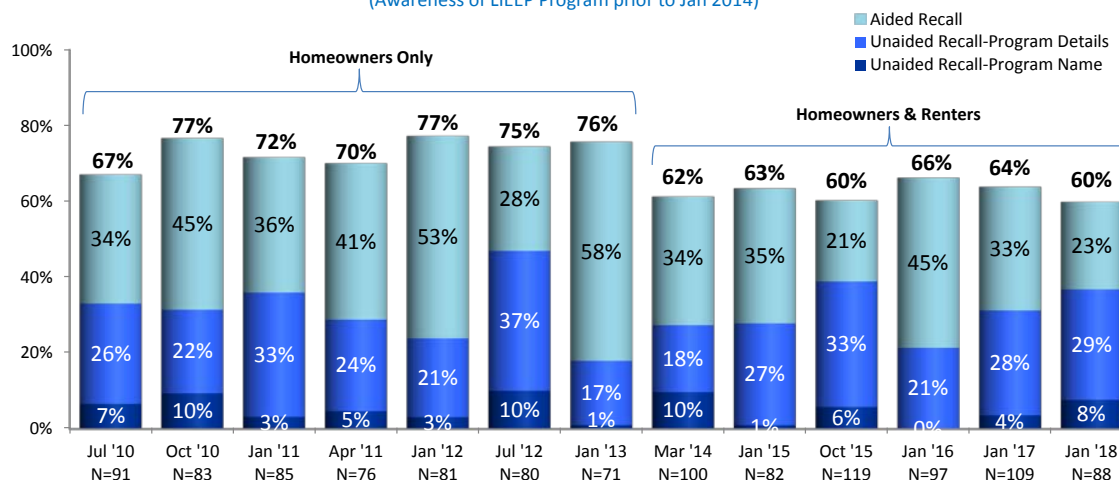
Affordable Energy Program Awareness

The most recent survey of program awareness, conducted in January 2018, indicated 60% of LICO-125¹ respondents have heard of Manitoba Hydro's *Affordable Energy Program* ("AEP"). This includes 8% of LICO-125 respondents who independently recall (unaided awareness) the AEP or Power Smart Affordable Energy Program name, 29% who say they are aware of the key details of the AEP such as helping lower income customers upgrade their insulation or furnaces/boilers but cannot recall the program name (unaided awareness of program details), and 23% who say they recognized the program name after the AEP name is stated (aided awareness).

Unaided recall has increased compared to the previous survey conducted in January 2017 which may indicate that the advertising message "Affordable Energy can be..." assists in recognition of the program name. Overall awareness has stayed relatively unchanged since the March 2014 survey. A much higher proportion of AEP Eligible respondents who own their home are aware of the AEP program and/or its ads (63%) compared to those who rent their home (44%). Currently homeowner awareness levels are slightly lower than prior to 2014 when awareness was only measured among LICO respondents who own their home. Renter levels of awareness have been typically lower, thus decreasing the overall awareness of surveyed respondents to 60%. With continued marketing that specifies renters are also eligible, it is expected that over time the awareness level will increase to a similar level as homeowners.

AEP Eligible Respondent Awareness of AEP

(Awareness of LIEEP Program prior to Jan 2014)



Unaided Awareness Question: "Do you or do you not recall seeing or hearing any Manitoba Hydro advertising regarding ways to upgrade your home's energy efficiency and save on your energy bill? [If Yes...] Being as specific as you can, what do you recall seeing or hearing in those ads? (Recall Programs details if mention .. "Insulate your home for FREE", "A new natural gas furnace for \$9.50 a month" or "It's True")

Aided Awareness Question: "Do you or do you not recall seeing or hearing any Manitoba Hydro advertising with "It's True" that qualifying households can "Insulate your home for FREE" or get a "new natural gas furnace for \$9.50 a month"?

¹ 'LICO - 125' is defined as the Low Income Cut Offs, as estimated by Statistics Canada, for urban centres with more than 500,000 residents. The AEP adds an additional 25% to the LICO qualifier for urban centres with more than 500,000 residents. This has been done to allow more Manitoba customers to qualify for the AEP.

Target Furnace Replacement Market - As at December 31, 2018

The table below provides an estimate of the standard efficiency furnaces being used in Manitoba and an overview of the target market for Centra's Furnace Replacement Program. Marketplace data was revised in Q2 to align with *preliminary* results from the 2017 Residential Energy Use Survey. However, further in-depth analysis of survey results and furnace permit information has resulted in the following notable changes:

- The chart outlines the furnace replacement market as of November 1, 2017 to coincide with the date of the 2017 Residential Energy Use Survey. The table provided in previous reports reflected the furnace marketplace as of December 1, 2014 which aligned with the previous 2014 Residential Energy Use Survey. Revisions to Total Standard Furnaces reflects this adjustment in these dates.
- The estimated number of furnace installations has also been revised beginning November 1, 2017 to the end of Q3 (December 31, 2018).
- The estimated number of standard efficiency furnaces remaining in the LICO 125% category is approximately 6,700 as compared to 4,200 estimated in the Q2 report.

Overall, the revised market assessment concludes there are more standard efficiency furnaces remaining in the market than previously estimated. Reasons for this change can be attributed to the following:

- Access to the correct permit information has provided an accurate number of actual furnace replacements; and
- Standard efficiency units are lasting longer than anticipated therefore conversions to high efficiency are lower than previously projected.

AEP Standard Efficiency Furnace Target Market Review (updated as of December 31, 2018)¹			
Furnace Marketplace at Nov 1, 2017²	LICO 125%	Non-LICO	All Dwellings
Standard Furnaces			
Owners	6,900	13,500	20,400
Rentals	800	1,000	1,800
Total Standard Furnaces (2017 ² Survey)	7,700	14,500	22,200
Estimated Installation from Nov 1/17 to Dec 31/18³			
Total	1,000	3,700	4,700
Estimated Remaining Standard Furnaces at Dec 31, 2018			
Total	6,700	10,800	17,500
All Natural Gas Furnaces (2017 survey)⁴	58,800	182,500	241,300
Standard % of Marketplace⁵	11%	6%	7%

¹Numbers may not add up due to rounding.

²Statistics from the November 2017 Residential Survey, gas heat billed customers - excluding boilers and including apts.

³Estimated total number of natural gas furnace replacements from November 1, 2017 to December 31, 2018 is based on permit data of a total of 8,488 furnace replacements (2,561 this quarter). It is assumed that 55% of all furnaces replaced since November 1, 2017 were standard efficient furnaces. The breakdown between LICO and Non-LICO has been further refined based on the 2017 survey results.

⁴Represents the total number of natural gas furnaces in the marketplace, including those in renter-occupied dwellings.

⁵The standard furnaces being replaced in the lower income market are reflective of Manitoba Hydro's Affordable Energy Program, normal furnace failures and marketing efforts by the HVAC industry. Although the lower income market might not be influenced by the HVAC marketing efforts as much as other market sectors, the average age of the furnaces within the lower income market is higher and therefore, it is expected that this market sector might experience higher overall failure rates.

Target Insulation Upgrade Market - As at December 31, 2018

The following table provides an estimate of the target insulation upgrade market in Manitoba. Marketplace data has been updated to reflect the results from the 2017 Residential Energy Use Survey. The survey results now separates attic, wall and basement insulation levels as compared to previous surveys where customers were only asked to rate their overall insulation levels in the home. The new survey data suggests that there are more homes requiring insulation upgrades remaining in the market than previously estimated.

Q3 - 2018/19 Report - without apartments

Estimated Insulation Target Market Review ¹	LICO 125%	Non-LICO Dwellings	All Dwellings
Owners	23,500	43,400	66,900
Renters	6,800	3,400	10,100
Average number of dwellings where customers self-assessed their attic, wall or basement insulation as "Fair/Poor" (2017 Insulation Upgrade Target Market) ²	30,200	46,800	77,000
Estimate of Number of Dwellings Insulated from November 2017 to December 31, 2018 ³	1,100	300	1,400
Insulation Upgrade Target	29,200	46,500	75,600
<i>Total Dwellings</i>	130,400	290,000	420,400
Fair/Poor % of Marketplace	22%	16%	18%

¹ Numbers may not add up due to rounding.

² Statistics from November 2017 Residential Survey, gas and electric heated billed customers; excludes apartments. The table reflects LICO 125% and uses the two categories of "poor and fair" to determine the target market.

³ Number of "Poor/Fair" insulation dwellings insulated from Nov 1, 2017 to Dec 31, 2018 is based on:

- LICO 125% dwellings: based on the total individual and community homes insulated through the AEP since November 1, 2017.
- Non-LICO dwellings: based on the approximate number of dwellings insulated through the Home Insulation Program from November 1, 2017 to December 31, 2018 (1,849), prorated based on the proportion of "poor/fair" insulated dwellings in the November 2017 Residential Survey (16%).

Affordable Energy Program Highlights – October 1 to December 31, 2018

The following provides a high level overview of the status of the Affordable Energy Program to date, with more details provided in the following section of the report.

A. Homes Completed

Program Participation Overview	FY 2018/19 Q3 (Oct 1 – Dec 31, 2018)	Cumulative (to Dec 31, 2018)
Individual	317	11,335
Community	55	3,445
Indigenous	10	6,166
Multi Unit Residential Buildings	3	3,181
Total	385	24,127

B. Furnace and Boiler Installations Completed

Program Participation Overview	FY 2018/19 Q3 (Oct 1 – Dec 31, 2018)	Cumulative (to Dec 31, 2018)
Individual: Furnace	134	5,617
Boiler	3	134*
Community: Furnace	7	441
Boiler	0	6
Indigenous	N/A	N/A
Total: Furnace	141	6,058
Boiler	3	140*

*Adjusted for 1 boiler install that was missed being counted in May 2018.

C. Furnace Replacement Program

Affordable Energy FRP	Furnace	Boilers
Scheduled Installation	155	2
Estimated Installation (next 6 months)	290	N/A*

*Due to the traditionally low number of boiler replacements, they are challenging to estimate.

D. Furnace & Boiler Failures

Furnace and Boiler Failures	Oct 1, 2018 to Dec 31, 2018	Cumulative to Dec 31, 2018
Furnaces Replaced due to Failure	3	175
Furnaces Replaced Before the End of Life	138	5,027
Boilers Replaced due to Failure	0	5
Boilers Replaced Before the End of Life	3	135*

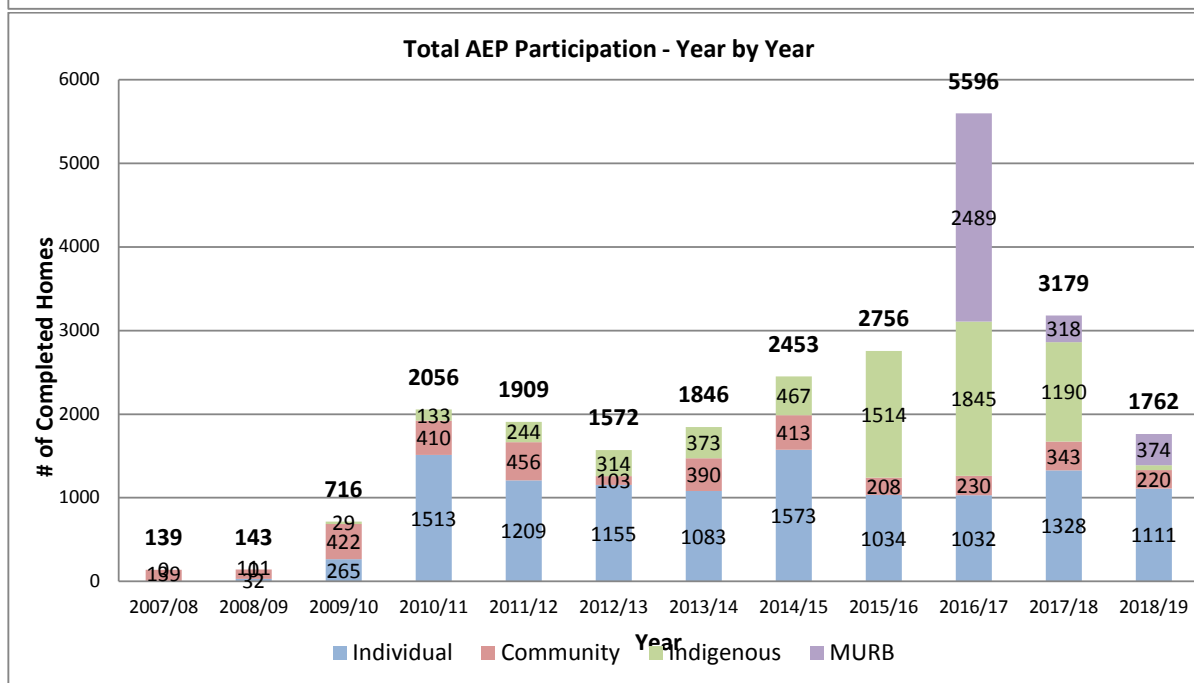
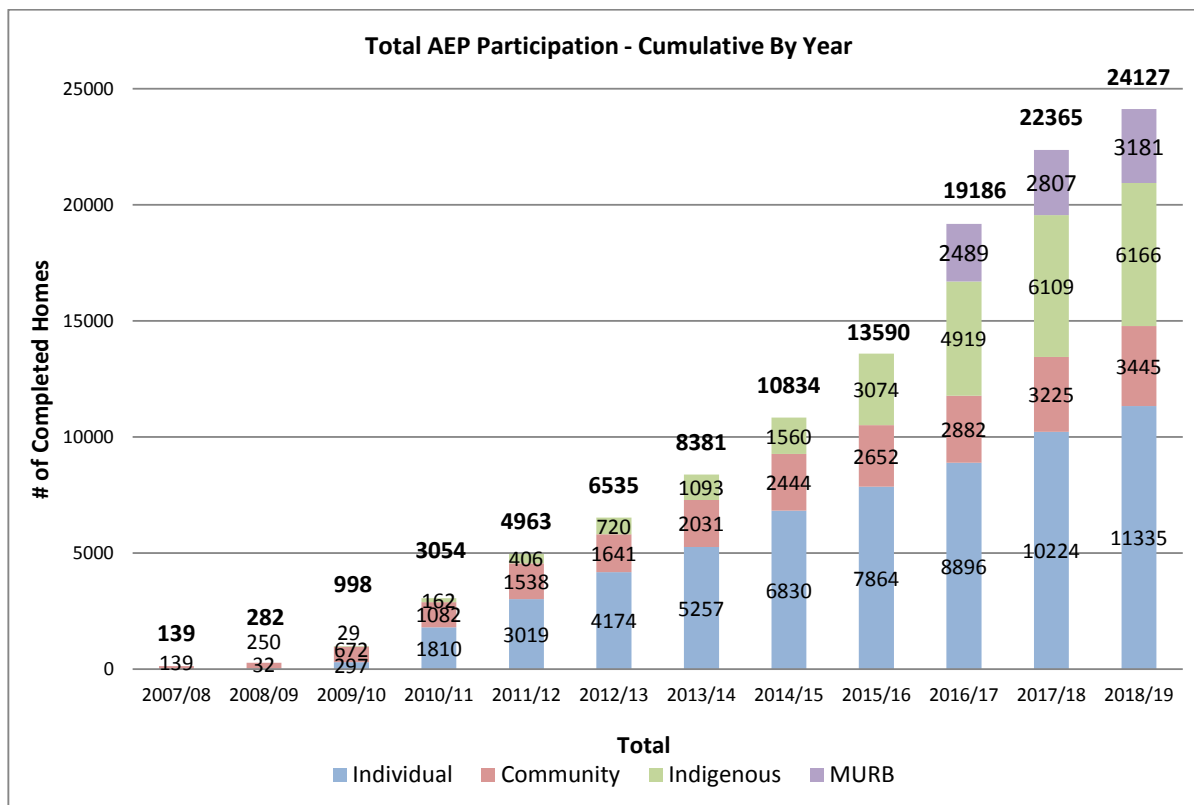
*Adjusted for 1 boiler install that was missed being counted in May 2018.

Affordable Energy Program Highlights – October 1 to December 31, 2018

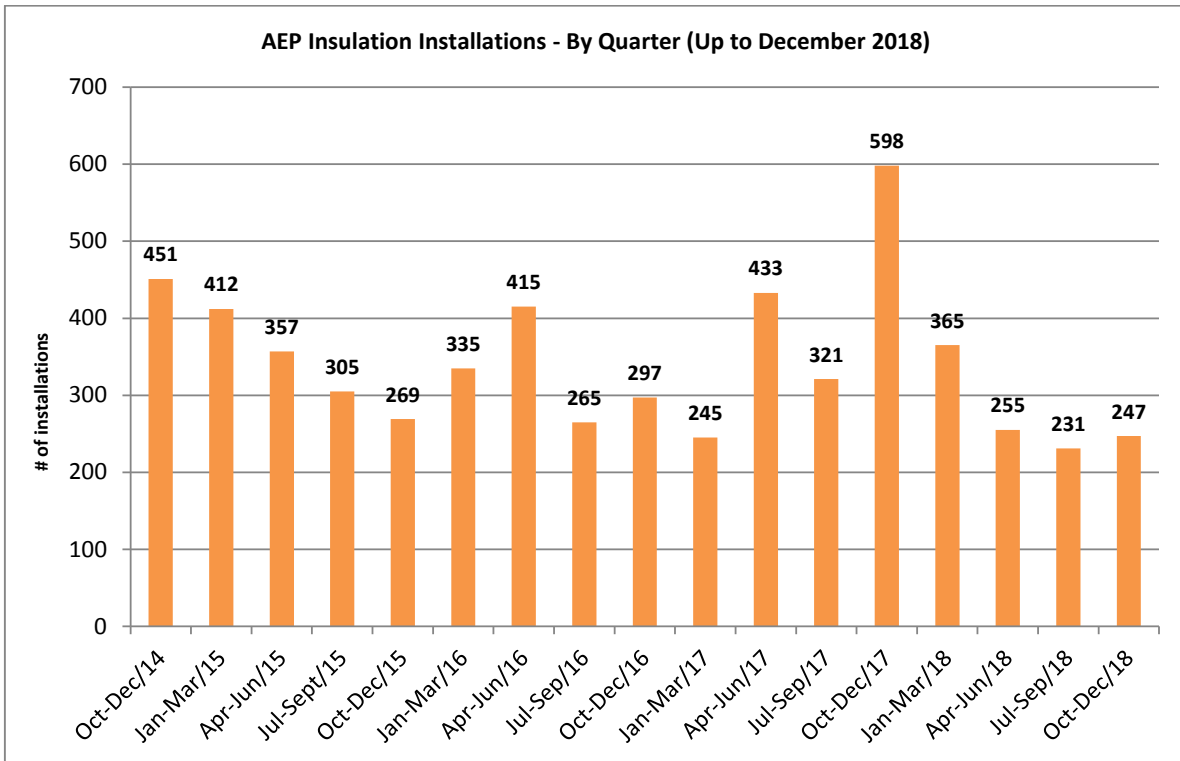
E. Insulation Installations Completed

Program Participation Overview	FY 2018/19 Q3 (Oct 1 – Dec 31, 2018)	Cumulative (to Dec 31, 2018)
Individual	190	5,926
Community	57	2,742
Indigenous	0	3,760
Total	247	12,428

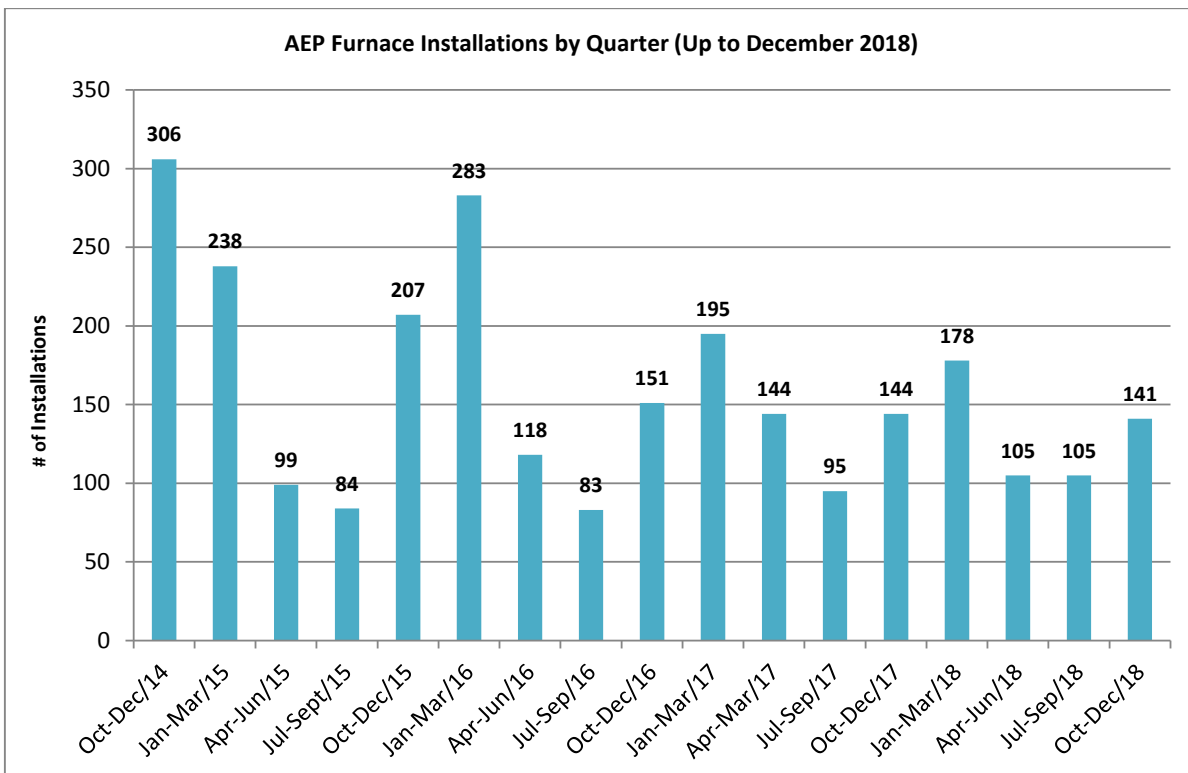
Trending Charts: AEP Completed Homes since Program Inception



Trending Charts: AEP Insulation Installation



Trending Charts: Furnace Replacements



Marketing Activities

Below is a review of marketing efforts undertaken by Manitoba Hydro up to December 31, 2018. On April 3, 2018, the Provincial Government sent Manitoba Hydro a letter requesting that all non-essential Power Smart advertising be discontinued. This has resulted in a decrease in advertising and promotional activities.

I. ADVERTISING AND PROMOTIONAL ACTIVITIES

a) Manitoba Hydro Advertising

The following is a list of the media and advertising which took place in the market during the quarter:

a) In October 2018, posters and brochures were sent out to the following organizations:

- Arborg & District Seniors Resource Council,
- Living Independence for Elders (Ashern),
- Prairie Oasis Senior Centre (Brandon),
- Dauphin Multi-Purpose Senior Centre,
- Services to Seniors Serving Erickson, Onanole, Sandy Lake & Areas Inc.,
- Eriksdale Community Resource Council Inc.,
- Gladstone Area Seniors Support Program,
- Seniors Independent Services (Glenboro),
- Grandview & District Community Resource Council,
- Hamiota/Blanchard Senior Services,
- Two Rivers Seniors Resource Council (Lac du Bonnet),
- Lundar Community Resource Council,
- MacGregor-Austin Senior Support Program,
- Pembina Community Resource Council (Manitou),
- Senior Services of Antler River (Melita & Pierson),
- Minnedosa & District Services to Seniors,
- Morden Services for Seniors Inc. (Friendship Centre),
- Home Assistance Neepawa and District,
- Louise Community Support Services (Pilot Mound),
- Senior Services of Banner County (Russell),
- Rossburn Community Resource Council,
- Selkirk and District Seniors Resource Council,
- Senior Services of Prairie-Parkland Inc. (Shoal Lake),
- St Laurent Seniors Resource Council,
- East Beaches Resource Centre (Traverse Bay),
- Bord-Aire Community Club,
- Kelvin Community Centre,
- Burton Cummings Community Centre,
- Maples Community Centre,
- Champlain Community Centre,
- Chalmers Community Centre,
- West Kildonan Community Centre,
- Valour Community Centre,
- Norwood Community Centre,
- Robert A Steen Memorial Community Club,
- Bronx Park Community Centre,

- River Osborne Community Club,
 - Northwood Community Centre Rink,
 - Lord Roberts Community Centre,
 - Garden City Community Centre,
 - Ralph Brown Community Centre,
 - Vince Leah Recreation Centre,
 - Tyndall Park Community Centre,
 - Red River Community Centre,
 - Melrose Park Community Centre,
 - Norquay Community Centre,
 - Luxton Community Centre,
 - Weston Memorial Community Centre Rink,
 - Morse Place Community Centre,
 - Notre Dame Recreational Centre, and
 - Sinclair Park Community Centre.
- b) On October 12, October 26 and November 9, 2018, autodialer campaigns were held to promote the Affordable Energy Program to customers in arrears.
- c) On October 15, 2018, Manitoba Hydro staff attended the Manitoba Non Profit Housing Association (“MNPHA”) Conference and Trade Show. Staff set up a booth at a trade show to promote the AEP and other Power Smart programs to social housing providers across Manitoba. Five contacts indicated interest in the AEP for both their housing and MURB units and have been reached out to in order to discuss participation.
- d) On October 30, 2018, Manitoba Hydro staff distributed an electronic customer satisfaction survey to 198 AEP participants counted as a completed home within the second quarter of FY 2018-19 and of those who had their in-home review completed within the last year. The survey asked questions about the technologies the customer received under the program, their experience(s) with the energy advisor and if applicable contractors, what they would have done in the absence of the AEP and whether they would be willing to give a customer testimonial for future marketing pieces. The information gathered will be used to make improvements to the AEP and the survey will be distributed on an ongoing basis, quarterly.
- e) In November 2018, a bill insert was sent to residential customers across the Province.
- f) On November 17, 2018, a presentation on the AEP and energy savings tips was given to participants of the SEED Inner City Homebuyer Program.
- g) In December 2018, a Facebook and Instagram post and story on the AEP was completed as part of the overall Power Smart social media campaign.

b) Street Approach Pilot Project

Manitoba Hydro staff and NECRC staff canvassed two streets this quarter for the Neighbourhood Power Smart Street Pilot Project:

- a. October 4, 2018 – Pritchard Ave between Artillery and Battery; and
- b. October 18, 2018 – College Ave between Charles and Salter.

Furnace Contractors

The furnace contractors on the participation list for AEP are noted below.

In Winnipeg	Outside Winnipeg
<ul style="list-style-type: none"> • Always Affordable Air • A.P.H Mechanical Services Ltd. • Balcaen and Sons Ltd. (J.M.) • College Electric Ltd. • Crosshair Contracting • Fair Service and Air Conditioning • Gallery Mechanical • Global Mechanical Inc. • Heritage Heating and Air Conditioning Ltd. • Home Service Plus Winnipeg Heating and Cooling Ltd. • Kirkfield Heating and Air Conditioning Ltd. • Machine Wellness • Martin's Heating & Construction • Mr. Furnace Heating and Air Conditioning • Ontime Electric, Plumbing, Heating and Air Conditioning • Provincial Heating and Cooling Inc. • R&R Heating and Cooling Services Ltd. • Reliable Heating & Air Conditioning • Reliance Superior Heating & Air Conditioning • S.S. Plumbing and Heating Co. Ltd. • Sarte Heating and Cooling Ltd. • Sunrise Heating and Cooling Ltd • Tench Plumbing and Heating Ltd. • Tradesman Mechanical Services Ltd. 	<ul style="list-style-type: none"> • A Plus Plumbing & Heating – Dauphin • Boissevain Plumbing - Boissevain • Brown's Plumbing and Heating Ltd. – Steinbach, Morris • Cross Plumbing & Heating - Virden • DB Higgenbotham – Virden • Dave Henderson - Hamiota • Edwards Plumbing & Heating – Dauphin • First Call Plumbing & Heating – Brandon • Future Mechanical Systems Ltd. – Gimli • G & E Schroeder – Morden, Winkler • Heartland Plumbing & Heating - Carberry • Heritage Heating and Air Conditioning Ltd. – Lac du Bonnet, Pinawa • Jim's Heating & Plumbing - Morris • John's Plumbing Heating Air Conditioning Ltd. – Winkler, Morden • Kozak Plumbing & Heating - Carman • Lance Wagner Plumbing and Heating Ltd. - Brandon • Lemazing Mechanical Inc. – Grunthal • Mullin Plumbing & Geothermal – Swan River • Polar Plumbing and Heating Ltd. – Winkler, Morden • Pringle's Plumbing and Heating Ltd. – Selkirk • R&R Heating and Cooling – Portage la Prairie • Rogers Plumbing & Heating - Gretna • South Central Plumbing & Heating – Portage la Prairie, Carberry (Neepawa, Gladstone, MacGregor, Treherne, Holland) • Steiner Plumbing and Heating – Dauphin • Sunrise Heating and Cooling Ltd – Tyndall • Swan-Pas Refrigeration & Air Conditioning – Swan River • Titanium Mechanical – Steinbach • Trav's Plumbing and Heating – Winkler, Morden • Westside Plumbing & Heating - Brandon

Customers can choose from any of the above contractors in their geographical area. If the customer shows no preference they are provided with the name of one of the contractors on a rotational basis. Centra is not experiencing any capacity issues in meeting the demands of the Furnace Replacement Program.

Centra has a standard comprehensive contract for all participating contractors. The contract includes pricing schedule, terms and conditions and warranty. The terms of the contracts are the same for all participating contractors.

Financial

Centra Gas Manitoba Inc. Quarterly Gas Furnace Replacement Program Report For 2018/19 Q3 October 1, 2018 to December 31, 2018) (000s)	
Beginning Balance October 1, 2018	\$ 25,023
Disbursements*	(555)
Additional Funding from SGS Customer Class	1,301
Accrued Interest	170
Ending Balance December 31, 2018	\$ 25,939**

Centra Gas Manitoba Inc. Quarterly Gas Furnace Replacement Program Report Cumulative Since Program Inception as at December 31, 2018 (000s)	
Beginning Balance August 1, 2007	\$ -
Disbursements (life to date)	(19,478)
Additional Funding from SGS Customer Class (life to date)	42,353
Accrued Interest (life to date)	3,064
Ending Balance December 31, 2018	\$ 25,939**

*Note disbursements include both incentives and administration. Calculations using installations and disbursements may not reflect accurate cost per unit figures due to timing differences.

**Numbers may not add up due to rounding.

REFERENCE:

Tab 7 Figure 7.5 and 7.6; Tab 3 Section 3.1.2; Appendix 3.3

PREAMBLE TO IR (IF ANY):

“Centra will continue to accept applications under the FRP going forward and estimates that approximately \$13 million will be needed from 2019/20 through to 2027/28 to replace the remaining eligible furnaces and boilers under the program.”

“CGM18 has assumed the disposition of approximately \$17 million (the excess funding) by the end of 2020/21. The details and timing of any planned dispositions or other allocations from this fund, such as returning the excess funding to customers, will be subject to the review and approval by Centra’s Board of Directors and PUB approval will be sought in a future Centra regulatory proceeding.”

QUESTION:

- a) Please provide details on alternatives Centra has considered with the \$17 million in excess funding.
- b) If the \$17 million was to be refunded to the SGS class through a rate rider, calculate the rate rider and the bill impacts (independent of other bill impacts in this application) if the refund is over:
 - i. a one year time period;
 - ii. a two-year time period;
 - iii. a five-year time period.

RESPONSE:

- a) Although Centra has assumed the disposition of approximately \$17 million in excess funding by the end of 2020/21 under CGM18, no specific plans or details on the disposition of this funding have been assessed at this time or presented to its Board of Directors for their review. It is Centra’s intention to seek stakeholder input on the potential alternatives to be assessed; however, some possible alternatives may include:
 - Return of the excess funding to ratepayers through a rate rider;

- Allocate the excess funding to support natural gas DSM programs through Efficiency Manitoba; or
 - Allocate the excess funding to fund bill affordability initiatives.
- b) Figure 1 provides the calculation of a FRP rider to be refunded over one-year, two-year and five-year time period. Figure 2 provides the SGS customer class bill impacts for each time period the FRP rider to be refunded.

Figure 1: Calculation of FRP rider to be refunded over different time period

	i) one -year	ii) two-year	iii) five-year
Total FRP fund balance to be refunded to the SGS customers	\$17,000,000	\$8,500,000	\$3,400,000
2019/20 SGS Annual Volumes (10^3m^3)			
FRP refund rider (\$/ 10^3m^3)			
FRP refund rider (\$/ m^3)			

1d

Figure 2: SGS customer class Bill Impacts for each time period the FRP rider to be refunded

	Annual Use 10^3m^3 Mcf	i) One year Period BILL IMPACTS		ii) Two year Period BILL IMPACTS		iii) Five year Period BILL IMPACTS	
		\$	%	\$	%	\$	%
Small General Service	1.00 35	(\$25)	-6.2%	(\$12)	-3.1%	(\$5)	-1.2%
	1.98 70	(\$49)	-7.8%	(\$25)	-3.9%	(\$10)	-1.6%
(Typical Residential Customer)	2.22 78	(\$55)	-8.0%	(\$28)	-4.0%	(\$11)	-1.6%
	2.80 99	(\$70)	-8.4%	(\$35)	-4.2%	(\$14)	-1.7%
	3.20 113	(\$80)	-8.6%	(\$40)	-4.3%	(\$16)	-1.7%
	3.68 130	(\$92)	-8.8%	(\$46)	-4.4%	(\$18)	-1.8%
	11.33 400	(\$282)	-9.9%	(\$141)	-5.0%	(\$56)	-2.0%

REFERENCE:

Appendix 7.1, Tab 14 Attachment 7, Tab 7 p. 10 of 12; Appendix 7.6

PREAMBLE TO IR (IF ANY):

QUESTION:

Confirm whether the impact of the preliminary 2017 Residential Energy Use Survey (REUS) results, which indicate that the number of standard efficiency furnaces converted to high efficiency since 2014 is lower than previously estimated, has been factored into any of the: 2017 or 2018 natural gas volume forecasts, CEF18, the 2018/19 Outlook, or the 2019/20 Approved Budget. If not confirmed, estimate the change in net income for 2018/19 and 2019/20 assuming the 2017 REUS saturation of standard efficiency furnaces.

RESPONSE:

The preliminary results of the 2017 REUS were used to update Centra's Furnace Replacement Program ("FRP") underlying program assumptions in regards to the remaining number of standard furnaces in Manitoba. The change in remaining market share did not impact the expected standard efficiency furnaces to be replaced in the 2018/19 or 2019/20 fiscal years under the Furnace Replacement Program. As indicated on page 10 of Tab 7, the change in remaining market of standard efficiency furnaces is expected to extend the program until 2025/26.

The 2017 REUS Report was completed in January 2019 and no results were available or utilized for the preparation of the 2017 or 2018 Natural Gas Volume Forecast. Notwithstanding, the preparation of the 2017 and 2018 Natural Gas Forecasts did not incorporate the same market saturation for standard efficiency furnaces as reported in the FRP since the 2014 REUS. The residential forecasting models underlying the 2017 and 2018 Natural Gas Volume Forecast are calibrated to the heating value and weather adjusted historical usage and the results from the 2017 REUS have an immaterial impact to the net income.

REFERENCE:

Tab 7 p. 3, 5 of 12; Appendix 7.1 p. 48 of 58; Appendix 7.6 p. 47 of 56

PREAMBLE TO IR (IF ANY):

Centra states that gas and electricity prices were inputs to the residential volume forecasting model.

QUESTION:

- a) [REDACTED] 1d
- b) Provide the demand side management savings target (as a percentage of load) included in 2019/20 Approved Budget for the 2019/20 test year.
- c) Explain whether the 2018 natural gas volume forecast includes the price elasticity effects of the Federal carbon charge on natural gas consumption. If confirmed, provide the assumed carbon charges included in the 2018 natural gas volume forecast. If not confirmed, estimate the net income impact due to price elasticity effects resulting from the expected April 1, 2019 carbon charge.

RESPONSE:

- a) [REDACTED] 1d
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

- b) Before interactive effects, the DSM target (as a percentage of natural gas volume) included in the 2019/20 Approved Budget for the 2019/20 test year is [REDACTED] sourced from the preliminary update to planned 2019/20 Demand Side Management expenditures and activities from the Supplement to 2019/20 General Rate Application. After interactive effects, the DSM target (as a percentage of natural gas volume) for the 2019/20 test year is [REDACTED]. The percentage of volume calculation excludes the natural gas consumption of Power Station and Special Contract classes in the volume forecast.
- c) The 2018 Natural Gas Volume Forecast includes the residential effects of the Manitoba Government's discussion paper titled "A Made-in-Manitoba Climate and Green Plan: Hearing from Manitobans" (the Manitoba Plan), which proposed the Manitoba Price, a flat \$25/tonne nominal Greenhouse Gas price from 2018-2022. The Federal Carbon Charge on natural gas implemented on April 1, 2019 was \$20/tonne of Greenhouse Gas, and the federal government plans to increase this carbon charge by \$10/tonne per year until it reaches \$50/tonne in 2022.

1d

REFERENCE:

Appendix 7.6 p. 9 of 56, Appendix 4.3 p. 30 of 64; 2013/14 GRA PUB/Centra I-63(c)

PREAMBLE TO IR (IF ANY):


QUESTION:

- a) Update PUB/Centra I-63(c) from the 2013/14 GRA from March 2013 to the most currently available data which compare the heating value of gas received from the United States with the system average heating value.
- b) If there have been material differences between the heating values from U.S.-sourced gas and the system average, explain how Centra has addressed this from a customer billing perspective.
- c) Explain whether Centra's existing reference heating value remains an appropriate base heating value to use for rate setting purposes.

RESPONSE:

- a) Please see the attachment to this response for the requested heating values from June 2016 to March 2019. Given changes to TCPL's reporting system, the data for the period prior to June 2016 is not readily available. The five station average in the attachment represents the average heating value by month for the five TCPL stations within Centra's service territory that may have gas flowing through them that originated in the United States. Those stations are: Altona, St. Malo, St. Pierre, Ste. Agathe, and Niverville.
- b) As evidenced in the attachment, there have been no material differences between the heating values at the five stations between Emerson and Ile des Chenes and Centra's system average. It should be noted that while those stations may have gas flowing through them that originated in the U.S., that gas is comingled in nature, and also contains gas from Western Canada.
- c) A heating value of [REDACTED] GJ/10³m³ remains appropriate for the purpose of rate setting. The energy content in natural gas inherently changes over time, but the Heating Value

1d

Margin Deferral Account captures the variances in gross margin that result from the actual energy content in sales volumes as compared to the heating value used for rate-setting purposes. Regardless of the heating value used for rate setting purposes, the actual energy content of the gas consumed by customers will inevitably be something different. The magnitude of those variances, and the resulting Heating Value Margin Deferral Account balances, are not significant in relation to Centra's overall annual revenue requirement (i.e., a small fraction of 1%) and they are ultimately either refunded to or collected from customers in order to ensure that Centra does not over-earn or under-earn its gross margin as a result of differences in the forecast vs. actual energy content of sales volumes. Therefore, Centra continues to view a heating value of  GJ/10³m³ as an appropriate value for rate setting purposes.

1d

Centra Gas Manitoba Inc.
2019/20 General Rate Application

	5 Station Average	System Average
2016		
June	38.21	38.20
July	37.78	37.78
August	37.85	37.85
September	37.83	37.83
October	37.94	37.93
November	37.92	37.92
December	37.90	37.90
2017		
January	37.91	37.91
February	38.06	38.06
March	37.98	37.98
April	37.96	37.96
May	38.18	38.17
June	38.06	38.07
July	37.97	37.97
August	38.01	38.01
September	38.06	38.06
October	38.19	38.23
November	38.41	38.41
December	38.17	38.17
2018		
January	38.31	38.31
February	38.39	38.39
March	38.44	38.44
April	38.30	38.30
May	38.20	38.20
June	38.49	38.49
July	38.36	38.36
August	38.15	38.17
September	38.07	38.07
October	38.36	38.35
November	38.20	38.20
December	38.18	38.18
2019		
January	38.35	38.34
February	38.22	38.22
March	38.26	38.26

REFERENCE:

Appendix 7.6 p. 46 of 56; 2013/14 GRA PUB/Centra I-67

PREAMBLE TO IR (IF ANY):

QUESTION:

Provide the historical weather and heating value adjusted volume forecast accuracies for the SGS Residential, SGS Commercial, LGS, and Top Consumer classes since the 2012 natural gas volume forecast.

RESPONSE:

Please see the following tables for the historical weather and heating value adjusted volume forecast accuracies for each customer class.

SGS Residential

First Year Forecast Accuracy						
Forecast Created	Year being Forecast	Forecast 10 ³ m ³	Actual 10 ³ m ³	% Diff	Over/Under	

Note: Actuals are Heating Value and Weather adjusted

Second Year Forecast Accuracy						
Forecast Created	Year being Forecast	Forecast 10 ³ m ³	Actual 10 ³ m ³	% Diff	Over/Under	

Note: Actuals are Heating Value and Weather adjusted

SGS Commercial

First Year Forecast Accuracy						
Forecast Created	Year being Forecast	Forecast 10 ³ m ³	Actual 10 ³ m ³	% Diff	Over/Under	

Note: Actuals are Heating Value and Weather adjusted

Second Year Forecast Accuracy						
Forecast Created	Year being Forecast	Forecast 10 ³ m ³	Actual 10 ³ m ³	% Diff	Over/Under	

Note: Actuals are Heating Value and Weather adjusted

1d

1d

LGS

First Year Forecast Accuracy					
Forecast Created	Year being Forecast	Forecast 10 ³ m ³	Actual 10 ³ m ³	% Diff	Over/Under

Note: Actuals are Heating Value and Weather adjusted

Second Year Forecast Accuracy					
Forecast Created	Year being Forecast	Forecast 10 ³ m ³	Actual 10 ³ m ³	% Diff	Over/Under

Note: Actuals are Heating Value and Weather adjusted

Top Consumers

First Year Forecast Accuracy					
Forecast Created	Year being Forecast	Forecast 10 ³ m ³	Actual 10 ³ m ³	% Diff	Over/Under

Note: Actuals are Heating Value and Weather adjusted

Second Year Forecast Accuracy					
Forecast Created	Year being Forecast	Forecast 10 ³ m ³	Actual 10 ³ m ³	% Diff	Over/Under

Note: Actuals are Heating Value and Weather adjusted

1d

1d

REFERENCE:

Appendix 7.6 p. 48 of 56, Tab 8 pgs. 2 & 42 of 52; 2015/16 COG PUB/Centra I-89

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Update the response to PUB/Centra I-89 from the 2015 Cost of Gas proceeding, showing the monthly normal effective degree days heating (EDDH) for the past five years, the actual monthly effective degree days heating, and the monthly differences between the normal and actual.
- b) Provide the EDDH by month used in the 2018 natural gas volume forecast.

RESPONSE:

- a) The following tables display the actual monthly effective degree days heating (EDDH), and the monthly differences between normal weather using the [REDACTED] for the past five years.

1d

Fis Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2017/18													
2016/17													
2015/16													
2014/15													
2013/14													

1d

Fis Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2017/18													
2016/17													
2015/16													
2014/15													
2013/14													

1d

Fis Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
2017/18													
2016/17													
2015/16													
2014/15													
2013/14													

1d

b) The following table displays the EDDH by month used in the 2018 Natural Gas Volume Forecast.

Fis Year	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Forecast													

1d

REFERENCE:

Appendix 7.6 p. 48 of 56; 2013/14 GRA PUB/Centra I-66

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Provide the approximate relationship between effective degree days heating (EDDH) and net income.
- b) Estimate the effect on forecasted net income if the warmest or the coldest winters were experienced in the test year.

RESPONSE:

- a) The approximate relationship between effective degree days heating ("EDDH") and net income is [REDACTED] / EDDH. 1d
- b) The estimated effect on net income should the warmest or coldest winters be experienced would be approximately a reduction to the net income of \$[REDACTED] for a record warm year and an increase of approximately \$[REDACTED] for a record cold year. 1d

REFERENCE:

Tab 8 p. 5 of 52; 2013/14 GRA PUB/Centra I-91

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Provide the Requests For Proposals issued by Centra for the 2016-2018 and 2018-2020 Primary Gas supply contracts.
- b) Provide the evaluation matrices (with the respective scoring) used by Centra to select its suppliers for the 2016-2018 and 2018-2020 Primary Gas supply contracts.
- c) Explain any changes in the proposal evaluation and award process (including evaluation scoring methodology) used for the 2016-2018 and 2018-2020 Primary Gas supply contracts with respect to the proposal evaluation and award process used for the 2014-2016 Primary Gas Supply contract.
- d) Explain the non-price-related differences between the 2014-2016 Primary Gas supply contract and both the 2016-2018 and 2018-2020 Primary Gas supply contracts.
- e) Calculate the forecasted Primary Gas costs at Empress for the 2016/17 Gas Year for each proponent related to the 2016-2018 Primary Gas supply contract and compare the results.
- f) Calculate the forecasted Primary Gas costs at Empress for the 2018/19 Gas Year for each proponent related to the 2018-2020 Primary Gas supply contract and compare the results.
- g) Confirm whether there were any changes in pricing methodology between the 2016-18 contract and the 2018-20 contract. If confirmed, explain the implications to gas costs from the change in pricing methodology and estimate any changes in gas costs between the 2016-18 and 2018-20 gas supply contracts for the 2018/19 gas year based solely on the change in pricing methodology (i.e. assume the same market prices and volumes).

RESPONSE:

- a) Please see Attachments 1 and 2 to this response. This attachment contains commercially sensitive information and is being filed confidentially.

- b) Please see Attachments 3 and 4 to this response. This attachment contains commercially sensitive information and is being filed confidentially.
- c) There were no changes in the proposal evaluation and award process relative to that used for the 2014-2016 Primary Gas supply contract.
- d) Non-price-related differences between the 2014-2016 Primary Gas supply contract and both the 2016-2018 and 2018-2020 Primary Gas supply contracts are described below.

[REDACTED]

	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]		
<u>2018-2020 contract</u>	(TJ/d)	(TJ/d)	(TJ/d)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
<u>2016-2018 contract</u>			
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
<u>2014-2016 contract</u>			
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

1a

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1a

[REDACTED]

[REDACTED] 1a

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 1a

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 1a

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] 1a

[REDACTED]

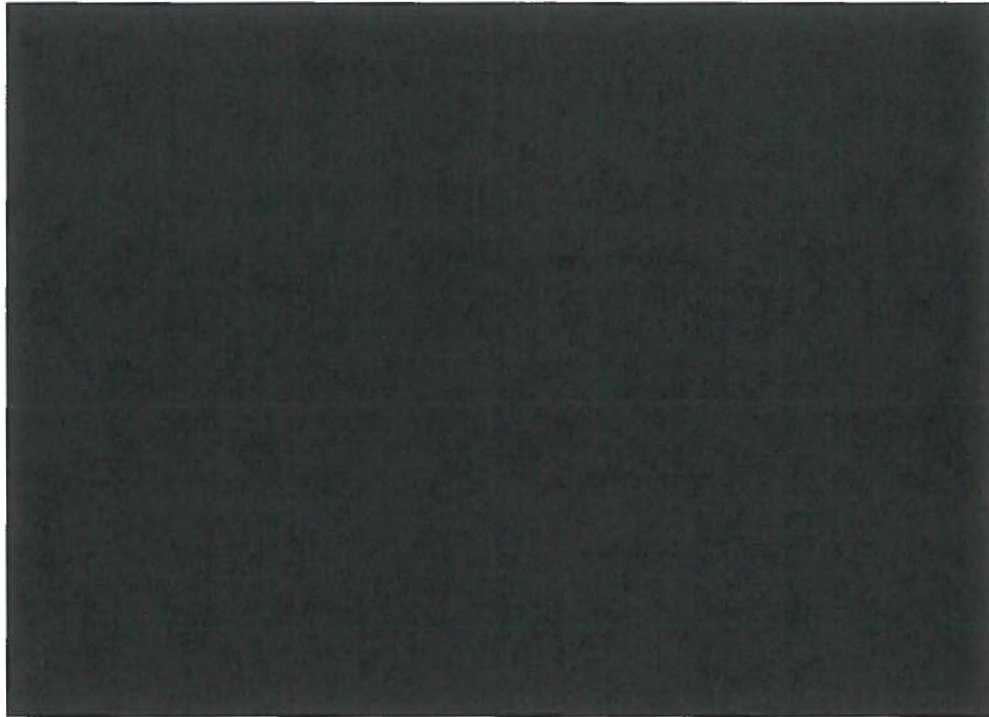
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

e)



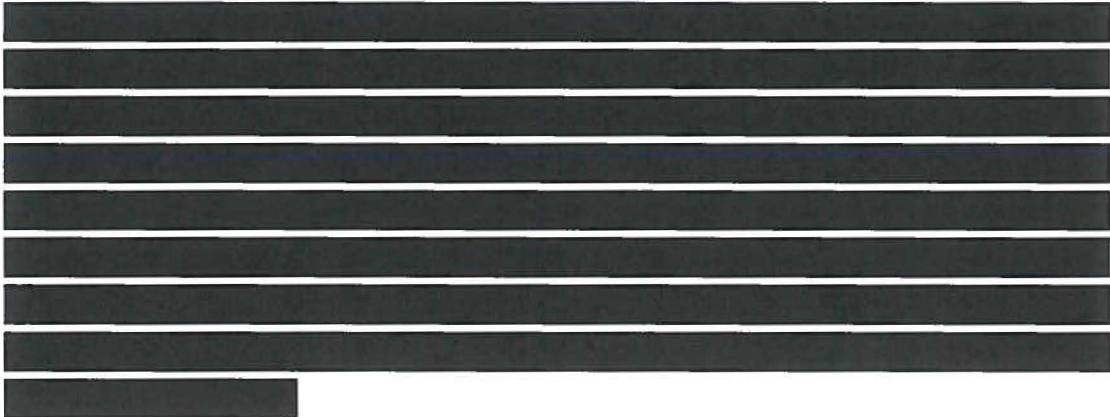
1a & 1b

f)



1a & 1b

g)



1a

REFERENCE:

Tab 8 p. 7 and 50 of 52; 2015/16 Cost of Gas PUB/Centra INT-010

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Identify each of the days Interruptible customers were curtailed since the 2014/15 gas year.
- b) Provide the Alternate Service price offered by Centra on each of those days, along with the corresponding AECO and Empress daily index prices.

RESPONSE:

a) and b)

Please see the attachment to this response for the days on which Alternate Supply was purchased on behalf of Interruptible customers, as well as the corresponding price¹ for which Centra was able to obtain that supply. The daily AECO and Empress prices requested can be found in the response to PUB/CENTRA I-123b.

Alternate Supply is purchased in the form of delivered service to the Manitoba Delivery Area (MDA), and as such is representative of a bundled commodity and transportation price. Consequently, the AECO and Empress daily index prices (i.e., Alberta prices) are not a meaningful comparator with which to review Alternate Supply costs. The day-ahead Emerson index is a more appropriate comparator for the cost of a delivered service to the MDA, as it reflects the market value of gas at a hub that is geographically close to the MDA. As such, Centra is providing the day-ahead Emerson index price on each day that Alternate Supply was purchased on behalf of Interruptible customers.

¹ The Alternate Supply Service billed rates in the attachment include a distribution delivery charge of approximately \$0.01/m³.



Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-110a-b

Centra would like to clarify that [REDACTED]

2b & 1c

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. The Supplemental Gas base rate applicable to Interruptible Service customers changed from \$0.1710/m³ to \$0.1560/m³ effective November 1, 2015.

REFERENCE:

Tab 8 p. 8 of 52, Appendices 8.1 and 8.2

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Similar to PUB/Centra I-37d (Attachment 1) from the 2015/16 COG, provide a graph of the sources of firm supply utilized to meet the winter design MDA and SSDA firm peak day requirements in each gas year from 2015/16 to 2018/19. Show all years of supply stacks on one graph including the numerical values. It is not necessary to show the peak day loads.
- b) Similar to PUB/Centra I-37d (Attachment 1) from the 2015/16 COG, provide a graph of the sources of firm supply utilized to meet the summer design MDA and SSDA firm peak day requirements in each gas year since the 2013/14 (up to and including the 2018/19 gas year, if available). Show all years of supply stacks on one graph including the numerical values. It is not necessary to show the peak day loads.
- c) Similar to Appendix 3.3 from the 2015/16 COG, provide a graph of the sources of firm supply utilized to meet the winter design MDA and SSDA load requirements, including peak day firm and interruptible load requirements, for the 2018/19 gas year.
- d) Similar to Appendix 3.3 from the 2015/16 COG, provide a graph of the sources of firm supply utilized to meet the summer design MDA and SSDA load requirements, including peak day firm and interruptible load requirements, for the 2018/19 gas year. If 2018/19 summer data are not available, then provide for the 2017/18 gas year.

RESPONSE:

a) to d)

The winter graphs requested in parts a) and c) of this question are provided in Attachment 1, and provide the design firm and interruptible peak day requirements for each year back to 2015/16. The summer graphs requested in parts b) and d) are provided in Attachment 2 in the same format and for the same timeframe as the winter graphs. These attachments contain commercially sensitive information and are being filed confidentially.

REFERENCE:

Tab 8 p. 10 of 52; 2015/16 COG PUB/Centra INT-004

PREAMBLE TO IR (IF ANY):

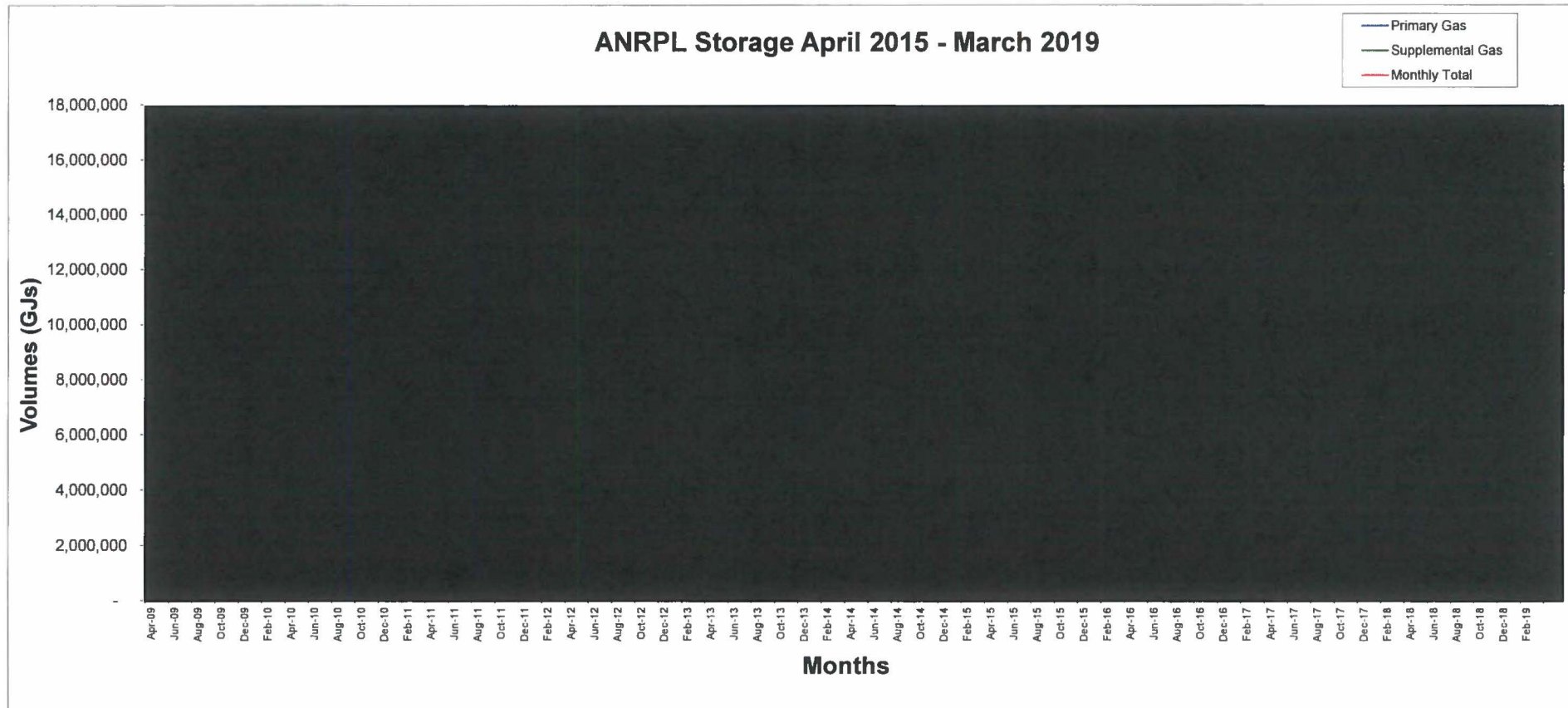
QUESTION:

Similar to PUB/Centra INT-004(a) from the 2015/16 Cost of Gas, provide a graph of the historical storage levels (i.e. Primary Gas, Supplemental Gas, and Monthly Total) from March 31, 2009 onwards.

RESPONSE:

Please see the attachment to this response for a graph of historical storage levels from March 31, 2009 onwards.

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REFERENCE:

Tab 8 pgs. 10-11 of 52

PREAMBLE TO IR (IF ANY):

Centra added annual storage when it renewed its U.S. storage and transportation assets effective April 1, 2013. Annual storage allows Centra to make withdrawals in the summer season and injections in the winter.

QUESTION:

- a) Since April 1, 2013, specify the number of days when Centra made summer withdrawals from storage and provide the monthly withdrawal totals.
- b) Since April 1, 2013, specify the number of days when Centra made winter injections into storage and provide the monthly injection totals.

RESPONSE:

a) and b)

Since April 1, 2013, [REDACTED]
[REDACTED]
[REDACTED].

1c

Centra added annual storage¹ to its portfolio in 2013 in addition to winter transportation from Joliet (Chicago market) to storage, [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

1c

¹ Annual storage allows withdrawals in summer and injections in winter.

² Farwell is a discounted secondary delivery point on Centra's ANR Joliet-to-Storage winter transportation contract.

[REDACTED]

[REDACTED]

1c

REFERENCE:

Tab 8 pgs. 11-15 of 52

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Similar to PUB/Centra I-017(a) from the 2015/16 Cost of Gas, provide the TCPL and non-TCPL contracted transportation capacities used to serve the MDA and SSDA since the 2014/15 gas year.
- b) Provide additional rationale associated with any changes in contracted transportation to the MDA and SSDA since the 2015/16 Cost of Gas proceeding.
- c) Explain how Centra's existing gas supply, transportation, and storage portfolio incorporates the lessons learned from the 2013/14 winter (e.g. exposure to downstream gas supply hub price volatility or high gas costs during a colder-than-normal winter).

RESPONSE:

- a) The breakdown of contracted transportation capacities used to serve the MDA and SSDA has now been illustrated by way of a more detailed bar chart in response to PUB/CENTRA I-111. Please see PUB/CENTRA I-111 Attachment 1 for the peak winter month, and PUB/Centra I-111 Attachment 2 for the peak summer month for gas years 2015/16 through 2018/19.
- b) Centra's TCPL Mainline capacity to the MDA has been consistent throughout the 2014/15, 2015/16, 2016/17 and 2017/18 Gas Years at 140,000 GJ/day¹. Centra increased its TCPL Mainline capacity to the MDA for the 2018/19 Gas Year for the reasons outlined on pages 13-14 of Tab 8 of Centra's GRA [REDACTED].
[REDACTED]. Centra's TCPL Mainline

¹ For the period April 1, 2017 to March 31, 2019, Centra took assignment of an additional 1,000 GJ/day of incremental capacity to accommodate a request from a T-Service customer to transition to firm Sales Service during the 2016/17 gas year.

capacity to the SSDA has also been consistent throughout the 2014/15, 2015/16, 2016/17 and 2017/18 Gas Years at 3,200 GJ/day. There is no change to Centra's SSDA contract level for the 2018/19 Gas Year.

- c) The unprecedented gas market prices of the 2013/14 winter [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. In 2013/14, the most extreme market prices occurred in the latter half of winter.

1c

In 2016, Centra [REDACTED] with an additional 1 million GJ of ANR storage capacity, resulting in total storage capacity of 16.5 million GJ (discussed in Tab 8, pages 10-11 of 52 and page 15 of 52). [REDACTED]

1c

REFERENCE:

Tab 8 p. 12 of 52, Appendix 8.4

PREAMBLE TO IR (IF ANY):

Tab 8 page 12 lists the Mainline FT from Empress to the MDA transportation capacity as 54,000 GJ/day while Appendix 8.4 shows this capacity as 163,200 GJ/day. Similar discrepancies are evident with the NGTL FT-D AECO to Empress capacities.

QUESTION:

Confirm the daily transportation capacity associated with Centra's transportation contracts for NGTL FT-D from AECO to Empress and Mainline FT from Empress to the MDA/SSDA.

RESPONSE:

The reference in Tab 8 of Centra's 2019/20 General Rate Application ("Application") is describing how Centra's storage refill is accomplished, rather than the maximum daily quantities (MDQ) of its NGTL FT-D and Mainline FT contracts. Accordingly, there is no discrepancy between Centra's Application and Appendix 8.4.

Centra's Storage Transportation Service (STS) contract provides for the refill of storage in summer months, and is part of the full transportation path from storage to the Manitoba market in winter months. Centra's STS summer contract allows for up to 54,000 GJ/day of its associated Empress to MDA Firm Transportation (FT) to be nominated from Empress to Emerson for storage injection. Of the [REDACTED] of NGTL FT-D capacity currently contracted by Centra, up to 54,000 GJ/day of that capacity may be used to satisfy Centra's storage refill requirements. Of the 160,000 GJ/day of Mainline FT from Empress to the MDA currently contracted by Centra, up to 54,000 GJ/day of that capacity may be used to satisfy Centra's storage refill requirements. Centra holds 3,200 GJ/day of Mainline FT from Empress to the SSDA. That capacity does not include an STS injection entitlement, thus it is not available to be used for refill of storage.

1a

REFERENCE:

Tab 8 pgs. 14 -15 of 52, Tab 9

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Explain Centra's long-term supply and transportation strategy supporting the incremental firm NGTL capacity and term obtained as part of the December 2017 NGTL open season.
- b) Explain how the additional firm capacity referenced in a) above fits with Centra's existing TCPL Mainline firm transportation capacity and the post-2020 transportation and storage portfolio proposed in Tab 9.

RESPONSE:

- a) [REDACTED] 1c
[REDACTED]
[REDACTED]
[REDACTED]. The AECO/NIT hub is the most liquid gas hub in the WCSB. Empress is less liquid than AECO/NIT, and the basis (price) differential between these markets is volatile. Since July of 2017, the Empress/AECO differential has routinely exceeded the toll for this path¹, as demonstrated in the attachment to PUB/Centra I-123 b) in the column titled Empress/AECO Transportation Differential (\$CAD/GJ). [REDACTED]
[REDACTED] 1a + 1c
[REDACTED]
[REDACTED]. In addition, there is increasing demand for FT-D capacity on NGTL to Empress among WCSB gas producers. This is reflected in the TCPL Mainline's Dawn Long Term Fixed Price (LTFP) service, in which

¹ NGTL's daily equivalent FT-D toll for the Empress/AECO path has ranged from \$0.1733/GJ to \$0.1969/GJ since July 2017 (<http://www.tccustomerexpress.com/delivery-point-rates.html>).

producers acquired NGTL capacity to Empress in addition to 1.5 million GJ/day of Mainline capacity from Empress to the Dawn hub in southern Ontario. [REDACTED]

[REDACTED]

1c

While Centra has committed to the incremental [REDACTED] of NGTL FT-D capacity for a term of [REDACTED]

[REDACTED]

1a

b) Centra's TCPL Mainline FT capacity from Empress is currently 163,290 GJ/day [REDACTED]

[REDACTED]. The [REDACTED] of NGTL FT-D capacity [REDACTED]

[REDACTED]

1a + 1c

Irrespective of the incremental NGTL capacity, Centra expects to [REDACTED]

[REDACTED]

1c

REFERENCE:

Tab 8 p. 20 of 52

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Summarize the NEB's RH-001-2018 Decision, highlighting the impacts to Centra.
- b) Provide links to the NEB's RH-001-2018 Decision as well as any related TCPL compliance filings.

RESPONSE:

- a) In the RH-001-2018 proceeding before the National Energy Board ("NEB") regarding TCPL Mainline tolls for the 2018-2020 period, Centra advocated against TCPL's application because there was evidence that TCPL's Mainline volume forecasts had resulted in higher than needed tolls being charged to Mainline shippers from 2013 to 2017. The difference between TCPL's forecast and actual revenue had accumulated to an amount of just over \$1.1 billion by the end of 2017, recorded in the deferral account referred to as the Long-Term Adjustment Account ("LTAA").

In its application, TCPL proposed to keep this revenue it had over-collected from Mainline shippers from 2013-2017 for future use. This would have resulted in higher than needed tolls for Mainline shippers through the 2018 to 2020 period. Centra intervened before the NEB to advocate for the refund of the LTAA surplus to Mainline shippers in the 2018-2020 period in a fair and equitable manner.

On December 13, 2018 in its RH-001-2018 Reasons for Decision, the NEB ruled that the entire \$1.1 billion LTAA balance is to be returned to Mainline shippers, in addition to surplus revenue collected from Mainline shippers resulting from the interim tolls charged from January 1, 2018 to January 31, 2019, by way of a toll reduction over the February, 1, 2019 to December 31, 2020 timeframe. The lower tolls will result in a forecast reduction in Centra's Mainline costs of \$14.4 million¹ over this period.

Centra also put forward the position that unlimited pricing discretion for short-term services on the TCPL Mainline is unnecessary and should be constrained. However, the NEB approved the continuation of the existing Mainline pricing discretion for Interruptible Transportation and Short-Term Firm Transportation services for the 2018 to 2020 period.

- b) The following is the link to the NEB's RH-001-2018 Reasons for Decision which outlines the background of the request made by TCPL for 2018-2020 Mainline tolls and the challenge by Centra and other intervenors disputing the application:

<https://apps.neb-one.gc.ca/REGDOCS/Item/View/3723990>.

The following is the link to TCPL's RH-001-2018 Compliance Filing:

<https://apps.neb-one.gc.ca/REGDOCS/File/Download/3746954>.

The following are the links to the NEB's RH-001-2018 Compliance Decision:

<https://apps.neb-one.gc.ca/REGDOCS/File/Download/3755606> (Letter); and

<https://apps.neb-one.gc.ca/REGDOCS/File/Download/3755608> (Order).

[REDACTED]

1a

REFERENCE:

Tab 8 pgs. 22-45 of 52

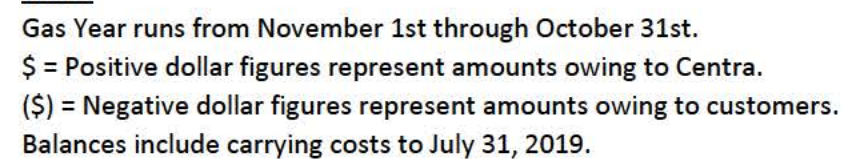
PREAMBLE TO IR (IF ANY):

QUESTION:

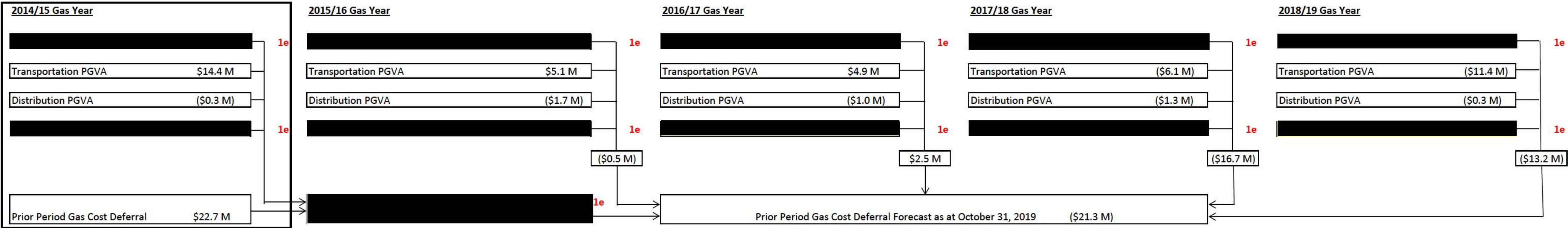
- a) Provide a diagram that summarizes the 2014/15 to 2017/18 non-Primary Gas deferral account balances and their associated contributions to the July 31, 2019 Prior Period Non-Primary Gas deferral balance.
- b) When Centra files its gas cost update, provide an updated diagram that includes the 2018/19 non-Primary Gas deferral account balances and the combined Prior Period balance to October 31, 2019.

RESPONSE:

- a) Please see the Attachment 1 to this response for the requested information. Schedule 8.8.6 of Centra's Application also provides this information.
- b) Please see the Attachment 2 to this response for the requested information.



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Notes
Gas Year runs from November 1st through October 31st.
\$ = Positive dollar figures represent amounts owing to Centra.
(\$) = Negative dollar figures represent amounts owing to customers.
Balances include carrying costs to October 31, 2019.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-119

REFERENCE:

Tab 8 p. 28 of 52; 2015/16 COG PUB/Centra INT-002(b)

PREAMBLE TO IR (IF ANY):

QUESTION:

Similar to PUB/Centra INT-002(b) from the 2015 Cost of Gas proceeding, provide the Primary Gas billing percentages for Firm and Interruptible customers since May 2015.

RATIONALE FOR QUESTION:

RESPONSE:

The following table provides the Primary and Supplemental gas billing percentages since May 2015:

Effective Date of Bill Percentage Implementation	Firm Service		Interruptible Service	
	Primary Gas	Supplemental Gas	Primary Gas	Supplemental Gas
February 1, 2019	93%	7%	89%	11%
November 1, 2018	93%	7%	86%	14%
August 1, 2018	72%	28%	95%	5%
May 1, 2018	84%	16%	95%	5%
February 1, 2018	89%	11%	81%	19%
November 1, 2017	92%	8%	84%	16%
August 1, 2017	100%	0%	100%	0%
May 1, 2017	100%	0%	100%	0%
February 1, 2017	100%	0%	100%	0%
November 1, 2016	94%	6%	90%	10%
August 1, 2016	87%	13%	99%	1%
May 1, 2016	88%	12%	96%	4%
February 1, 2016	100%	0%	100%	0%
November 1, 2015	92%	8%	84%	16%
August 1, 2015	79%	21%	79%	21%
May 1, 2015	81%	19%	83%	17%

REFERENCE:

Tab 8 p. 28 of 52

PREAMBLE TO IR (IF ANY):

QUESTION:

Similar to PUB/Centra I-99 from the 2013/14 Centra GRA, provide the actual (trued-up) UFG percentages for the years since the last Centra GRA.

RESPONSE:

Actual UFG percentages for the requested period are as follows:

<u>Period</u>	<u>Actual UFG %</u>
June 2012 to May 2013	0.53%
June 2013 to May 2014	1.00%
June 2014 to May 2015	0.67%
June 2015 to May 2016	0.24%
June 2016 to May 2017	0.58%
June 2017 to May 2018	0.56%

REFERENCE:

Tab 8 p. 47 of 52; 2013/14 GRA PUB/Centra I-88

PREAMBLE TO IR (IF ANY):

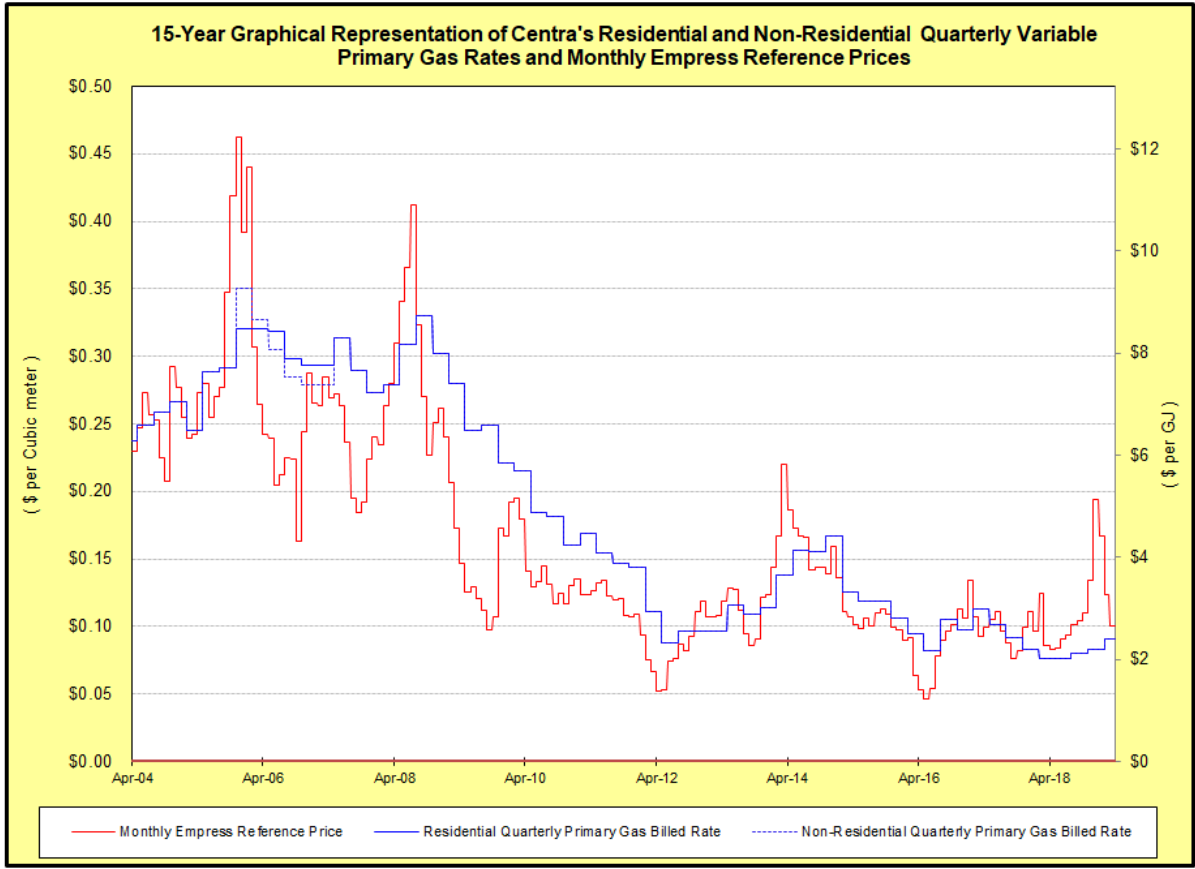
QUESTION:

Similar to PUB/Centra I-88 from the 2013/14 GRA, provide a graph showing the AECO monthly reference price and Centra's Primary Gas billed rates (both residential and non-residential) for the past 15 years.

RESPONSE:

Centra's Primary Gas rate is an Empress-based commodity rate, as opposed to an AECO/NIT-based commodity rate, therefore it is more appropriate to compare Centra's historical Primary Gas rates to the Empress, AB monthly reference price, as opposed to the AECO/NIT monthly reference price. A chart containing this information is provided below.

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PUB/CENTRA I-121



REFERENCE:

Tab 8 p. 49 of 52

PREAMBLE TO IR (IF ANY):

The forecast costs of Supplemental Gas supplies are priced based on Emerson futures market prices.

QUESTION:

- a) Explain the reasons why Emerson is chosen as the price reference for Supplemental Gas supplies direct to load.
- b) Specify the portion of Supplemental Gas that is expected to be sourced from Emerson on:
 - (i) A weather-normal basis; and
 - (ii) A coldest winter on record basis.
- c) Provide a table showing the monthly futures prices listed below for the 2018/19 gas year:
 - (i) AECO
 - (ii) Empress
 - (iii) Emerson
 - (iv) Chicago
 - (v) Chicago (with imputed transportation back to Emerson)
 - (vi) Michigan
 - (vii) Michigan (with imputed transportation back to Emerson)

RESPONSE:

- a) Emerson is used as a price reference for Supplemental Gas direct to load in the interest of simplicity. Centra holds firm transportation (both STS and FT) from Emerson to the MDA making it possible to purchase gas for its market at Emerson year-round, and because Emerson is a widely available pricing index, Emerson futures prices are used to forecast the cost of Supplemental Gas direct to load.

b) While Emerson is used to forecast Supplemental Gas costs, Centra strives to purchase the most economic source of supply on the day when required. Supplemental Gas could be sourced at [REDACTED] [REDACTED]. Centra is unable to forecast which source of Supplemental Gas will ultimately be the most economic, and therefore does not have an expectation as to what portion of Supplemental Gas would be purchased at Emerson beyond the use of Emerson as a price reference for forecast volumes.

1c

c) The requested futures prices are provided in Centra's 2019/20 General Rate Application in Schedule 8.9.1, as follows:

- i) AECO – line 59
- ii) Empress – line 60
- iii) Emerson –line 68
- iv) Chicago – line 71
- v) Chicago with imputed transportation – please see below
- vi) Michigan – line 69
- vii) Michigan with imputed transportation – please see below

With respect to the monthly futures prices requested in parts v) and vii), Centra wishes to clarify for the PUB that imputed transportation costs are calculated only on Primary Gas Delivered Service ("PGDS") and Supplemental Gas Delivered Service ("SGDS") purchases at the MDA. PGDS and SGDS purchases include both supply costs and associated transportation costs incurred by the delivering counterparty, but are charged to Centra as a single, bundled price. In order to accurately reflect costs in Centra's PGVA accounts, Centra calculates an imputed (or assumed) cost of transportation, such that only commodity costs flow to the Primary Gas or Supplemental Gas PGVAs, and only transportation costs flow to the Transportation PGVA.

REFERENCE:

Tab 8 Schedules 8.5.1, 8.5.2, 8.6.1, 8.6.2, 8.7.1, 8.7.2, 8.8.1, 8.8.2,

PREAMBLE TO IR (IF ANY):

QUESTION:

a) Similar to PUB/Centra I-102 from the 2013/14 Centra GRA and CAC/Centra I-16b Attachment 1 from the 2015/16 Cost of Gas, provide the monthly unit costs since July 2015 to date for the following sources of supply:

- i. Primary supply at receipt points according to the gas supply contract
- ii. Seasonal Delivered Services
- iii. Peaking Delivered Services
- iv. Emerson supply
- v. Primary Supply from Storage
- vi. Supplemental Supply from Storage

On this same schedule, provide the monthly index prices for:

- vii. AECO
- viii. Empress
- ix. Emerson
- x. Michigan city gate
- xi. Chicago

b) Similar to PUB/Centra I-102 from the 2013/14 Centra GRA and CAC/Centra I-16b Attachments 2 and 3 from the 2015/16 Cost of Gas, provide the daily index prices since July 1, 2015 for the following sources of supply:

- i. AECO
- ii. Empress
- iii. AECO-Empress differential
- iv. Emerson
- v. Chicago
- vi. Michigan city gate
- vii. Dawn

RESPONSE:

a) This information (monthly unit costs and index prices) is contained in Centra's Application, incorporated into the schedules pertaining to the 2014/15 through 2017/18 Gas Years and Schedule 8.9.1 in respect of the 2018/19 Gas Year Forecast period as follows:

- "Primary supply at receipt points according to the gas supply contract" is represented as Primary Gas Direct to Load in Centra's schedules, found on Row 30 of Schedules 8.5.1, 8.6.1, 8.7.1, 8.8.1; and Row 54 of Schedule 8.9.1;
- "Seasonal Delivered Services" are denoted as Primary Gas Delivered Service, found on Row 32 of Schedules 8.5.1, 8.6.1, 8.7.1, and 8.8.1;
- "Peaking Delivered Services" are denoted as Supplemental Gas Delivered Service, found on Row 32 of Schedules 8.5.2 (a), 8.6.2 (a), 8.7.2 (a), and 8.8.2 (a);
- "Emerson supply" is fundamentally the same as Supplemental Supply Direct to the Load in Centra's schedules, found on Row 30 of Schedules 8.5.2 (a), 8.6.2 (a), 8.7.2 (a), and 8.8.2 (a); and Row 63 of Schedule 8.9.1;
- "Primary Supply from Storage" is found on Row 31 of Schedules 8.5.1, 8.6.1, 8.7.1, 8.8.1 and Row 55 of Schedule 8.9.1; and
- "Supplemental Supply from Storage" is found on Row 31 of Schedules 8.5.2 (a), 8.6.2 (a), 8.7.2 (a), and 8.8.2 (a) and Row 64 of Schedule 8.9.1.

Monthly index prices are located as follows:

- AECO, Row 37 of Schedules 8.5.1, 8.6.1, 8.7.1, 8.8.1 and Row 59 of Schedule 8.9.1;
- Empress, Row 38 of Schedules 8.5.1, 8.6.1, 8.7.1, 8.8.1 and Row 60 of Schedule 8.9.1;
- Emerson, Row 37 of Schedules 8.5.2 (a), 8.6.2 (a), 8.7.2 (a), and 8.8.2 (a) and Row 68 of Schedule 8.9.1;
- Michigan, Row 38 of Schedules 8.5.2 (a), 8.6.2 (a), 8.7.2 (a), and 8.8.2 (a) and Row 69 of Schedule 8.9.1; and
- Chicago, Row 40 of Schedules 8.5.2 (a), 8.6.2 (a), 8.7.2 (a), and 8.8.2 (a) and Row 71 of Schedule 8.9.1.

b) Please see the attachment to this response.

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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
1	2015-07-01	\$2.4723	\$2.6669	\$0.1946	\$2.6647	\$2.7780	\$2.8140	\$2.8293
2	2015-07-02	\$2.5473	\$2.7430	\$0.1957	\$2.6956	\$2.7770	\$2.8580	\$2.8375
3	2015-07-03	\$2.5811	\$2.7781	\$0.1970	\$2.7113	\$2.7550	\$2.8720	\$2.8645
4	2015-07-04	\$2.5811	\$2.7781	\$0.1970	\$2.7113	\$2.7550	\$2.8720	\$2.8645
5	2015-07-05	\$2.5811	\$2.7781	\$0.1970	\$2.7113	\$2.7550	\$2.8720	\$2.8645
6	2015-07-06	\$2.5811	\$2.7781	\$0.1970	\$2.7113	\$2.7550	\$2.8720	\$2.8645
7	2015-07-07	\$2.5361	\$2.7311	\$0.1950	\$2.6468	\$2.7160	\$2.8020	\$2.8101
8	2015-07-08	\$2.5389	\$2.7325	\$0.1936	\$2.6657	\$2.6880	\$2.7660	\$2.7671
9	2015-07-09	\$2.5787	\$2.7710	\$0.1923	\$2.6826	\$2.7090	\$2.7810	\$2.7906
10	2015-07-10	\$2.5256	\$2.7142	\$0.1886	\$2.6448	\$2.6670	\$2.7330	\$2.7423
11	2015-07-11	\$2.6548	\$2.8393	\$0.1845	\$2.5318	\$2.7300	\$2.8200	\$2.8317
12	2015-07-12	\$2.6548	\$2.8393	\$0.1845	\$2.5318	\$2.7300	\$2.8200	\$2.8317
13	2015-07-13	\$2.6548	\$2.8393	\$0.1845	\$2.5318	\$2.7300	\$2.8200	\$2.8317
14	2015-07-14	\$2.8395	\$3.0213	\$0.1818	\$2.7265	\$2.8820	\$2.9480	\$2.9550
15	2015-07-15	\$2.8880	\$3.0654	\$0.1774	\$2.7463	\$2.9570	\$3.0230	\$2.9940
16	2015-07-16	\$2.8242	\$2.9912	\$0.1670	\$2.7996	\$2.8940	\$2.9600	\$2.9679
17	2015-07-17	\$2.7853	\$2.9488	\$0.1635	\$2.7618	\$2.8950	\$2.9520	\$2.9502
18	2015-07-18	\$2.7443	\$2.9160	\$0.1717	\$2.7291	\$2.8910	\$2.9670	\$2.9501
19	2015-07-19	\$2.7443	\$2.9160	\$0.1717	\$2.7291	\$2.8910	\$2.9670	\$2.9501
20	2015-07-20	\$2.7443	\$2.9160	\$0.1717	\$2.7291	\$2.8910	\$2.9670	\$2.9501
21	2015-07-21	\$2.6698	\$2.8542	\$0.1844	\$2.7202	\$2.8480	\$2.9180	\$2.9160
22	2015-07-22	\$2.7798	\$2.9702	\$0.1904	\$2.7801	\$2.9270	\$2.9740	\$2.9591
23	2015-07-23	\$2.8175	\$3.0085	\$0.1910	\$2.7941	\$2.9320	\$2.9780	\$2.9628
24	2015-07-24	\$2.8465	\$3.0373	\$0.1908	\$2.8261	\$2.9170	\$2.9780	\$2.9671
25	2015-07-25	\$2.7581	\$2.9440	\$0.1859	\$2.7926	\$2.8440	\$2.8960	\$2.8764
26	2015-07-26	\$2.7581	\$2.9440	\$0.1859	\$2.7926	\$2.8440	\$2.8960	\$2.8764
27	2015-07-27	\$2.7581	\$2.9440	\$0.1859	\$2.7926	\$2.8440	\$2.8960	\$2.8764
28	2015-07-28	\$2.7618	\$2.9498	\$0.1880	\$2.8908	\$2.8760	\$2.9490	\$2.9485
29	2015-07-29	\$2.8081	\$2.9982	\$0.1901	\$2.8647	\$2.8980	\$2.9660	\$2.9850
30	2015-07-30	\$2.8524	\$3.0548	\$0.2024	\$2.8970	\$2.9330	\$2.9980	\$3.0053
31	2015-07-31	\$2.8300	\$3.0331	\$0.2031	\$2.8578	\$2.8470	\$2.9450	\$2.9520
32	2015-08-01	\$2.7897	\$2.9799	\$0.1902	\$2.7681	\$2.8110	\$2.9040	\$2.9022
33	2015-08-02	\$2.7897	\$2.9799	\$0.1902	\$2.7681	\$2.8110	\$2.9040	\$2.9022
34	2015-08-03	\$2.7897	\$2.9799	\$0.1902	\$2.7681	\$2.8110	\$2.9040	\$2.9022
35	2015-08-04	\$2.7980	\$2.9879	\$0.1899	\$2.8007	\$2.8040	\$2.8710	\$2.8899
36	2015-08-05	\$2.8801	\$3.0666	\$0.1865	\$2.8251	\$2.8830	\$2.9510	\$2.9474
37	2015-08-06	\$2.9048	\$3.0939	\$0.1891	\$2.8754	\$2.9400	\$2.9820	\$2.9834
38	2015-08-07	\$2.8291	\$3.0147	\$0.1856	\$2.7844	\$2.8450	\$2.8890	\$2.8872
39	2015-08-08	\$2.8227	\$3.0067	\$0.1840	\$2.8542	\$2.8780	\$2.9720	\$2.9888
40	2015-08-09	\$2.8227	\$3.0067	\$0.1840	\$2.8542	\$2.8780	\$2.9720	\$2.9888
41	2015-08-10	\$2.8227	\$3.0067	\$0.1840	\$2.8542	\$2.8780	\$2.9720	\$2.9888
42	2015-08-11	\$2.8685	\$3.0576	\$0.1891	\$2.8741	\$2.9010	\$2.9840	\$3.0007
43	2015-08-12	\$2.8472	\$3.0356	\$0.1884	\$2.8746	\$2.9030	\$3.0050	\$3.0050
44	2015-08-13	\$2.9055	\$3.0919	\$0.1864	\$2.9549	\$2.9780	\$3.0530	\$3.0608
45	2015-08-14	\$2.9396	\$3.1319	\$0.1923	\$2.9894	\$3.0080	\$3.0940	\$3.0889
46	2015-08-15	\$2.8629	\$3.0540	\$0.1911	\$2.9049	\$2.8820	\$2.9940	\$3.0233
47	2015-08-16	\$2.8629	\$3.0540	\$0.1911	\$2.9049	\$2.8820	\$2.9940	\$3.0233
48	2015-08-17	\$2.8629	\$3.0540	\$0.1911	\$2.9049	\$2.8820	\$2.9940	\$3.0233
49	2015-08-18	\$2.8556	\$3.0444	\$0.1888	\$2.8855	\$2.8660	\$3.0060	\$3.0553
50	2015-08-19	\$2.8054	\$2.9937	\$0.1883	\$2.8394	\$2.8460	\$2.9690	\$3.0265
51	2015-08-20	\$2.7750	\$2.9625	\$0.1875	\$2.8668	\$2.8500	\$2.9500	\$2.9998
52	2015-08-21	\$2.7186	\$2.9070	\$0.1884	\$2.7955	\$2.8030	\$2.9290	\$2.9992
53	2015-08-22	\$2.7025	\$2.8893	\$0.1868	\$2.7938	\$2.7660	\$2.9320	\$2.9971
54	2015-08-23	\$2.7025	\$2.8893	\$0.1868	\$2.7938	\$2.7660	\$2.9320	\$2.9971
55	2015-08-24	\$2.7025	\$2.8893	\$0.1868	\$2.7938	\$2.7660	\$2.9320	\$2.9971
56	2015-08-25	\$2.6891	\$2.8761	\$0.1870	\$2.7093	\$2.7660	\$2.9320	\$2.9270
57	2015-08-26	\$2.7031	\$2.8906	\$0.1875	\$2.7734	\$2.7920	\$2.9140	\$2.9787
58	2015-08-27	\$2.7467	\$2.9391	\$0.1924	\$2.8493	\$2.8110	\$2.9250	\$2.9878
59	2015-08-28	\$2.7407	\$2.9473	\$0.2066	\$2.8822	\$2.7690	\$2.9000	\$2.9642
60	2015-08-29	\$2.7890	\$2.9963	\$0.2073	\$2.8868	\$2.7610	\$2.9620	\$3.0034
61	2015-08-30	\$2.7890	\$2.9963	\$0.2073	\$2.8868	\$2.7610	\$2.9620	\$3.0034
62	2015-08-31	\$2.7890	\$2.9963	\$0.2073	\$2.8868	\$2.7610	\$2.9620	\$3.0034
63	2015-09-01	\$2.7739	\$2.9644	\$0.1905	\$2.8043	\$2.7680	\$2.9560	\$3.0186
64	2015-09-02	\$2.8145	\$3.0038	\$0.1893	\$2.8646	\$2.8270	\$3.0140	\$3.0829
65	2015-09-03	\$2.8204	\$3.0118	\$0.1914	\$2.8636	\$2.7840	\$3.0150	\$3.0910
66	2015-09-04	\$2.7424	\$2.9324	\$0.1900	\$2.7102	\$2.7130	\$2.9320	\$3.0330
67	2015-09-05	\$2.6990	\$2.8899	\$0.1909	\$2.7186	\$2.7100	\$2.9540	\$3.0313
68	2015-09-06	\$2.6990	\$2.8899	\$0.1909	\$2.7186	\$2.7100	\$2.9540	\$3.0313
69	2015-09-07	\$2.6990	\$2.8899	\$0.1909	\$2.7186	\$2.7100	\$2.9540	\$3.0313
70	2015-09-08	\$2.6990	\$2.8899	\$0.1909	\$2.7186	\$2.7100	\$2.9540	\$3.0313
71	2015-09-09	\$2.7868	\$2.9774	\$0.1906	\$2.7874	\$2.7750	\$3.0130	\$3.0911
72	2015-09-10	\$2.7673	\$2.9577	\$0.1904	\$2.8406	\$2.7380	\$2.9860	\$3.0840

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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
73	2015-09-11	\$2.7531	\$2.9434	\$0.1903	\$2.7685	\$2.7070	\$2.9520	\$3.0397
74	2015-09-12	\$2.8318	\$3.0226	\$0.1908	\$2.7554	\$2.6910	\$2.9660	\$3.0506
75	2015-09-13	\$2.8318	\$3.0226	\$0.1908	\$2.7554	\$2.6910	\$2.9660	\$3.0506
76	2015-09-14	\$2.8318	\$3.0226	\$0.1908	\$2.7554	\$2.6910	\$2.9660	\$3.0506
77	2015-09-15	\$2.8812	\$3.0684	\$0.1872	\$2.8371	\$2.7370	\$3.0140	\$3.0953
78	2015-09-16	\$2.9339	\$3.1162	\$0.1823	\$2.8484	\$2.7830	\$3.0770	\$3.1490
79	2015-09-17	\$2.8541	\$3.0338	\$0.1797	\$2.8042	\$2.7040	\$3.0090	\$3.0991
80	2015-09-18	\$2.8273	\$3.0076	\$0.1803	\$2.7913	\$2.7120	\$3.0080	\$3.0748
81	2015-09-19	\$2.7451	\$2.9290	\$0.1839	\$2.7319	\$2.6120	\$2.9370	\$3.0460
82	2015-09-20	\$2.7451	\$2.9290	\$0.1839	\$2.7319	\$2.6120	\$2.9370	\$3.0460
83	2015-09-21	\$2.7451	\$2.9290	\$0.1839	\$2.7319	\$2.6120	\$2.9370	\$3.0460
84	2015-09-22	\$2.6974	\$2.8726	\$0.1752	\$2.7109	\$2.6630	\$2.8970	\$3.0150
85	2015-09-23	\$2.7428	\$2.9171	\$0.1743	\$2.7448	\$2.6420	\$2.8950	\$3.0023
86	2015-09-24	\$2.6794	\$2.8468	\$0.1674	\$2.7237	\$2.6480	\$2.9200	\$3.0089
87	2015-09-25	\$2.6540	\$2.8260	\$0.1720	\$2.6962	\$2.6070	\$2.8720	\$2.9864
88	2015-09-26	\$2.6535	\$2.8221	\$0.1686	\$2.6470	\$2.5860	\$2.8670	\$2.9576
89	2015-09-27	\$2.6535	\$2.8221	\$0.1686	\$2.6470	\$2.5860	\$2.8670	\$2.9576
90	2015-09-28	\$2.6535	\$2.8221	\$0.1686	\$2.6470	\$2.5860	\$2.8670	\$2.9576
91	2015-09-29	\$2.7489	\$2.9137	\$0.1648	\$2.7291	\$2.6620	\$2.9140	\$3.0121
92	2015-09-30	\$2.6838	\$2.8241	\$0.1403	\$2.6936	\$2.6310	\$2.8580	\$2.9482
93	2015-10-01	\$2.6451	\$2.8316	\$0.1865	\$2.6388	\$2.5640	\$2.7810	\$2.8688
94	2015-10-02	\$2.5363	\$2.7213	\$0.1850	\$2.5282	\$2.4570	\$2.6440	\$2.7101
95	2015-10-03	\$2.4954	\$2.6675	\$0.1721	\$2.2998	\$2.2660	\$2.4550	\$2.3883
96	2015-10-04	\$2.4954	\$2.6675	\$0.1721	\$2.2998	\$2.2660	\$2.4550	\$2.3883
97	2015-10-05	\$2.4954	\$2.6675	\$0.1721	\$2.2998	\$2.2660	\$2.4550	\$2.3883
98	2015-10-06	\$2.4727	\$2.6477	\$0.1750	\$2.5238	\$2.3420	\$2.4900	\$2.6309
99	2015-10-07	\$2.4725	\$2.6497	\$0.1772	\$2.5459	\$2.3640	\$2.5790	\$2.6887
100	2015-10-08	\$2.4940	\$2.6773	\$0.1833	\$2.5985	\$2.4540	\$2.6320	\$2.6858
101	2015-10-09	\$2.5006	\$2.6844	\$0.1838	\$2.5248	\$2.4430	\$2.5840	\$2.5977
102	2015-10-10	\$2.5047	\$2.6783	\$0.1736	\$2.4817	\$2.3580	\$2.5100	\$2.5611
103	2015-10-11	\$2.5047	\$2.6783	\$0.1736	\$2.4817	\$2.3580	\$2.5100	\$2.5611
104	2015-10-12	\$2.5047	\$2.6783	\$0.1736	\$2.4817	\$2.3580	\$2.5100	\$2.5611
105	2015-10-13	\$2.5228	\$2.7065	\$0.1837	\$2.5095	\$2.4940	\$2.5890	\$2.5755
106	2015-10-14	\$2.5575	\$2.7385	\$0.1810	\$2.4973	\$2.4750	\$2.5400	\$2.5591
107	2015-10-15	\$2.5410	\$2.7219	\$0.1809	\$2.5349	\$2.4790	\$2.5720	\$2.5770
108	2015-10-16	\$2.5702	\$2.7498	\$0.1796	\$2.5734	\$2.5380	\$2.5630	\$2.6208
109	2015-10-17	\$2.4465	\$2.6289	\$0.1824	\$2.5041	\$2.5380	\$2.5630	\$2.5973
110	2015-10-18	\$2.4465	\$2.6289	\$0.1824	\$2.5041	\$2.5380	\$2.5630	\$2.5973
111	2015-10-19	\$2.4465	\$2.6289	\$0.1824	\$2.5041	\$2.5380	\$2.5630	\$2.5973
112	2015-10-20	\$2.4670	\$2.6506	\$0.1836	\$2.5593	\$2.4260	\$2.6200	\$2.7002
113	2015-10-21	\$2.4825	\$2.6665	\$0.1840	\$2.6105	\$2.4330	\$2.6430	\$2.7730
114	2015-10-22	\$2.4254	\$2.6094	\$0.1840	\$2.5550	\$2.3420	\$2.6130	\$2.7113
115	2015-10-23	\$2.4297	\$2.6134	\$0.1837	\$2.6223	\$2.3630	\$2.6950	\$2.8359
116	2015-10-24	\$2.3870	\$2.5682	\$0.1812	\$2.5568	\$2.2920	\$2.6460	\$2.7430
117	2015-10-25	\$2.3870	\$2.5682	\$0.1812	\$2.5568	\$2.2920	\$2.6460	\$2.7430
118	2015-10-26	\$2.3870	\$2.5682	\$0.1812	\$2.5568	\$2.2920	\$2.6460	\$2.7430
119	2015-10-27	\$2.3633	\$2.5461	\$0.1828	\$2.5160	\$2.3030	\$2.5420	\$2.6850
120	2015-10-28	\$2.4465	\$2.6353	\$0.1888	\$2.4675	\$2.3470	\$2.4400	\$2.5808
121	2015-10-29	\$2.4607	\$2.6513	\$0.1906	\$2.4455	\$2.4400	\$2.4290	\$2.5479
122	2015-10-30	\$2.4796	\$2.6708	\$0.1912	\$2.4162	\$2.3290	\$2.4220	\$2.5194
123	2015-10-31	\$2.4796	\$2.6708	\$0.1912	\$2.4162	\$2.3290	\$2.4220	\$2.5194
124	2015-11-01	\$2.2948	\$2.3837	\$0.0889	\$2.1735	\$2.3290	\$2.4220	\$2.3194
125	2015-11-02	\$2.2948	\$2.3837	\$0.0889	\$2.1735	\$2.0490	\$2.1750	\$2.3194
126	2015-11-03	\$2.2923	\$2.3318	\$0.0395	\$2.1246	\$1.9550	\$2.1770	\$2.3019
127	2015-11-04	\$2.4188	\$2.4337	\$0.0149	\$2.1842	\$1.9500	\$2.2600	\$2.3432
128	2015-11-05	\$2.4653	\$2.4970	\$0.0317	\$2.3225	\$2.1800	\$2.4280	\$2.4660
129	2015-11-06	\$2.4642	\$2.4975	\$0.0333	\$2.3132	\$2.2370	\$2.3100	\$2.4289
130	2015-11-07	\$2.4139	\$2.4473	\$0.0334	\$2.1569	\$2.1490	\$2.1800	\$2.2078
131	2015-11-08	\$2.4139	\$2.4473	\$0.0334	\$2.1569	\$2.1490	\$2.1800	\$2.2078
132	2015-11-09	\$2.4139	\$2.4473	\$0.0334	\$2.1569	\$2.1490	\$2.1800	\$2.2078
133	2015-11-10	\$2.3768	\$2.4137	\$0.0369	\$2.1468	\$2.1500	\$2.1620	\$2.2280
134	2015-11-11	\$2.4146	\$2.4449	\$0.0303	\$2.1295	\$2.1720	\$2.1870	\$2.2054
135	2015-11-12	\$2.3984	\$2.4368	\$0.0384	\$2.1040	\$2.1600	\$2.1530	\$2.1640
136	2015-11-13	\$2.3759	\$2.4024	\$0.0265	\$2.0722	\$2.0970	\$2.1260	\$2.1157
137	2015-11-14	\$2.4139	\$2.4359	\$0.0220	\$2.0903	\$2.0770	\$2.1200	\$2.1310
138	2015-11-15	\$2.4139	\$2.4359	\$0.0220	\$2.0903	\$2.0770	\$2.1200	\$2.1310
139	2015-11-16	\$2.4139	\$2.4359	\$0.0220	\$2.0903	\$2.0770	\$2.1200	\$2.1310
140	2015-11-17	\$2.4644	\$2.4829	\$0.0185	\$2.1031	\$2.1420	\$2.1380	\$2.1828
141	2015-11-18	\$2.4539	\$2.4631	\$0.0092	\$2.0735	\$2.0640	\$2.1140	\$2.1570
142	2015-11-19	\$2.4857	\$2.5105	\$0.0248	\$2.1792	\$2.2130	\$2.1930	\$2.2145
143	2015-11-20	\$2.5182	\$2.5576	\$0.0394	\$2.2472	\$2.2660	\$2.2180	\$2.2913
144	2015-11-21	\$2.4443	\$2.4890	\$0.0447	\$2.2713	\$2.2950	\$2.2680	\$2.2926

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145	2015-11-22	\$2.4443	\$2.4890	\$0.0447	\$2.2713	\$2.2950	\$2.2680	\$2.2926
146	2015-11-23	\$2.4443	\$2.4890	\$0.0447	\$2.2713	\$2.2950	\$2.2680	\$2.2926
147	2015-11-24	\$2.4498	\$2.4933	\$0.0435	\$2.2284	\$2.2520	\$2.2650	\$2.3030
148	2015-11-25	\$2.3780	\$2.4586	\$0.0806	\$2.1967	\$2.1410	\$2.2050	\$2.2727
149	2015-11-26	\$2.3121	\$2.3803	\$0.0682	\$2.0406	\$2.0450	\$2.0600	\$2.1252
150	2015-11-27	\$2.3121	\$2.3803	\$0.0682	\$2.0406	\$2.0450	\$2.0600	\$2.1252
151	2015-11-28	\$2.3121	\$2.3803	\$0.0682	\$2.0406	\$2.0450	\$2.0600	\$2.1252
152	2015-11-29	\$2.3121	\$2.3803	\$0.0682	\$2.0406	\$2.0450	\$2.0600	\$2.1252
153	2015-11-30	\$2.3121	\$2.3803	\$0.0682	\$2.0406	\$2.0450	\$2.0600	\$2.1252
154	2015-12-01	\$2.3001	\$2.4843	\$0.1842	\$2.2020	\$2.2540	\$2.2300	\$2.2774
155	2015-12-02	\$2.2947	\$2.4776	\$0.1829	\$2.2171	\$2.2410	\$2.2470	\$2.2779
156	2015-12-03	\$2.1817	\$2.3555	\$0.1738	\$2.1791	\$2.2000	\$2.2230	\$2.2565
157	2015-12-04	\$2.1140	\$2.2845	\$0.1705	\$2.0928	\$2.1160	\$2.1410	\$2.1746
158	2015-12-05	\$2.0937	\$2.3251	\$0.2314	\$2.0698	\$2.1170	\$2.1230	\$2.1302
159	2015-12-06	\$2.0937	\$2.3251	\$0.2314	\$2.0698	\$2.1170	\$2.1230	\$2.1302
160	2015-12-07	\$2.0937	\$2.3251	\$0.2314	\$2.0698	\$2.1170	\$2.1230	\$2.1302
161	2015-12-08	\$2.0883	\$2.3277	\$0.2394	\$2.0564	\$2.0510	\$2.0790	\$2.0993
162	2015-12-09	\$2.1086	\$2.3120	\$0.2034	\$1.9670	\$1.9980	\$2.0280	\$2.0350
163	2015-12-10	\$2.1413	\$2.3385	\$0.1972	\$1.9720	\$2.0330	\$2.0180	\$2.0272
164	2015-12-11	\$2.1175	\$2.2626	\$0.1451	\$1.8831	\$1.9500	\$1.9320	\$1.9427
165	2015-12-12	\$2.0775	\$2.1436	\$0.0661	\$1.7210	\$1.7340	\$1.7630	\$1.7806
166	2015-12-13	\$2.0775	\$2.1436	\$0.0661	\$1.7210	\$1.7340	\$1.7630	\$1.7806
167	2015-12-14	\$2.0775	\$2.1436	\$0.0661	\$1.7210	\$1.7340	\$1.7630	\$1.7806
168	2015-12-15	\$2.0675	\$2.1315	\$0.0640	\$1.7307	\$1.7070	\$1.6770	\$1.7319
169	2015-12-16	\$2.0972	\$2.1144	\$0.0172	\$1.6776	\$1.7730	\$1.6920	\$1.7188
170	2015-12-17	\$2.1705	\$2.2099	\$0.0394	\$1.8313	\$1.8440	\$1.8210	\$1.8322
171	2015-12-18	\$2.1581	\$2.2012	\$0.0431	\$1.8363	\$1.9260	\$1.8500	\$1.8625
172	2015-12-19	\$2.1570	\$2.1930	\$0.0360	\$1.7881	\$1.7840	\$1.8170	\$1.8283
173	2015-12-20	\$2.1570	\$2.1930	\$0.0360	\$1.7881	\$1.7840	\$1.8170	\$1.8283
174	2015-12-21	\$2.1570	\$2.1930	\$0.0360	\$1.7881	\$1.7840	\$1.8170	\$1.8283
175	2015-12-22	\$2.1933	\$2.2183	\$0.0250	\$1.7965	\$1.8390	\$1.8510	\$1.8422
176	2015-12-23	\$2.1453	\$2.1750	\$0.0297	\$1.7824	\$1.8030	\$1.8010	\$1.8348
177	2015-12-24	\$2.1501	\$2.1606	\$0.0105	\$1.7194	\$1.6930	\$1.6930	\$1.7397
178	2015-12-25	\$2.1214	\$2.1274	\$0.0060	\$1.6790	\$1.6650	\$1.7130	\$1.7130
179	2015-12-26	\$2.1214	\$2.1274	\$0.0060	\$1.6790	\$1.6650	\$1.7130	\$1.7130
180	2015-12-27	\$2.1214	\$2.1274	\$0.0060	\$1.6790	\$1.6650	\$1.7130	\$1.7130
181	2015-12-28	\$2.1214	\$2.1274	\$0.0060	\$1.6790	\$1.6650	\$1.7130	\$1.7130
182	2015-12-29	\$2.2502	\$2.2560	\$0.0058	\$2.2703	\$2.2610	\$2.2780	\$2.2925
183	2015-12-30	\$2.4533	\$2.6029	\$0.1496	\$2.5682	\$2.5190	\$2.5180	\$2.5607
184	2015-12-31	\$2.3606	\$2.5378	\$0.1772	\$2.3618	\$2.3550	\$2.3640	\$2.3933
185	2016-01-01	\$2.3412	\$2.5323	\$0.1911	\$2.4289	\$2.4580	\$2.3980	\$2.4764
186	2016-01-02	\$2.3412	\$2.5323	\$0.1911	\$2.4289	\$2.4580	\$2.3980	\$2.4764
187	2016-01-03	\$2.3412	\$2.5323	\$0.1911	\$2.4289	\$2.4580	\$2.3980	\$2.4764
188	2016-01-04	\$2.3412	\$2.5323	\$0.1911	\$2.4289	\$2.4580	\$2.3980	\$2.4764
189	2016-01-05	\$2.3363	\$2.5220	\$0.1857	\$2.4807	\$2.4710	\$2.4660	\$2.5386
190	2016-01-06	\$2.2778	\$2.4406	\$0.1628	\$2.3537	\$2.3570	\$2.3980	\$2.4483
191	2016-01-07	\$2.4045	\$2.5502	\$0.1457	\$2.3849	\$2.4180	\$2.4280	\$2.4726
192	2016-01-08	\$2.4023	\$2.5237	\$0.1214	\$2.3965	\$2.4190	\$2.4200	\$2.4667
193	2016-01-09	\$2.4136	\$2.5850	\$0.1714	\$2.6027	\$2.5930	\$2.5180	\$2.5906
194	2016-01-10	\$2.4136	\$2.5850	\$0.1714	\$2.6027	\$2.5930	\$2.5180	\$2.5906
195	2016-01-11	\$2.4136	\$2.5850	\$0.1714	\$2.6027	\$2.5930	\$2.5180	\$2.5906
196	2016-01-12	\$2.3914	\$2.5783	\$0.1869	\$2.6290	\$2.5670	\$2.5400	\$2.5834
197	2016-01-13	\$2.2954	\$2.4616	\$0.1662	\$2.4022	\$2.4070	\$2.4030	\$2.4285
198	2016-01-14	\$2.3189	\$2.4850	\$0.1661	\$2.3090	\$2.3150	\$2.3600	\$2.3740
199	2016-01-15	\$2.3018	\$2.4666	\$0.1648	\$2.3066	\$2.2970	\$2.3210	\$2.3125
200	2016-01-16	\$2.2696	\$2.4450	\$0.1754	\$2.3966	\$2.3310	\$2.2780	\$2.2997
201	2016-01-17	\$2.2696	\$2.4450	\$0.1754	\$2.3966	\$2.3310	\$2.2780	\$2.2997
202	2016-01-18	\$2.2696	\$2.4450	\$0.1754	\$2.3966	\$2.3310	\$2.2780	\$2.2997
203	2016-01-19	\$2.2696	\$2.4450	\$0.1754	\$2.3966	\$2.3310	\$2.2780	\$2.2997
204	2016-01-20	\$2.2258	\$2.3913	\$0.1655	\$2.2868	\$2.2840	\$2.2530	\$2.2876
205	2016-01-21	\$2.1992	\$2.3782	\$0.1790	\$2.1548	\$2.2060	\$2.2110	\$2.2275
206	2016-01-22	\$2.2115	\$2.3855	\$0.1740	\$2.1974	\$2.2480	\$2.2560	\$2.2647
207	2016-01-23	\$2.1548	\$2.3482	\$0.1934	\$2.1611	\$2.2000	\$2.2070	\$2.2527
208	2016-01-24	\$2.1548	\$2.3482	\$0.1934	\$2.1611	\$2.2000	\$2.2070	\$2.2527
209	2016-01-25	\$2.1548	\$2.3482	\$0.1934	\$2.1611	\$2.2970	\$2.3210	\$2.2527
210	2016-01-26	\$2.1311	\$2.3311	\$0.2000	\$2.1410	\$2.1710	\$2.1920	\$2.2222
211	2016-01-27	\$2.1544	\$2.3649	\$0.2105	\$2.1880	\$2.2230	\$2.2300	\$2.2828
212	2016-01-28	\$2.1213	\$2.3239	\$0.2026	\$2.1937	\$2.2250	\$2.2360	\$2.2876
213	2016-01-29	\$2.0172	\$2.2124	\$0.1952	\$2.1088	\$2.1270	\$2.1220	\$2.1989
214	2016-01-30	\$2.0172	\$2.2124	\$0.1952	\$2.1088	\$2.2910	\$2.3110	\$2.1989
215	2016-01-31	\$2.0172	\$2.2124	\$0.1952	\$2.1088	\$2.2910	\$2.3110	\$2.1989
216	2016-02-01	\$2.1488	\$2.3413	\$0.1925	\$2.2629	\$2.2910	\$2.3110	\$2.3100

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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
217	2016-02-02	\$1.9891	\$2.1704	\$0.1813	\$2.1605	\$2.1950	\$2.1980	\$2.2299
218	2016-02-03	\$1.9017	\$2.0738	\$0.1721	\$2.0315	\$2.0610	\$2.0700	\$2.0791
219	2016-02-04	\$1.9015	\$2.0774	\$0.1759	\$2.0419	\$2.0750	\$2.0840	\$2.0877
220	2016-02-05	\$1.8221	\$2.0103	\$0.1882	\$2.0277	\$2.0540	\$2.0660	\$2.0807
221	2016-02-06	\$1.8442	\$2.0336	\$0.1894	\$2.0558	\$2.0890	\$2.1060	\$2.1309
222	2016-02-07	\$1.8442	\$2.0336	\$0.1894	\$2.0558	\$2.0890	\$2.1060	\$2.1309
223	2016-02-08	\$1.8442	\$2.0336	\$0.1894	\$2.0558	\$2.0890	\$2.1060	\$2.1309
224	2016-02-09	\$1.9908	\$2.1906	\$0.1998	\$2.2763	\$2.2680	\$2.2780	\$2.2774
225	2016-02-10	\$1.9274	\$2.1187	\$0.1913	\$2.2119	\$2.2340	\$2.2180	\$2.2219
226	2016-02-11	\$1.8647	\$2.0329	\$0.1682	\$2.1668	\$2.1680	\$2.1680	\$2.1734
227	2016-02-12	\$1.8711	\$2.0375	\$0.1664	\$2.1959	\$2.1810	\$2.1710	\$2.1729
228	2016-02-13	\$1.7886	\$1.9592	\$0.1706	\$2.1445	\$2.0530	\$2.0780	\$2.0758
229	2016-02-14	\$1.7886	\$1.9592	\$0.1706	\$2.1445	\$2.0530	\$2.0780	\$2.0758
230	2016-02-15	\$1.7886	\$1.9592	\$0.1706	\$2.1445	\$2.0530	\$2.0780	\$2.0758
231	2016-02-16	\$1.7886	\$1.9592	\$0.1706	\$2.1445	\$2.0530	\$2.0780	\$2.0758
232	2016-02-17	\$1.6887	\$1.8591	\$0.1704	\$1.8984	\$1.9070	\$1.9590	\$1.9833
233	2016-02-18	\$1.6959	\$1.8544	\$0.1585	\$1.8908	\$1.9040	\$1.9720	\$1.9846
234	2016-02-19	\$1.6573	\$1.8005	\$0.1432	\$1.8993	\$1.9400	\$1.9410	\$1.9849
235	2016-02-20	\$1.6210	\$1.7258	\$0.1048	\$1.8770	\$1.9170	\$1.9100	\$1.9404
236	2016-02-21	\$1.6210	\$1.7258	\$0.1048	\$1.8770	\$1.9170	\$1.9100	\$1.9404
237	2016-02-22	\$1.6210	\$1.7258	\$0.1048	\$1.8770	\$1.9170	\$1.9100	\$1.9404
238	2016-02-23	\$1.5109	\$1.6246	\$0.1137	\$1.8413	\$1.8720	\$1.8920	\$1.9346
239	2016-02-24	\$1.4972	\$1.5933	\$0.0961	\$1.8411	\$1.8530	\$1.8850	\$1.9164
240	2016-02-25	\$1.4605	\$1.5559	\$0.0954	\$1.7802	\$1.7980	\$1.8210	\$1.8507
241	2016-02-26	\$1.4192	\$1.5204	\$0.1012	\$1.7372	\$1.7640	\$1.7870	\$1.8213
242	2016-02-27	\$1.3132	\$1.3512	\$0.0380	\$1.6866	\$1.7380	\$1.7170	\$1.7635
243	2016-02-28	\$1.3132	\$1.3512	\$0.0380	\$1.6866	\$1.7380	\$1.7170	\$1.7635
244	2016-02-29	\$1.3132	\$1.3512	\$0.0380	\$1.6866	\$1.7380	\$1.7170	\$1.7635
245	2016-03-01	\$1.2585	\$1.2902	\$0.0317	\$1.7296	\$1.6520	\$1.6980	\$1.7306
246	2016-03-02	\$1.2461	\$1.2704	\$0.0243	\$1.7813	\$1.7130	\$1.7440	\$1.7723
247	2016-03-03	\$1.2510	\$1.2772	\$0.0262	\$1.7680	\$1.6880	\$1.7430	\$1.7828
248	2016-03-04	\$1.2317	\$1.2536	\$0.0219	\$1.6947	\$1.6700	\$1.6910	\$1.7254
249	2016-03-05	\$1.1571	\$1.1768	\$0.0197	\$1.6422	\$1.6790	\$1.6520	\$1.7173
250	2016-03-06	\$1.1571	\$1.1768	\$0.0197	\$1.6422	\$1.6790	\$1.6520	\$1.7173
251	2016-03-07	\$1.1571	\$1.1768	\$0.0197	\$1.6422	\$1.6790	\$1.6520	\$1.7173
252	2016-03-08	\$1.2035	\$1.2221	\$0.0186	\$1.6277	\$1.7160	\$1.6650	\$1.7230
253	2016-03-09	\$1.2185	\$1.2361	\$0.0176	\$1.6442	\$1.7640	\$1.6890	\$1.7325
254	2016-03-10	\$1.2382	\$1.2529	\$0.0147	\$1.7192	\$1.8230	\$1.7230	\$1.7746
255	2016-03-11	\$1.2626	\$1.2789	\$0.0163	\$1.7693	\$1.8240	\$1.7800	\$1.8411
256	2016-03-12	\$1.3421	\$1.3614	\$0.0193	\$1.8121	\$1.8550	\$1.8070	\$1.8988
257	2016-03-13	\$1.3421	\$1.3614	\$0.0193	\$1.8121	\$1.8550	\$1.8070	\$1.8988
258	2016-03-14	\$1.3421	\$1.3614	\$0.0193	\$1.8121	\$1.8550	\$1.8070	\$1.8988
259	2016-03-15	\$1.3308	\$1.3442	\$0.0134	\$1.7851	\$1.8460	\$1.7940	\$1.8855
260	2016-03-16	\$1.4192	\$1.4335	\$0.0143	\$1.8602	\$1.9360	\$1.8940	\$1.9469
261	2016-03-17	\$1.4215	\$1.4339	\$0.0124	\$1.8270	\$1.9370	\$1.8310	\$1.9020
262	2016-03-18	\$1.4349	\$1.4476	\$0.0127	\$1.9251	\$1.9700	\$1.9000	\$1.9655
263	2016-03-19	\$1.4279	\$1.4449	\$0.0170	\$1.9413	\$1.9890	\$1.9430	\$2.0248
264	2016-03-20	\$1.4279	\$1.4449	\$0.0170	\$1.9413	\$1.9890	\$1.9430	\$2.0248
265	2016-03-21	\$1.4279	\$1.4449	\$0.0170	\$1.9413	\$1.9890	\$1.9430	\$2.0248
266	2016-03-22	\$1.3001	\$1.3226	\$0.0225	\$1.8721	\$1.9910	\$1.8990	\$1.9652
267	2016-03-23	\$1.3177	\$1.3427	\$0.0250	\$1.8642	\$1.9230	\$1.9090	\$1.9528
268	2016-03-24	\$1.3509	\$1.3837	\$0.0328	\$1.8718	\$1.9370	\$1.9330	\$1.9581
269	2016-03-25	\$1.2434	\$1.3056	\$0.0622	\$1.7526	\$1.8350	\$1.8120	\$1.8541
270	2016-03-26	\$1.2434	\$1.3056	\$0.0622	\$1.7526	\$1.8350	\$1.8120	\$1.8541
271	2016-03-27	\$1.2434	\$1.3056	\$0.0622	\$1.7526	\$1.8350	\$1.8120	\$1.8541
272	2016-03-28	\$1.2434	\$1.3056	\$0.0622	\$1.7526	\$1.8350	\$1.8120	\$1.8541
273	2016-03-29	\$1.2215	\$1.2627	\$0.0412	\$1.7676	\$1.8380	\$1.8050	\$1.8687
274	2016-03-30	\$1.1865	\$1.2115	\$0.0250	\$1.7568	\$1.8520	\$1.8130	\$1.9056
275	2016-03-31	\$1.1162	\$1.1472	\$0.0310	\$1.7988	\$1.9830	\$1.9110	\$1.9538
276	2016-04-01	\$0.9186	\$1.1044	\$0.1858	\$1.8959	\$1.9820	\$1.9450	\$1.9727
277	2016-04-02	\$0.9143	\$1.1108	\$0.1965	\$1.7938	\$1.9270	\$1.9010	\$1.9307
278	2016-04-03	\$0.9143	\$1.1108	\$0.1965	\$1.7938	\$1.9270	\$1.9010	\$1.9307
279	2016-04-04	\$0.9143	\$1.1108	\$0.1965	\$1.7938	\$1.9270	\$1.9010	\$1.9307
280	2016-04-05	\$1.0297	\$1.2260	\$0.1963	\$1.9886	\$2.0370	\$2.0200	\$2.0841
281	2016-04-06	\$1.0239	\$1.2146	\$0.1907	\$1.9411	\$1.9570	\$1.9920	\$2.0436
282	2016-04-07	\$0.9058	\$1.0935	\$0.1877	\$1.8755	\$1.9220	\$1.9300	\$1.9832
283	2016-04-08	\$0.9677	\$1.1600	\$0.1923	\$1.9404	\$1.9530	\$1.9770	\$2.0305
284	2016-04-09	\$1.0697	\$1.2697	\$0.2000	\$1.9677	\$1.9870	\$2.0220	\$2.0611
285	2016-04-10	\$1.0697	\$1.2697	\$0.2000	\$1.9677	\$1.9870	\$2.0220	\$2.0611
286	2016-04-11	\$1.0697	\$1.2697	\$0.2000	\$1.9677	\$1.9870	\$2.0220	\$2.0611
287	2016-04-12	\$1.0211	\$1.2176	\$0.1965	\$1.8703	\$1.9100	\$1.9300	\$1.9507
288	2016-04-13	\$1.0325	\$1.2246	\$0.1921	\$1.8848	\$1.9060	\$1.9680	\$1.9933

Centra Gas Manitoba Inc.
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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
289	2016-04-14	\$1.0606	\$1.2480	\$0.1874	\$1.9104	\$1.9220	\$1.9990	\$2.0390
290	2016-04-15	\$0.9884	\$1.1744	\$0.1860	\$1.8257	\$1.8710	\$1.9350	\$2.0023
291	2016-04-16	\$0.8910	\$1.0833	\$0.1923	\$1.6673	\$1.6960	\$1.9010	\$1.9239
292	2016-04-17	\$0.8910	\$1.0833	\$0.1923	\$1.6673	\$1.6960	\$1.9010	\$1.9239
293	2016-04-18	\$0.8910	\$1.0833	\$0.1923	\$1.6673	\$1.6960	\$1.9010	\$1.9239
294	2016-04-19	\$0.8823	\$1.0298	\$0.1475	\$1.6176	\$1.7270	\$1.9560	\$2.0023
295	2016-04-20	\$1.0337	\$1.1961	\$0.1624	\$1.7788	\$1.9330	\$2.1060	\$2.1546
296	2016-04-21	\$1.1313	\$1.2881	\$0.1568	\$1.8142	\$1.9760	\$2.0670	\$2.1468
297	2016-04-22	\$1.1131	\$1.2468	\$0.1337	\$1.9086	\$1.9600	\$2.0550	\$2.1435
298	2016-04-23	\$1.0703	\$1.2167	\$0.1464	\$1.9340	\$1.8770	\$2.0490	\$2.1149
299	2016-04-24	\$1.0703	\$1.2167	\$0.1464	\$1.9340	\$1.8770	\$2.0490	\$2.1149
300	2016-04-25	\$1.0703	\$1.2167	\$0.1464	\$1.9340	\$1.8770	\$2.0490	\$2.1149
301	2016-04-26	\$1.1626	\$1.3281	\$0.1655	\$1.9465	\$1.9420	\$2.0570	\$2.1517
302	2016-04-27	\$1.1296	\$1.2567	\$0.1271	\$1.8997	\$1.9200	\$2.0170	\$2.1141
303	2016-04-28	\$1.1320	\$1.2050	\$0.0730	\$1.8920	\$1.9280	\$2.0010	\$2.1001
304	2016-04-29	\$1.1413	\$1.2471	\$0.1058	\$1.8525	\$1.9450	\$2.0270	\$2.0963
305	2016-04-30	\$1.1413	\$1.2471	\$0.1058	\$1.8525	\$1.9330	\$2.0030	\$2.0963
306	2016-05-01	\$1.1201	\$1.2911	\$0.1710	\$1.9009	\$1.9330	\$2.0030	\$2.0952
307	2016-05-02	\$1.1201	\$1.2911	\$0.1710	\$1.9009	\$1.9330	\$2.0030	\$2.0952
308	2016-05-03	\$1.1218	\$1.3004	\$0.1786	\$1.9514	\$1.9820	\$2.0220	\$2.1257
309	2016-05-04	\$1.2035	\$1.3724	\$0.1689	\$1.9652	\$2.0680	\$2.0550	\$2.1503
310	2016-05-05	\$1.3644	\$1.5166	\$0.1522	\$2.0275	\$2.0940	\$2.1460	\$2.2304
311	2016-05-06	\$1.3011	\$1.3993	\$0.0982	\$1.9141	\$2.0120	\$2.0860	\$2.1934
312	2016-05-07	\$1.1051	\$1.1820	\$0.0769	\$1.8324	\$1.8680	\$2.0000	\$2.1336
313	2016-05-08	\$1.1051	\$1.1820	\$0.0769	\$1.8324	\$1.8680	\$2.0000	\$2.1336
314	2016-05-09	\$1.1051	\$1.1820	\$0.0769	\$1.8324	\$1.8680	\$2.0000	\$2.1336
315	2016-05-10	\$0.6811	\$0.7760	\$0.0949	\$1.6703	\$1.9600	\$2.0340	\$2.1070
316	2016-05-11	\$0.8880	\$0.9600	\$0.0720	\$1.8257	\$2.0170	\$2.0750	\$2.1524
317	2016-05-12	\$1.3566	\$1.4225	\$0.0659	\$1.9080	\$2.0160	\$2.0240	\$2.1079
318	2016-05-13	\$1.3492	\$1.4158	\$0.0666	\$1.9042	\$2.0300	\$2.0390	\$2.0914
319	2016-05-14	\$1.2312	\$1.3059	\$0.0747	\$1.8740	\$1.9690	\$2.0110	\$2.0567
320	2016-05-15	\$1.2312	\$1.3059	\$0.0747	\$1.8740	\$1.9690	\$2.0110	\$2.0567
321	2016-05-16	\$1.2312	\$1.3059	\$0.0747	\$1.8740	\$1.9690	\$2.0110	\$2.0567
322	2016-05-17	\$1.1591	\$1.2098	\$0.0507	\$1.7895	\$1.8990	\$1.9070	\$1.9413
323	2016-05-18	\$1.0764	\$1.1246	\$0.0482	\$1.7931	\$1.9520	\$1.9280	\$1.9548
324	2016-05-19	\$0.9375	\$1.0032	\$0.0657	\$1.8804	\$1.8280	\$1.8210	\$1.8308
325	2016-05-20	\$1.1815	\$1.2407	\$0.0592	\$1.6570	\$1.7700	\$1.8010	\$1.8176
326	2016-05-21	\$1.2388	\$1.3042	\$0.0654	\$1.6644	\$1.7610	\$1.7750	\$1.8128
327	2016-05-22	\$1.2388	\$1.3042	\$0.0654	\$1.6644	\$1.7610	\$1.7750	\$1.8128
328	2016-05-23	\$1.2388	\$1.3042	\$0.0654	\$1.6644	\$1.7610	\$1.7750	\$1.8128
329	2016-05-24	\$1.4530	\$1.5021	\$0.0491	\$1.7163	\$1.8840	\$1.9140	\$1.9200
330	2016-05-25	\$1.3345	\$1.3756	\$0.0411	\$1.6340	\$1.8710	\$1.8720	\$1.8998
331	2016-05-26	\$1.1661	\$1.2019	\$0.0358	\$1.6250	\$1.7650	\$1.8180	\$1.8403
332	2016-05-27	\$1.1683	\$1.1953	\$0.0270	\$1.6259	\$1.8000	\$1.8170	\$1.8391
333	2016-05-28	\$1.1857	\$1.2233	\$0.0376	\$1.6961	\$1.8670	\$1.8860	\$1.8988
334	2016-05-29	\$1.1857	\$1.2233	\$0.0376	\$1.6961	\$1.8670	\$1.8860	\$1.8988
335	2016-05-30	\$1.1857	\$1.2233	\$0.0376	\$1.6961	\$1.8670	\$1.8860	\$1.8988
336	2016-05-31	\$1.1857	\$1.2233	\$0.0376	\$1.6961	\$1.8670	\$1.8860	\$1.8988
337	2016-06-01	\$1.4330	\$1.5729	\$0.1399	\$1.8774	\$2.0510	\$2.0630	\$2.0697
338	2016-06-02	\$1.6516	\$1.7921	\$0.1405	\$2.0140	\$2.2500	\$2.2200	\$2.1959
339	2016-06-03	\$1.5355	\$1.6723	\$0.1368	\$1.9669	\$2.1920	\$2.2140	\$2.2137
340	2016-06-04	\$1.5007	\$1.6794	\$0.1787	\$2.0088	\$2.1970	\$2.2060	\$2.2348
341	2016-06-05	\$1.5007	\$1.6794	\$0.1787	\$2.0088	\$2.1970	\$2.2060	\$2.2348
342	2016-06-06	\$1.5007	\$1.6794	\$0.1787	\$2.0088	\$2.1970	\$2.2060	\$2.2348
343	2016-06-07	\$1.6474	\$1.8589	\$0.2115	\$2.0763	\$2.2350	\$2.2340	\$2.2484
344	2016-06-08	\$1.6362	\$1.8295	\$0.1933	\$2.0595	\$2.2220	\$2.2250	\$2.2491
345	2016-06-09	\$1.4889	\$1.6766	\$0.1877	\$2.1137	\$2.2580	\$2.2610	\$2.2742
346	2016-06-10	\$1.2835	\$1.4439	\$0.1604	\$2.0450	\$2.2460	\$2.2490	\$2.2569
347	2016-06-11	\$1.2165	\$1.3945	\$0.1780	\$2.0512	\$2.3770	\$2.3600	\$2.3667
348	2016-06-12	\$1.2165	\$1.3945	\$0.1780	\$2.0512	\$2.3770	\$2.3600	\$2.3667
349	2016-06-13	\$1.2165	\$1.3945	\$0.1780	\$2.0512	\$2.3770	\$2.3600	\$2.3667
350	2016-06-14	\$1.6116	\$1.8182	\$0.2066	\$2.2328	\$2.4730	\$2.4760	\$2.4680
351	2016-06-15	\$1.5740	\$1.7377	\$0.1637	\$2.2199	\$2.4740	\$2.4650	\$2.4642
352	2016-06-16	\$1.7189	\$1.8471	\$0.1282	\$2.2965	\$2.5360	\$2.5320	\$2.5291
353	2016-06-17	\$1.7300	\$1.8493	\$0.1193	\$2.2632	\$2.4930	\$2.4920	\$2.4987
354	2016-06-18	\$1.7620	\$1.9798	\$0.2178	\$2.2981	\$2.5430	\$2.5140	\$2.5246
355	2016-06-19	\$1.7620	\$1.9798	\$0.2178	\$2.2981	\$2.5430	\$2.5140	\$2.5246
356	2016-06-20	\$1.7620	\$1.9798	\$0.2178	\$2.2981	\$2.5430	\$2.5140	\$2.5246
357	2016-06-21	\$1.8143	\$2.0235	\$0.2092	\$2.4392	\$2.6610	\$2.6730	\$2.6755
358	2016-06-22	\$1.9238	\$2.1264	\$0.2026	\$2.4776	\$2.7400	\$2.7360	\$2.7422
359	2016-06-23	\$2.0664	\$2.2454	\$0.1790	\$2.5191	\$2.7300	\$2.7370	\$2.7389
360	2016-06-24	\$2.0745	\$2.2206	\$0.1461	\$2.4022	\$2.6250	\$2.6130	\$2.6338

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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
361	2016-06-25	\$2.2353	\$2.3793	\$0.1440	\$2.3625	\$2.5990	\$2.6160	\$2.6309
362	2016-06-26	\$2.2353	\$2.3793	\$0.1440	\$2.3625	\$2.5990	\$2.6160	\$2.6309
363	2016-06-27	\$2.2353	\$2.3793	\$0.1440	\$2.3625	\$2.5990	\$2.6160	\$2.6309
364	2016-06-28	\$2.2160	\$2.4297	\$0.2137	\$2.4776	\$2.7030	\$2.6930	\$2.7032
365	2016-06-29	\$2.2916	\$2.5236	\$0.2320	\$2.5708	\$2.8010	\$2.7980	\$2.8017
366	2016-06-30	\$2.3806	\$2.6079	\$0.2273	\$2.6254	\$2.8620	\$2.8760	\$2.8645
367	2016-07-01	\$2.3023	\$2.4561	\$0.1538	\$2.5797	\$2.7970	\$2.8130	\$2.8185
368	2016-07-02	\$2.3071	\$2.4629	\$0.1558	\$2.5072	\$2.7500	\$2.7460	\$2.7807
369	2016-07-03	\$2.3071	\$2.4629	\$0.1558	\$2.5072	\$2.7500	\$2.7460	\$2.7807
370	2016-07-04	\$2.3071	\$2.4629	\$0.1558	\$2.5072	\$2.7500	\$2.7460	\$2.7807
371	2016-07-05	\$2.3071	\$2.4629	\$0.1558	\$2.5072	\$2.7500	\$2.7460	\$2.7807
372	2016-07-06	\$2.1780	\$2.2995	\$0.1215	\$2.5231	\$2.7240	\$2.7300	\$2.7878
373	2016-07-07	\$2.1560	\$2.2249	\$0.0689	\$2.4447	\$2.6500	\$2.6280	\$2.7087
374	2016-07-08	\$2.2364	\$2.2958	\$0.0594	\$2.5567	\$2.7890	\$2.7740	\$2.7879
375	2016-07-09	\$2.1856	\$2.2361	\$0.0505	\$2.4535	\$2.6590	\$2.6390	\$2.7055
376	2016-07-10	\$2.1856	\$2.2361	\$0.0505	\$2.4535	\$2.6590	\$2.6390	\$2.7055
377	2016-07-11	\$2.1856	\$2.2361	\$0.0505	\$2.4535	\$2.6590	\$2.6390	\$2.7055
378	2016-07-12	\$2.2897	\$2.3586	\$0.0689	\$2.5578	\$2.7770	\$2.7540	\$2.7594
379	2016-07-13	\$2.1970	\$2.2653	\$0.0683	\$2.5052	\$2.7160	\$2.6820	\$2.6837
380	2016-07-14	\$2.2432	\$2.3034	\$0.0602	\$2.5706	\$2.7480	\$2.7220	\$2.7224
381	2016-07-15	\$2.1771	\$2.2170	\$0.0399	\$2.5188	\$2.7290	\$2.6830	\$2.6944
382	2016-07-16	\$2.0950	\$2.1712	\$0.0762	\$2.4522	\$2.6260	\$2.6110	\$2.6201
383	2016-07-17	\$2.0950	\$2.1712	\$0.0762	\$2.4522	\$2.6260	\$2.6110	\$2.6201
384	2016-07-18	\$2.0950	\$2.1712	\$0.0762	\$2.4522	\$2.6260	\$2.6110	\$2.6201
385	2016-07-19	\$2.2916	\$2.5364	\$0.2448	\$2.5461	\$2.8240	\$2.7410	\$2.7412
386	2016-07-20	\$2.3625	\$2.5712	\$0.2087	\$2.5161	\$2.7730	\$2.7220	\$2.7239
387	2016-07-21	\$2.2588	\$2.4400	\$0.1812	\$2.4698	\$2.7260	\$2.6250	\$2.6391
388	2016-07-22	\$2.2721	\$2.4097	\$0.1376	\$2.4878	\$2.7330	\$2.6270	\$2.6204
389	2016-07-23	\$2.4252	\$2.4981	\$0.0729	\$2.5672	\$2.8330	\$2.7530	\$2.7393
390	2016-07-24	\$2.4252	\$2.4981	\$0.0729	\$2.5672	\$2.8330	\$2.7530	\$2.7393
391	2016-07-25	\$2.4252	\$2.4981	\$0.0729	\$2.5672	\$2.8330	\$2.7530	\$2.7393
392	2016-07-26	\$2.3489	\$2.4030	\$0.0541	\$2.5295	\$2.7400	\$2.7320	\$2.7307
393	2016-07-27	\$2.2417	\$2.2771	\$0.0354	\$2.4497	\$2.6980	\$2.6540	\$2.6542
394	2016-07-28	\$2.3115	\$2.3322	\$0.0207	\$2.5074	\$2.7560	\$2.6970	\$2.6881
395	2016-07-29	\$2.3269	\$2.3554	\$0.0285	\$2.4697	\$2.6930	\$2.6810	\$2.6674
396	2016-07-30	\$2.3269	\$2.3554	\$0.0285	\$2.4697	\$2.8640	\$2.8530	\$2.6674
397	2016-07-31	\$2.3269	\$2.3554	\$0.0285	\$2.4697	\$2.8640	\$2.8530	\$2.6674
398	2016-08-01	\$2.4540	\$2.5973	\$0.1433	\$2.6523	\$2.8640	\$2.8530	\$2.8538
399	2016-08-02	\$2.3419	\$2.4989	\$0.1570	\$2.6255	\$2.8030	\$2.7980	\$2.8037
400	2016-08-03	\$2.2815	\$2.4362	\$0.1547	\$2.5681	\$2.7360	\$2.7360	\$2.7476
401	2016-08-04	\$2.3597	\$2.5165	\$0.1568	\$2.6533	\$2.8520	\$2.8000	\$2.8057
402	2016-08-05	\$2.4586	\$2.6160	\$0.1574	\$2.6673	\$2.8420	\$2.8410	\$2.8334
403	2016-08-06	\$2.2038	\$2.8528	\$0.6490	\$2.6951	\$2.7720	\$2.7670	\$2.7827
404	2016-08-07	\$2.2038	\$2.8528	\$0.6490	\$2.6951	\$2.7720	\$2.7670	\$2.7827
405	2016-08-08	\$2.2038	\$2.8528	\$0.6490	\$2.6951	\$2.7720	\$2.7670	\$2.7827
406	2016-08-09	\$2.0980	\$3.2621	\$1.1641	\$2.6692	\$2.7370	\$2.7180	\$2.7514
407	2016-08-10	\$1.5980	\$3.0309	\$1.4329	\$2.6008	\$2.7200	\$2.6770	\$2.7318
408	2016-08-11	\$1.4738	\$2.8762	\$1.4024	\$2.5643	\$2.6850	\$2.6350	\$2.7006
409	2016-08-12	\$1.6556	\$2.9137	\$1.2581	\$2.5267	\$2.6560	\$2.5780	\$2.6373
410	2016-08-13	\$1.7938	\$2.9842	\$1.1904	\$2.5820	\$2.6500	\$2.6190	\$2.6878
411	2016-08-14	\$1.7938	\$2.9842	\$1.1904	\$2.5820	\$2.6500	\$2.6190	\$2.6878
412	2016-08-15	\$1.7938	\$2.9842	\$1.1904	\$2.5820	\$2.6500	\$2.6190	\$2.6878
413	2016-08-16	\$1.1518	\$2.6915	\$1.5397	\$2.5538	\$2.6690	\$2.6510	\$2.7107
414	2016-08-17	\$0.9698	\$2.8399	\$1.8701	\$2.5697	\$2.6550	\$2.6360	\$2.6850
415	2016-08-18	\$1.0748	\$2.6814	\$1.6066	\$2.5804	\$2.6480	\$2.6430	\$2.6877
416	2016-08-19	\$0.6827	\$2.8754	\$2.1927	\$2.5941	\$2.6590	\$2.6670	\$2.6907
417	2016-08-20	\$1.4834	\$2.3032	\$0.8198	\$2.4120	\$2.5720	\$2.6110	\$2.6651
418	2016-08-21	\$1.4834	\$2.3032	\$0.8198	\$2.4120	\$2.5720	\$2.6110	\$2.6651
419	2016-08-22	\$1.4834	\$2.3032	\$0.8198	\$2.4120	\$2.5720	\$2.6110	\$2.6651
420	2016-08-23	\$2.1849	\$2.3985	\$0.2136	\$2.4143	\$2.6410	\$2.6330	\$2.7196
421	2016-08-24	\$2.3034	\$2.4422	\$0.1388	\$2.4035	\$2.6530	\$2.6780	\$2.7360
422	2016-08-25	\$2.5562	\$2.6405	\$0.0843	\$2.5360	\$2.7580	\$2.7720	\$2.8145
423	2016-08-26	\$2.4616	\$2.5224	\$0.0608	\$2.5752	\$2.8070	\$2.8240	\$2.8846
424	2016-08-27	\$2.4060	\$2.4678	\$0.0618	\$2.5824	\$2.8170	\$2.8310	\$2.8961
425	2016-08-28	\$2.4060	\$2.4678	\$0.0618	\$2.5824	\$2.8170	\$2.8310	\$2.8961
426	2016-08-29	\$2.4060	\$2.4678	\$0.0618	\$2.5824	\$2.8170	\$2.8310	\$2.8961
427	2016-08-30	\$2.3778	\$2.9070	\$0.5292	\$2.6825	\$2.9460	\$2.9210	\$2.9592
428	2016-08-31	\$1.7562	\$3.1203	\$1.3641	\$2.8518	\$2.9590	\$2.9590	\$2.9980
429	2016-09-01	\$2.4144	\$3.0397	\$0.6253	\$2.7636	\$2.8880	\$2.9130	\$2.9513
430	2016-09-02	\$2.3393	\$2.8986	\$0.5593	\$2.6867	\$2.8360	\$2.8560	\$2.9055
431	2016-09-03	\$2.2705	\$2.9217	\$0.6512	\$2.6047	\$2.7630	\$2.7890	\$2.8561
432	2016-09-04	\$2.2705	\$2.9217	\$0.6512	\$2.6047	\$2.7630	\$2.7890	\$2.8561

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433	2016-09-05	\$2.2705	\$2.9217	\$0.6512	\$2.6047	\$2.7630	\$2.7890	\$2.8561
434	2016-09-06	\$2.2705	\$2.9217	\$0.6512	\$2.6047	\$2.7630	\$2.7890	\$2.8561
435	2016-09-07	\$2.1017	\$2.6338	\$0.5321	\$2.6065	\$2.7900	\$2.8030	\$2.8573
436	2016-09-08	\$2.3831	\$2.4235	\$0.0404	\$2.6081	\$2.7960	\$2.8060	\$2.8835
437	2016-09-09	\$2.3024	\$2.3610	\$0.0586	\$2.6192	\$2.7930	\$2.8070	\$2.8980
438	2016-09-10	\$2.3200	\$2.4593	\$0.1393	\$2.6171	\$2.8320	\$2.8560	\$2.9484
439	2016-09-11	\$2.3200	\$2.4593	\$0.1393	\$2.6171	\$2.8320	\$2.8560	\$2.9484
440	2016-09-12	\$2.3200	\$2.4593	\$0.1393	\$2.6171	\$2.8320	\$2.8560	\$2.9484
441	2016-09-13	\$2.5291	\$2.8906	\$0.3615	\$2.7396	\$2.9220	\$2.9430	\$3.0186
442	2016-09-14	\$2.5637	\$2.7089	\$0.1452	\$2.6768	\$2.9220	\$2.9740	\$3.0102
443	2016-09-15	\$2.6411	\$2.7496	\$0.1085	\$2.6854	\$2.9210	\$2.9530	\$2.9924
444	2016-09-16	\$2.5749	\$2.6549	\$0.0800	\$2.5851	\$2.8370	\$2.8830	\$2.8975
445	2016-09-17	\$2.5607	\$2.6447	\$0.0840	\$2.6050	\$2.8710	\$2.8950	\$2.9127
446	2016-09-18	\$2.5607	\$2.6447	\$0.0840	\$2.6050	\$2.8710	\$2.8950	\$2.9127
447	2016-09-19	\$2.5607	\$2.6447	\$0.0840	\$2.6050	\$2.8710	\$2.8950	\$2.9127
448	2016-09-20	\$2.5873	\$2.6638	\$0.0765	\$2.7382	\$2.9700	\$2.9640	\$3.0145
449	2016-09-21	\$2.7467	\$2.8219	\$0.0752	\$2.8717	\$3.0880	\$3.0730	\$3.1093
450	2016-09-22	\$2.7913	\$2.8277	\$0.0364	\$2.8984	\$3.0910	\$3.1070	\$3.1330
451	2016-09-23	\$2.7392	\$2.7640	\$0.0248	\$2.8789	\$3.0580	\$3.0890	\$3.0861
452	2016-09-24	\$2.6496	\$2.6787	\$0.0291	\$2.7382	\$2.9400	\$2.9870	\$2.9883
453	2016-09-25	\$2.6496	\$2.6787	\$0.0291	\$2.7382	\$2.9400	\$2.9870	\$2.9883
454	2016-09-26	\$2.6496	\$2.6787	\$0.0291	\$2.7382	\$2.9400	\$2.9870	\$2.9883
455	2016-09-27	\$2.6389	\$2.6840	\$0.0451	\$2.7524	\$2.9640	\$3.0050	\$2.9976
456	2016-09-28	\$2.7510	\$2.8069	\$0.0559	\$2.7431	\$2.9530	\$2.9860	\$2.9764
457	2016-09-29	\$2.6781	\$2.7100	\$0.0319	\$2.7046	\$2.8670	\$2.9090	\$2.9081
458	2016-09-30	\$2.6741	\$2.6886	\$0.0145	\$2.7000	\$2.8450	\$2.8810	\$2.8734
459	2016-10-01	\$2.6224	\$2.7739	\$0.1515	\$2.5315	\$2.7200	\$2.6810	\$2.6649
460	2016-10-02	\$2.6224	\$2.7739	\$0.1515	\$2.5315	\$2.7200	\$2.6810	\$2.6649
461	2016-10-03	\$2.6224	\$2.7739	\$0.1515	\$2.5315	\$2.7200	\$2.6810	\$2.6649
462	2016-10-04	\$2.5723	\$2.6143	\$0.0420	\$2.5964	\$2.7190	\$2.7160	\$2.7149
463	2016-10-05	\$2.6387	\$2.6644	\$0.0257	\$2.6485	\$2.7530	\$2.7520	\$2.7359
464	2016-10-06	\$2.7945	\$2.8338	\$0.0393	\$2.7130	\$2.7890	\$2.8060	\$2.7925
465	2016-10-07	\$2.8850	\$2.9143	\$0.0293	\$2.8428	\$2.8850	\$2.9050	\$2.8526
466	2016-10-08	\$2.9316	\$2.9727	\$0.0411	\$2.7417	\$2.8570	\$2.8440	\$2.8450
467	2016-10-09	\$2.9316	\$2.9727	\$0.0411	\$2.7417	\$2.8570	\$2.8440	\$2.8450
468	2016-10-10	\$2.9316	\$2.9727	\$0.0411	\$2.7417	\$2.8570	\$2.8440	\$2.8450
469	2016-10-11	\$3.1317	\$3.1591	\$0.0274	\$2.8751	\$2.9940	\$2.9820	\$2.9826
470	2016-10-12	\$3.0889	\$3.1219	\$0.0330	\$2.9981	\$3.0980	\$3.0400	\$3.0087
471	2016-10-13	\$3.1304	\$3.1683	\$0.0379	\$3.0422	\$3.1490	\$3.0970	\$3.0899
472	2016-10-14	\$3.0697	\$3.1164	\$0.0467	\$2.8650	\$3.0000	\$2.9910	\$3.0236
473	2016-10-15	\$3.0674	\$3.1127	\$0.0453	\$2.8070	\$2.9060	\$2.9000	\$2.9090
474	2016-10-16	\$3.0674	\$3.1127	\$0.0453	\$2.8070	\$2.9060	\$2.9000	\$2.9090
475	2016-10-17	\$3.0674	\$3.1127	\$0.0453	\$2.8070	\$2.9060	\$2.9000	\$2.9090
476	2016-10-18	\$3.0431	\$3.0840	\$0.0409	\$2.9539	\$3.0140	\$3.0030	\$3.0228
477	2016-10-19	\$3.1447	\$3.1853	\$0.0406	\$3.0924	\$3.1880	\$3.1700	\$3.1646
478	2016-10-20	\$3.0413	\$3.0757	\$0.0344	\$3.0530	\$3.1760	\$3.1350	\$3.1080
479	2016-10-21	\$3.0250	\$3.0632	\$0.0382	\$2.8864	\$3.0700	\$2.9940	\$2.9794
480	2016-10-22	\$3.0385	\$3.0748	\$0.0363	\$2.7251	\$2.8350	\$2.7810	\$2.8140
481	2016-10-23	\$3.0385	\$3.0748	\$0.0363	\$2.7251	\$2.8350	\$2.7810	\$2.8140
482	2016-10-24	\$3.0385	\$3.0748	\$0.0363	\$2.7251	\$2.8350	\$2.7810	\$2.8140
483	2016-10-25	\$3.0008	\$3.0332	\$0.0324	\$2.7239	\$2.7880	\$2.7170	\$2.8662
484	2016-10-26	\$2.9458	\$2.9715	\$0.0257	\$2.6860	\$2.7680	\$2.6870	\$2.7873
485	2016-10-27	\$2.8239	\$2.8475	\$0.0236	\$2.7339	\$2.8170	\$2.7940	\$2.8486
486	2016-10-28	\$2.7729	\$2.7876	\$0.0147	\$2.6022	\$2.7190	\$2.6930	\$2.7851
487	2016-10-29	\$2.8486	\$2.8622	\$0.0136	\$2.4793	\$2.5620	\$2.5800	\$2.5085
488	2016-10-30	\$2.8486	\$2.8622	\$0.0136	\$2.4793	\$2.5620	\$2.5800	\$2.5085
489	2016-10-31	\$2.8486	\$2.8622	\$0.0136	\$2.4793	\$2.5620	\$2.5800	\$2.5085
490	2016-11-01	\$2.8487	\$2.9165	\$0.0678	\$2.3732	\$2.5570	\$2.6050	\$2.6192
491	2016-11-02	\$2.5715	\$2.6173	\$0.0458	\$2.1160	\$2.2380	\$2.2070	\$2.2378
492	2016-11-03	\$2.4834	\$2.5397	\$0.0563	\$2.0681	\$2.1480	\$2.1690	\$2.2086
493	2016-11-04	\$2.4550	\$2.5189	\$0.0639	\$2.1408	\$2.2560	\$2.3160	\$2.3248
494	2016-11-05	\$2.3469	\$2.4082	\$0.0613	\$2.0045	\$2.1170	\$2.1060	\$2.1301
495	2016-11-06	\$2.3469	\$2.4082	\$0.0613	\$2.0045	\$2.1170	\$2.1060	\$2.1301
496	2016-11-07	\$2.3469	\$2.4082	\$0.0613	\$2.0045	\$2.1170	\$2.1060	\$2.1301
497	2016-11-08	\$2.4551	\$2.5499	\$0.0948	\$2.0761	\$2.2640	\$2.2570	\$2.2676
498	2016-11-09	\$2.3906	\$2.4019	\$0.0113	\$2.0609	\$2.2550	\$2.2230	\$2.2892
499	2016-11-10	\$2.3551	\$2.4425	\$0.0874	\$2.0126	\$2.1390	\$2.1960	\$2.2241
500	2016-11-11	\$2.3438	\$2.3829	\$0.0391	\$1.9082	\$2.0000	\$1.9950	\$2.0598
501	2016-11-12	\$2.2321	\$2.2681	\$0.0360	\$1.8000	\$1.9630	\$1.9860	\$2.0138
502	2016-11-13	\$2.2321	\$2.2681	\$0.0360	\$1.8000	\$1.9630	\$1.9860	\$2.0138
503	2016-11-14	\$2.2321	\$2.2681	\$0.0360	\$1.8000	\$1.9630	\$1.9860	\$2.0138
504	2016-11-15	\$2.4569	\$2.5202	\$0.0633	\$2.0657	\$2.2170	\$2.2380	\$2.2713

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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
505	2016-11-16	\$2.5725	\$2.6245	\$0.0520	\$2.2213	\$2.4020	\$2.4040	\$2.5041
506	2016-11-17	\$2.5424	\$2.5781	\$0.0357	\$2.1905	\$2.4190	\$2.3510	\$2.4732
507	2016-11-18	\$2.4162	\$2.4277	\$0.0115	\$2.1390	\$2.2720	\$2.2740	\$2.3190
508	2016-11-19	\$2.5733	\$2.5817	\$0.0084	\$2.3618	\$2.5590	\$2.5840	\$2.7326
509	2016-11-20	\$2.5733	\$2.5817	\$0.0084	\$2.3618	\$2.5590	\$2.5840	\$2.7326
510	2016-11-21	\$2.5733	\$2.5817	\$0.0084	\$2.3618	\$2.5590	\$2.5840	\$2.7326
511	2016-11-22	\$2.7219	\$2.7330	\$0.0111	\$2.6127	\$2.8140	\$2.8630	\$3.1877
512	2016-11-23	\$2.7855	\$2.8217	\$0.0362	\$2.6199	\$2.7620	\$2.8420	\$3.2347
513	2016-11-24	\$2.8598	\$2.8971	\$0.0373	\$2.5036	\$2.6980	\$2.7540	\$3.1728
514	2016-11-25	\$2.8598	\$2.8971	\$0.0373	\$2.5036	\$2.6980	\$2.7540	\$3.1728
515	2016-11-26	\$2.8598	\$2.8971	\$0.0373	\$2.5036	\$2.6980	\$2.7540	\$3.1728
516	2016-11-27	\$2.8598	\$2.8971	\$0.0373	\$2.5036	\$2.6980	\$2.7540	\$3.1728
517	2016-11-28	\$2.8598	\$2.8971	\$0.0373	\$2.5036	\$2.6980	\$2.7540	\$3.1728
518	2016-11-29	\$3.1301	\$3.2003	\$0.0702	\$2.8013	\$2.9470	\$3.0020	\$3.3090
519	2016-11-30	\$3.1572	\$3.1962	\$0.0390	\$2.9045	\$3.1420	\$3.1280	\$3.4756
520	2016-12-01	\$3.1129	\$3.1572	\$0.0443	\$3.0066	\$3.2870	\$3.3070	\$3.5753
521	2016-12-02	\$3.1640	\$3.2040	\$0.0400	\$3.1493	\$3.3840	\$3.4310	\$3.6798
522	2016-12-03	\$3.1692	\$3.2182	\$0.0490	\$3.2444	\$3.4180	\$3.3900	\$3.7453
523	2016-12-04	\$3.1692	\$3.2182	\$0.0490	\$3.2444	\$3.4180	\$3.3900	\$3.7453
524	2016-12-05	\$3.1692	\$3.2182	\$0.0490	\$3.2444	\$3.4180	\$3.3900	\$3.7453
525	2016-12-06	\$3.3610	\$3.4487	\$0.0877	\$3.5993	\$3.6380	\$3.7030	\$4.0393
526	2016-12-07	\$3.5080	\$3.6175	\$0.1095	\$3.6416	\$3.7670	\$3.7410	\$4.0617
527	2016-12-08	\$3.7146	\$3.8196	\$0.1050	\$3.7653	\$3.8500	\$3.8430	\$4.2066
528	2016-12-09	\$3.6112	\$3.7412	\$0.1300	\$3.6509	\$3.7000	\$3.7350	\$4.1501
529	2016-12-10	\$3.7794	\$3.9427	\$0.1633	\$3.7795	\$3.8450	\$3.8460	\$4.3094
530	2016-12-11	\$3.7794	\$3.9427	\$0.1633	\$3.7795	\$3.8450	\$3.8460	\$4.3094
531	2016-12-12	\$3.7794	\$3.9427	\$0.1633	\$3.7795	\$3.8450	\$3.8460	\$4.3094
532	2016-12-13	\$3.3622	\$3.5186	\$0.1564	\$3.6042	\$3.6690	\$3.6420	\$4.0719
533	2016-12-14	\$3.3166	\$3.5076	\$0.1910	\$3.7647	\$3.7840	\$3.6930	\$4.0841
534	2016-12-15	\$3.2332	\$3.4348	\$0.2016	\$3.7950	\$3.7760	\$3.6360	\$3.9705
535	2016-12-16	\$3.2677	\$3.4652	\$0.1975	\$3.5780	\$3.6640	\$3.6020	\$3.9540
536	2016-12-17	\$3.0738	\$3.2851	\$0.2113	\$3.4399	\$3.8930	\$3.5090	\$3.8127
537	2016-12-18	\$3.0738	\$3.2851	\$0.2113	\$3.4399	\$3.8930	\$3.5090	\$3.8127
538	2016-12-19	\$3.0738	\$3.2851	\$0.2113	\$3.4399	\$3.8930	\$3.5090	\$3.8127
539	2016-12-20	\$3.0224	\$3.2216	\$0.1992	\$3.3225	\$3.5490	\$3.5310	\$3.8445
540	2016-12-21	\$2.8387	\$2.9929	\$0.1542	\$3.0406	\$3.3350	\$3.3460	\$3.6961
541	2016-12-22	\$2.9173	\$3.0732	\$0.1559	\$3.2061	\$3.5000	\$3.4910	\$3.9200
542	2016-12-23	\$3.0933	\$3.2399	\$0.1466	\$3.3146	\$3.5340	\$3.5840	\$4.1151
543	2016-12-24	\$3.1253	\$3.2731	\$0.1478	\$3.3128	\$3.5340	\$3.5840	\$4.2875
544	2016-12-25	\$3.1253	\$3.2731	\$0.1478	\$3.3128	\$3.5340	\$3.5840	\$4.2875
545	2016-12-26	\$3.1253	\$3.2731	\$0.1478	\$3.3128	\$3.5340	\$3.5840	\$4.2875
546	2016-12-27	\$3.1253	\$3.2731	\$0.1478	\$3.3128	\$3.5330	\$3.5890	\$4.2875
547	2016-12-28	\$3.2911	\$3.4681	\$0.1770	\$3.4255	\$3.5660	\$3.6660	\$4.4084
548	2016-12-29	\$3.2802	\$3.4847	\$0.2045	\$3.5113	\$3.5860	\$3.6010	\$4.4942
549	2016-12-30	\$3.4702	\$3.6690	\$0.1988	\$3.6136	\$3.6310	\$3.6950	\$4.5325
550	2016-12-31	\$3.4702	\$3.6690	\$0.1988	\$3.6136	\$3.6310	\$3.6950	\$4.5325
551	2017-01-01	\$3.3484	\$3.5352	\$0.1868	\$3.4578	\$3.6310	\$3.6950	\$4.3709
552	2017-01-02	\$3.3484	\$3.5352	\$0.1868	\$3.4578	\$3.6310	\$3.6950	\$4.3709
553	2017-01-03	\$3.3484	\$3.5352	\$0.1868	\$3.4578	\$3.6030	\$3.6160	\$4.3709
554	2017-01-04	\$3.0416	\$3.2184	\$0.1768	\$3.2980	\$3.5570	\$3.4220	\$3.9588
555	2017-01-05	\$2.8214	\$2.9730	\$0.1516	\$3.3478	\$3.4920	\$3.3340	\$3.6766
556	2017-01-06	\$2.6828	\$2.8170	\$0.1342	\$3.1532	\$3.3210	\$3.2350	\$3.4108
557	2017-01-07	\$2.7493	\$2.8851	\$0.1358	\$3.1509	\$3.3370	\$3.2730	\$3.4868
558	2017-01-08	\$2.7493	\$2.8851	\$0.1358	\$3.1509	\$3.3370	\$3.2730	\$3.4868
559	2017-01-09	\$2.7493	\$2.8851	\$0.1358	\$3.1509	\$3.3370	\$3.2730	\$3.4868
560	2017-01-10	\$2.5896	\$2.7164	\$0.1268	\$2.8835	\$3.0850	\$3.1010	\$3.3079
561	2017-01-11	\$2.6732	\$2.7908	\$0.1176	\$3.0037	\$3.1980	\$3.2120	\$3.4691
562	2017-01-12	\$2.7577	\$2.8657	\$0.1080	\$3.0971	\$3.2580	\$3.2700	\$3.4467
563	2017-01-13	\$2.7557	\$2.8616	\$0.1059	\$3.1505	\$3.3290	\$3.3300	\$3.5681
564	2017-01-14	\$2.7864	\$2.8806	\$0.0942	\$3.0680	\$3.2920	\$3.3130	\$3.5544
565	2017-01-15	\$2.7864	\$2.8806	\$0.0942	\$3.0680	\$3.2920	\$3.3130	\$3.5544
566	2017-01-16	\$2.7864	\$2.8806	\$0.0942	\$3.0680	\$3.2920	\$3.3130	\$3.5544
567	2017-01-17	\$2.7864	\$2.8806	\$0.0942	\$3.0680	\$3.2920	\$3.3130	\$3.5544
568	2017-01-18	\$2.7452	\$2.8309	\$0.0857	\$2.8981	\$3.2260	\$3.2840	\$3.5209
569	2017-01-19	\$2.7093	\$2.7919	\$0.0826	\$2.8791	\$3.2220	\$3.2490	\$3.4718
570	2017-01-20	\$2.7052	\$2.7936	\$0.0884	\$2.8272	\$3.1450	\$3.1780	\$3.4051
571	2017-01-21	\$2.7157	\$2.8162	\$0.1005	\$2.7692	\$3.1930	\$3.1930	\$3.3900
572	2017-01-22	\$2.7157	\$2.8162	\$0.1005	\$2.7692	\$3.1930	\$3.1930	\$3.3900
573	2017-01-23	\$2.7157	\$2.8162	\$0.1005	\$2.7692	\$3.1930	\$3.1930	\$3.3900
574	2017-01-24	\$2.6533	\$2.7386	\$0.0853	\$2.8039	\$3.1400	\$3.1320	\$3.2914
575	2017-01-25	\$2.7433	\$2.8140	\$0.0707	\$2.9256	\$3.2650	\$3.2460	\$3.4463
576	2017-01-26	\$2.6852	\$2.7486	\$0.0634	\$2.9274	\$3.2250	\$3.2450	\$3.4217

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577	2017-01-27	\$2.8257	\$2.8694	\$0.0437	\$3.0539	\$3.3370	\$3.3780	\$3.5424
578	2017-01-28	\$2.6723	\$2.7095	\$0.0372	\$2.9221	\$3.1960	\$3.2450	\$3.3879
579	2017-01-29	\$2.6723	\$2.7095	\$0.0372	\$2.9221	\$3.1960	\$3.2450	\$3.3879
580	2017-01-30	\$2.6723	\$2.7095	\$0.0372	\$2.9221	\$3.1960	\$3.2450	\$3.3879
581	2017-01-31	\$2.6134	\$2.6262	\$0.0128	\$2.8495	\$3.1340	\$3.1840	\$3.3375
582	2017-02-01	\$2.5189	\$2.5716	\$0.0527	\$2.7995	\$3.0270	\$3.0490	\$3.1706
583	2017-02-02	\$2.5672	\$2.6289	\$0.0617	\$2.8577	\$3.0850	\$3.1040	\$3.2341
584	2017-02-03	\$2.5267	\$2.6045	\$0.0778	\$2.8278	\$3.0620	\$3.0700	\$3.1361
585	2017-02-04	\$2.4880	\$2.5731	\$0.0851	\$2.6932	\$2.9350	\$3.0000	\$3.0671
586	2017-02-05	\$2.4880	\$2.5731	\$0.0851	\$2.6932	\$2.9350	\$3.0000	\$3.0671
587	2017-02-06	\$2.4880	\$2.5731	\$0.0851	\$2.6932	\$2.9350	\$3.0000	\$3.0671
588	2017-02-07	\$2.4871	\$2.5999	\$0.1128	\$2.6377	\$2.8700	\$2.9120	\$3.0120
589	2017-02-08	\$2.6004	\$2.7032	\$0.1028	\$2.8239	\$3.0200	\$3.0490	\$3.1503
590	2017-02-09	\$2.5619	\$2.6688	\$0.1069	\$2.8970	\$3.0280	\$3.0600	\$3.1653
591	2017-02-10	\$2.6207	\$2.7221	\$0.1014	\$2.8653	\$3.0090	\$3.1050	\$3.2032
592	2017-02-11	\$2.5138	\$2.6356	\$0.1218	\$2.6041	\$2.8670	\$2.9060	\$3.0555
593	2017-02-12	\$2.5138	\$2.6356	\$0.1218	\$2.6041	\$2.8670	\$2.9060	\$3.0555
594	2017-02-13	\$2.5138	\$2.6356	\$0.1218	\$2.6041	\$2.8670	\$2.9060	\$3.0555
595	2017-02-14	\$2.4816	\$2.5953	\$0.1137	\$2.5795	\$2.8670	\$2.9140	\$3.0719
596	2017-02-15	\$2.4609	\$2.5688	\$0.1079	\$2.5469	\$2.8560	\$2.8820	\$3.0068
597	2017-02-16	\$2.5089	\$2.6056	\$0.0967	\$2.5539	\$2.8380	\$2.9410	\$3.0630
598	2017-02-17	\$2.4288	\$2.5249	\$0.0961	\$2.4207	\$2.8160	\$2.8010	\$3.0027
599	2017-02-18	\$2.4050	\$2.4818	\$0.0768	\$2.2968	\$2.7230	\$2.7480	\$2.9436
600	2017-02-19	\$2.4050	\$2.4818	\$0.0768	\$2.2968	\$2.7230	\$2.7480	\$2.9436
601	2017-02-20	\$2.4050	\$2.4818	\$0.0768	\$2.2968	\$2.7230	\$2.7480	\$2.9436
602	2017-02-21	\$2.4050	\$2.4818	\$0.0768	\$2.2968	\$2.7230	\$2.7480	\$2.9436
603	2017-02-22	\$2.2218	\$2.2675	\$0.0457	\$2.1874	\$2.5800	\$2.5720	\$2.7414
604	2017-02-23	\$2.2048	\$2.2427	\$0.0379	\$2.1914	\$2.6280	\$2.5840	\$2.7112
605	2017-02-24	\$2.2214	\$2.2468	\$0.0254	\$2.3053	\$2.6010	\$2.6400	\$2.7708
606	2017-02-25	\$2.1828	\$2.2001	\$0.0173	\$2.2033	\$2.5920	\$2.5870	\$2.6812
607	2017-02-26	\$2.1828	\$2.2001	\$0.0173	\$2.2033	\$2.5920	\$2.5870	\$2.6812
608	2017-02-27	\$2.1828	\$2.2001	\$0.0173	\$2.2033	\$2.5920	\$2.5870	\$2.6812
609	2017-02-28	\$2.0960	\$2.1050	\$0.0090	\$2.1974	\$2.5620	\$2.5180	\$2.6438
610	2017-03-01	\$2.1695	\$2.2221	\$0.0526	\$2.2871	\$2.5980	\$2.5890	\$2.7158
611	2017-03-02	\$2.2991	\$2.3493	\$0.0502	\$2.4637	\$2.6840	\$2.6970	\$2.8650
612	2017-03-03	\$2.3268	\$2.3766	\$0.0498	\$2.4560	\$2.6720	\$2.7110	\$2.9248
613	2017-03-04	\$2.3931	\$2.4820	\$0.0889	\$2.3411	\$2.7100	\$2.6800	\$2.9317
614	2017-03-05	\$2.3931	\$2.4820	\$0.0889	\$2.3411	\$2.7100	\$2.6800	\$2.9317
615	2017-03-06	\$2.3931	\$2.4820	\$0.0889	\$2.3411	\$2.7100	\$2.6800	\$2.9317
616	2017-03-07	\$2.5922	\$2.6746	\$0.0824	\$2.4748	\$2.9380	\$2.7740	\$2.9737
617	2017-03-08	\$2.4570	\$2.5154	\$0.0584	\$2.4026	\$2.6320	\$2.6650	\$2.9151
618	2017-03-09	\$2.5014	\$2.5468	\$0.0454	\$2.5777	\$2.8170	\$2.8080	\$3.0585
619	2017-03-10	\$2.5510	\$2.6026	\$0.0516	\$2.7552	\$2.9110	\$2.9420	\$3.1127
620	2017-03-11	\$2.6145	\$2.7103	\$0.0958	\$2.8754	\$2.9500	\$2.9970	\$3.1781
621	2017-03-12	\$2.6145	\$2.7103	\$0.0958	\$2.8754	\$2.9500	\$2.9970	\$3.1781
622	2017-03-13	\$2.6145	\$2.7103	\$0.0958	\$2.8754	\$2.9500	\$2.9970	\$3.1781
623	2017-03-14	\$2.5981	\$2.6957	\$0.0976	\$2.9418	\$3.0420	\$3.0840	\$3.2264
624	2017-03-15	\$2.5741	\$2.6639	\$0.0898	\$2.8663	\$3.0360	\$3.0290	\$3.1754
625	2017-03-16	\$2.4997	\$2.5675	\$0.0678	\$2.7533	\$2.9330	\$2.9740	\$3.1343
626	2017-03-17	\$2.4107	\$2.4722	\$0.0615	\$2.5543	\$2.7600	\$2.8730	\$3.0384
627	2017-03-18	\$2.4101	\$2.4652	\$0.0551	\$2.4951	\$2.7620	\$2.8170	\$3.0503
628	2017-03-19	\$2.4101	\$2.4652	\$0.0551	\$2.4951	\$2.7620	\$2.8170	\$3.0503
629	2017-03-20	\$2.4101	\$2.4652	\$0.0551	\$2.4951	\$2.7620	\$2.8170	\$3.0503
630	2017-03-21	\$2.4725	\$2.5404	\$0.0679	\$2.6642	\$2.8770	\$2.9260	\$3.1092
631	2017-03-22	\$2.5542	\$2.6083	\$0.0541	\$2.7970	\$2.9860	\$3.0440	\$3.2279
632	2017-03-23	\$2.5214	\$2.5720	\$0.0506	\$2.6922	\$2.8980	\$2.9460	\$3.1612
633	2017-03-24	\$2.4493	\$2.4944	\$0.0451	\$2.5956	\$2.8820	\$2.8650	\$3.1223
634	2017-03-25	\$2.4896	\$2.5641	\$0.0745	\$2.5878	\$2.8460	\$2.8870	\$3.1562
635	2017-03-26	\$2.4896	\$2.5641	\$0.0745	\$2.5878	\$2.8460	\$2.8870	\$3.1562
636	2017-03-27	\$2.4896	\$2.5641	\$0.0745	\$2.5878	\$2.8460	\$2.8870	\$3.1562
637	2017-03-28	\$2.5426	\$2.6021	\$0.0595	\$2.6337	\$2.9050	\$2.9200	\$3.2154
638	2017-03-29	\$2.5209	\$2.5734	\$0.0525	\$2.6069	\$2.9270	\$2.9130	\$3.1811
639	2017-03-30	\$2.6375	\$2.6782	\$0.0407	\$2.6549	\$3.0320	\$2.9950	\$3.2439
640	2017-03-31	\$2.6234	\$2.6552	\$0.0318	\$2.6700	\$3.0120	\$3.0060	\$3.2643
641	2017-04-01	\$2.6275	\$2.8121	\$0.1846	\$2.7391	\$2.9450	\$3.0770	\$3.2757
642	2017-04-02	\$2.6275	\$2.8121	\$0.1846	\$2.7391	\$2.9450	\$3.0770	\$3.2757
643	2017-04-03	\$2.6275	\$2.8121	\$0.1846	\$2.7391	\$2.9450	\$3.0770	\$3.2757
644	2017-04-04	\$2.5367	\$2.7480	\$0.2113	\$2.7731	\$2.9870	\$3.0610	\$3.2639
645	2017-04-05	\$2.5354	\$3.0158	\$0.4804	\$2.9472	\$3.1510	\$3.1770	\$3.3492
646	2017-04-06	\$2.5424	\$3.0876	\$0.5452	\$3.0346	\$3.2300	\$3.2700	\$3.4194
647	2017-04-07	\$2.6255	\$3.2361	\$0.6106	\$2.8833	\$3.1260	\$3.2200	\$3.3750
648	2017-04-08	\$2.6338	\$3.0192	\$0.3854	\$2.8412	\$3.0720	\$3.1630	\$3.3479

Centra Gas Manitoba Inc.
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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
649	2017-04-09	\$2.6338	\$3.0192	\$0.3854	\$2.8412	\$3.0720	\$3.1630	\$3.3479
650	2017-04-10	\$2.6338	\$3.0192	\$0.3854	\$2.8412	\$3.0720	\$3.1630	\$3.3479
651	2017-04-11	\$2.7360	\$2.8029	\$0.0669	\$2.8120	\$3.0410	\$3.1300	\$3.2920
652	2017-04-12	\$2.7168	\$2.7600	\$0.0432	\$2.7473	\$2.9430	\$3.0840	\$3.2183
653	2017-04-13	\$2.7208	\$2.7527	\$0.0319	\$2.7277	\$2.9620	\$3.0460	\$3.2052
654	2017-04-14	\$2.7491	\$2.7814	\$0.0323	\$2.7108	\$2.8720	\$3.1190	\$3.2552
655	2017-04-15	\$2.7491	\$2.7814	\$0.0323	\$2.7108	\$2.8720	\$3.1190	\$3.2552
656	2017-04-16	\$2.7491	\$2.7814	\$0.0323	\$2.7108	\$2.8720	\$3.1190	\$3.2552
657	2017-04-17	\$2.7491	\$2.7814	\$0.0323	\$2.7108	\$2.8720	\$3.1190	\$3.2552
658	2017-04-18	\$2.7363	\$2.7585	\$0.0222	\$2.7519	\$2.9700	\$3.1330	\$3.2540
659	2017-04-19	\$2.7050	\$2.7208	\$0.0158	\$2.7656	\$2.9410	\$3.1370	\$3.2231
660	2017-04-20	\$2.7266	\$2.7419	\$0.0153	\$2.7999	\$2.9560	\$3.1480	\$3.2500
661	2017-04-21	\$2.6909	\$2.7080	\$0.0171	\$2.7549	\$2.9580	\$3.0880	\$3.2061
662	2017-04-22	\$2.6859	\$2.7119	\$0.0260	\$2.7107	\$2.8610	\$3.0740	\$3.1927
663	2017-04-23	\$2.6859	\$2.7119	\$0.0260	\$2.7107	\$2.8610	\$3.0740	\$3.1927
664	2017-04-24	\$2.6859	\$2.7119	\$0.0260	\$2.7107	\$2.8610	\$3.0740	\$3.1927
665	2017-04-25	\$2.6104	\$2.6315	\$0.0211	\$2.6570	\$2.7930	\$3.0210	\$3.1183
666	2017-04-26	\$2.6079	\$2.6180	\$0.0101	\$2.6572	\$2.8160	\$3.0270	\$3.0992
667	2017-04-27	\$2.7040	\$2.7142	\$0.0102	\$2.7370	\$2.9340	\$3.1250	\$3.1488
668	2017-04-28	\$2.7281	\$2.7383	\$0.0102	\$2.7632	\$2.9250	\$3.1390	\$3.1693
669	2017-04-29	\$2.7281	\$2.7383	\$0.0102	\$2.7632	\$2.9230	\$3.0530	\$3.1693
670	2017-04-30	\$2.7281	\$2.7383	\$0.0102	\$2.7632	\$2.9230	\$3.0530	\$3.1693
671	2017-05-01	\$2.7775	\$2.8090	\$0.0315	\$2.7451	\$2.9230	\$3.0530	\$3.2649
672	2017-05-02	\$2.8003	\$2.8472	\$0.0469	\$2.7568	\$2.9940	\$3.0530	\$3.1987
673	2017-05-03	\$2.8344	\$2.8730	\$0.0386	\$2.7450	\$2.9620	\$3.0460	\$3.1528
674	2017-05-04	\$2.8106	\$2.8443	\$0.0337	\$2.7061	\$2.9410	\$3.0200	\$3.1432
675	2017-05-05	\$2.7922	\$2.8326	\$0.0404	\$2.6951	\$2.9710	\$3.0260	\$3.1579
676	2017-05-06	\$2.7571	\$2.8057	\$0.0486	\$2.6611	\$2.9690	\$3.0400	\$3.1718
677	2017-05-07	\$2.7571	\$2.8057	\$0.0486	\$2.6611	\$2.9690	\$3.0400	\$3.1718
678	2017-05-08	\$2.7571	\$2.8057	\$0.0486	\$2.6611	\$2.9690	\$3.0400	\$3.1718
679	2017-05-09	\$2.6789	\$2.7457	\$0.0668	\$2.6180	\$2.9180	\$2.9650	\$3.1220
680	2017-05-10	\$2.7142	\$2.7948	\$0.0806	\$2.6646	\$2.9610	\$2.9820	\$3.1223
681	2017-05-11	\$2.7941	\$2.8748	\$0.0807	\$2.7617	\$3.0920	\$3.1010	\$3.1834
682	2017-05-12	\$2.9026	\$2.9739	\$0.0713	\$2.8448	\$3.1210	\$3.1620	\$3.2566
683	2017-05-13	\$2.9950	\$3.0507	\$0.0557	\$2.8086	\$3.1080	\$3.1520	\$3.3095
684	2017-05-14	\$2.9950	\$3.0507	\$0.0557	\$2.8086	\$3.1080	\$3.1520	\$3.3095
685	2017-05-15	\$2.9950	\$3.0507	\$0.0557	\$2.8086	\$3.1080	\$3.1520	\$3.3095
686	2017-05-16	\$2.9580	\$3.0108	\$0.0528	\$2.7872	\$3.0780	\$3.1740	\$3.2720
687	2017-05-17	\$2.8998	\$2.9559	\$0.0561	\$2.7894	\$3.0590	\$3.1400	\$3.1901
688	2017-05-18	\$2.8412	\$2.9178	\$0.0766	\$2.7585	\$3.0510	\$3.1010	\$3.1520
689	2017-05-19	\$2.8001	\$2.9020	\$0.1019	\$2.7531	\$3.0110	\$3.0900	\$3.1462
690	2017-05-20	\$2.8144	\$2.9380	\$0.1236	\$2.7607	\$3.0620	\$3.1470	\$3.1932
691	2017-05-21	\$2.8144	\$2.9380	\$0.1236	\$2.7607	\$3.0620	\$3.1470	\$3.1932
692	2017-05-22	\$2.8144	\$2.9380	\$0.1236	\$2.7607	\$3.0620	\$3.1470	\$3.1932
693	2017-05-23	\$2.9466	\$3.0772	\$0.1306	\$2.8467	\$3.1230	\$3.2070	\$3.2419
694	2017-05-24	\$2.9920	\$3.0988	\$0.1068	\$2.8805	\$3.1360	\$3.2040	\$3.2336
695	2017-05-25	\$2.8671	\$2.9336	\$0.0665	\$2.7678	\$3.0310	\$3.1060	\$3.1356
696	2017-05-26	\$2.9137	\$2.9552	\$0.0415	\$2.7883	\$3.0190	\$3.1160	\$3.1753
697	2017-05-27	\$2.9225	\$2.9700	\$0.0475	\$2.7484	\$3.0190	\$3.1160	\$3.1665
698	2017-05-28	\$2.9225	\$2.9700	\$0.0475	\$2.7484	\$2.9580	\$3.1000	\$3.1665
699	2017-05-29	\$2.9225	\$2.9700	\$0.0475	\$2.7484	\$2.9580	\$3.1000	\$3.1665
700	2017-05-30	\$2.9225	\$2.9700	\$0.0475	\$2.7484	\$2.9580	\$3.1000	\$3.1665
701	2017-05-31	\$2.7883	\$2.8347	\$0.0464	\$2.6156	\$2.8930	\$2.9510	\$3.0380
702	2017-06-01	\$2.7099	\$2.7622	\$0.0523	\$2.5461	\$2.7830	\$2.8610	\$2.9505
703	2017-06-02	\$2.6357	\$2.6720	\$0.0363	\$2.5114	\$2.7160	\$2.8690	\$2.9169
704	2017-06-03	\$2.5508	\$2.5955	\$0.0447	\$2.4664	\$2.6880	\$2.8430	\$2.8671
705	2017-06-04	\$2.5508	\$2.5955	\$0.0447	\$2.4664	\$2.6880	\$2.8430	\$2.8671
706	2017-06-05	\$2.5508	\$2.5955	\$0.0447	\$2.4664	\$2.6880	\$2.8430	\$2.8671
707	2017-06-06	\$2.6049	\$2.6480	\$0.0431	\$2.5357	\$2.8470	\$2.8730	\$2.9120
708	2017-06-07	\$2.6293	\$2.6815	\$0.0522	\$2.6270	\$2.8570	\$2.8990	\$2.9421
709	2017-06-08	\$2.6583	\$2.7206	\$0.0623	\$2.6564	\$2.8630	\$2.9130	\$2.9568
710	2017-06-09	\$2.6212	\$2.6670	\$0.0458	\$2.6171	\$2.8210	\$2.8620	\$2.8946
711	2017-06-10	\$2.6342	\$2.6757	\$0.0415	\$2.5897	\$2.8570	\$2.9160	\$2.9392
712	2017-06-11	\$2.6342	\$2.6757	\$0.0415	\$2.5897	\$2.8570	\$2.9160	\$2.9392
713	2017-06-12	\$2.6342	\$2.6757	\$0.0415	\$2.5897	\$2.8570	\$2.9160	\$2.9392
714	2017-06-13	\$2.5798	\$2.6316	\$0.0518	\$2.6728	\$2.9290	\$2.9960	\$3.0002
715	2017-06-14	\$2.5018	\$2.5453	\$0.0435	\$2.6101	\$2.8520	\$2.9230	\$2.9090
716	2017-06-15	\$2.3440	\$2.3820	\$0.0380	\$2.5058	\$2.7530	\$2.8050	\$2.8328
717	2017-06-16	\$2.3911	\$2.4276	\$0.0365	\$2.5467	\$2.7880	\$2.7990	\$2.8305
718	2017-06-17	\$2.4185	\$2.4438	\$0.0253	\$2.7002	\$2.8300	\$2.8870	\$2.9245
719	2017-06-18	\$2.4185	\$2.4438	\$0.0253	\$2.7002	\$2.8300	\$2.8870	\$2.9245
720	2017-06-19	\$2.4185	\$2.4438	\$0.0253	\$2.7002	\$2.8300	\$2.8870	\$2.9245

Centra Gas Manitoba Inc.
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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
721	2017-06-20	\$2.2476	\$2.2597	\$0.0121	\$2.7029	\$2.7660	\$2.7960	\$2.8172
722	2017-06-21	\$2.2341	\$2.2422	\$0.0081	\$2.7166	\$2.7710	\$2.7900	\$2.8163
723	2017-06-22	\$2.2520	\$2.2659	\$0.0139	\$2.7559	\$2.8020	\$2.8220	\$2.8420
724	2017-06-23	\$2.1692	\$2.1841	\$0.0149	\$2.7251	\$2.7100	\$2.7680	\$2.8179
725	2017-06-24	\$2.1510	\$2.1858	\$0.0348	\$2.6786	\$2.6850	\$2.7920	\$2.8248
726	2017-06-25	\$2.1510	\$2.1858	\$0.0348	\$2.6786	\$2.6850	\$2.7920	\$2.8248
727	2017-06-26	\$2.1510	\$2.1858	\$0.0348	\$2.6786	\$2.6850	\$2.7920	\$2.8248
728	2017-06-27	\$2.2868	\$2.3015	\$0.0147	\$2.6429	\$2.7770	\$2.8700	\$2.8990
729	2017-06-28	\$2.3096	\$2.3215	\$0.0119	\$2.7230	\$2.8350	\$2.8700	\$2.9115
730	2017-06-29	\$2.3501	\$2.3618	\$0.0117	\$2.8017	\$2.8350	\$2.9250	\$2.9561
731	2017-06-30	\$2.2809	\$2.2913	\$0.0104	\$2.8100	\$2.8270	\$2.9130	\$2.9673
732	2017-07-01	\$2.0893	\$2.4292	\$0.3399	\$2.7366	\$2.6770	\$2.8090	\$2.8578
733	2017-07-02	\$2.0893	\$2.4292	\$0.3399	\$2.7366	\$2.6770	\$2.8090	\$2.8578
734	2017-07-03	\$2.0893	\$2.4292	\$0.3399	\$2.7366	\$2.6770	\$2.8090	\$2.8578
735	2017-07-04	\$2.0893	\$2.4292	\$0.3399	\$2.7366	\$2.6770	\$2.8090	\$2.8578
736	2017-07-05	\$2.0893	\$2.4292	\$0.3399	\$2.7366	\$2.6770	\$2.8090	\$2.8578
737	2017-07-06	\$1.5898	\$2.8162	\$1.2264	\$2.6104	\$2.7600	\$2.7970	\$2.7948
738	2017-07-07	\$1.2569	\$2.5175	\$1.2606	\$2.4990	\$2.7130	\$2.7510	\$2.7502
739	2017-07-08	\$1.2510	\$2.6852	\$1.4342	\$2.5277	\$2.6910	\$2.7730	\$2.7834
740	2017-07-09	\$1.2510	\$2.6852	\$1.4342	\$2.5277	\$2.6910	\$2.7730	\$2.7834
741	2017-07-10	\$1.2510	\$2.6852	\$1.4342	\$2.5277	\$2.6910	\$2.7730	\$2.7834
742	2017-07-11	\$2.3027	\$2.3671	\$0.0644	\$2.5152	\$2.7560	\$2.7980	\$2.8164
743	2017-07-12	\$2.4310	\$2.5145	\$0.0835	\$2.6332	\$2.8740	\$2.8960	\$2.9107
744	2017-07-13	\$2.3753	\$2.4947	\$0.1194	\$2.6494	\$2.8580	\$2.8910	\$2.9090
745	2017-07-14	\$2.3027	\$2.4076	\$0.1049	\$2.5569	\$2.7830	\$2.8380	\$2.8680
746	2017-07-15	\$2.3041	\$2.4878	\$0.1837	\$2.5518	\$2.7980	\$2.8500	\$2.8727
747	2017-07-16	\$2.3041	\$2.4878	\$0.1837	\$2.5518	\$2.7980	\$2.8500	\$2.8727
748	2017-07-17	\$2.3041	\$2.4878	\$0.1837	\$2.5518	\$2.7980	\$2.8500	\$2.8727
749	2017-07-18	\$2.2679	\$2.3921	\$0.1242	\$2.6170	\$2.9050	\$2.9360	\$2.9610
750	2017-07-19	\$2.3046	\$2.4558	\$0.1512	\$2.7407	\$3.0010	\$3.0000	\$3.0357
751	2017-07-20	\$2.1619	\$2.4066	\$0.2447	\$2.7664	\$3.0090	\$3.0090	\$3.0580
752	2017-07-21	\$2.1995	\$2.3974	\$0.1979	\$2.7654	\$3.0190	\$3.0100	\$3.0612
753	2017-07-22	\$0.8089	\$2.8316	\$2.0227	\$2.7711	\$2.8760	\$2.9420	\$2.9710
754	2017-07-23	\$0.8089	\$2.8316	\$2.0227	\$2.7711	\$2.8760	\$2.9420	\$2.9710
755	2017-07-24	\$0.8089	\$2.8316	\$2.0227	\$2.7711	\$2.8760	\$2.9420	\$2.9710
756	2017-07-25	\$0.4324	\$2.7342	\$2.3018	\$2.6959	\$2.8170	\$2.8600	\$2.8751
757	2017-07-26	\$1.6038	\$2.6781	\$1.0743	\$2.6382	\$2.8160	\$2.8500	\$2.8570
758	2017-07-27	\$1.8494	\$2.7151	\$0.8657	\$2.6432	\$2.7810	\$2.8380	\$2.8437
759	2017-07-28	\$1.2570	\$2.5917	\$1.3347	\$2.6555	\$2.7900	\$2.8410	\$2.8521
760	2017-07-29	\$0.9185	\$2.2405	\$1.3220	\$2.5542	\$2.7790	\$2.8550	\$2.8780
761	2017-07-30	\$0.9185	\$2.2405	\$1.3220	\$2.5542	\$2.7790	\$2.8550	\$2.8780
762	2017-07-31	\$0.9185	\$2.2405	\$1.3220	\$2.5542	\$2.7790	\$2.8550	\$2.8780
763	2017-08-01	\$1.7205	\$1.9168	\$0.1963	\$2.5258	\$2.7950	\$2.7700	\$2.8034
764	2017-08-02	\$1.8465	\$1.8726	\$0.0261	\$2.4555	\$2.7170	\$2.7160	\$2.7521
765	2017-08-03	\$1.8912	\$1.9129	\$0.0217	\$2.5417	\$2.7740	\$2.7680	\$2.8170
766	2017-08-04	\$1.8995	\$1.9356	\$0.0361	\$2.5014	\$2.7520	\$2.7610	\$2.7904
767	2017-08-05	\$1.8049	\$1.8342	\$0.0293	\$2.3559	\$2.6760	\$2.7230	\$2.7364
768	2017-08-06	\$1.8049	\$1.8342	\$0.0293	\$2.3559	\$2.6760	\$2.7230	\$2.7364
769	2017-08-07	\$1.8049	\$1.8342	\$0.0293	\$2.3559	\$2.6760	\$2.7230	\$2.7364
770	2017-08-08	\$0.7718	\$1.9242	\$1.1524	\$2.4251	\$2.6760	\$2.7200	\$2.7336
771	2017-08-09	\$0.7715	\$1.4626	\$0.6911	\$2.4701	\$2.7230	\$2.7250	\$2.7523
772	2017-08-10	\$0.4631	\$1.7644	\$1.3013	\$2.5626	\$2.7720	\$2.8080	\$2.8293
773	2017-08-11	\$2.0387	\$2.4022	\$0.3635	\$2.6260	\$2.8140	\$2.8390	\$2.8736
774	2017-08-12	\$2.1471	\$2.2645	\$0.1174	\$2.6215	\$2.8610	\$2.9010	\$2.8992
775	2017-08-13	\$2.1471	\$2.2645	\$0.1174	\$2.6215	\$2.8610	\$2.9010	\$2.8992
776	2017-08-14	\$2.1471	\$2.2645	\$0.1174	\$2.6215	\$2.8610	\$2.9010	\$2.8992
777	2017-08-15	\$2.2814	\$2.4066	\$0.1252	\$2.6581	\$2.8800	\$2.8990	\$2.9183
778	2017-08-16	\$2.3684	\$2.4446	\$0.0762	\$2.6400	\$2.8730	\$2.8910	\$2.9140
779	2017-08-17	\$2.2006	\$2.3245	\$0.1239	\$2.6219	\$2.8300	\$2.8530	\$2.8640
780	2017-08-18	\$1.9383	\$2.0685	\$0.1302	\$2.5751	\$2.8090	\$2.8310	\$2.8503
781	2017-08-19	\$1.4282	\$1.8616	\$0.4334	\$2.5718	\$2.8360	\$2.8480	\$2.8891
782	2017-08-20	\$1.4282	\$1.8616	\$0.4334	\$2.5718	\$2.8360	\$2.8480	\$2.8891
783	2017-08-21	\$1.4282	\$1.8616	\$0.4334	\$2.5718	\$2.8360	\$2.8480	\$2.8891
784	2017-08-22	\$1.6920	\$1.8085	\$0.1165	\$2.6179	\$2.8760	\$2.8830	\$2.9076
785	2017-08-23	\$1.3306	\$1.4817	\$0.1511	\$2.6954	\$2.9360	\$2.9510	\$2.9407
786	2017-08-24	\$0.9386	\$1.2959	\$0.3573	\$2.4313	\$2.8370	\$2.8530	\$2.8726
787	2017-08-25	\$1.9439	\$1.9559	\$0.0120	\$2.3141	\$2.8750	\$2.8990	\$2.9244
788	2017-08-26	\$1.4480	\$1.5539	\$0.1059	\$1.9789	\$2.8150	\$2.8480	\$2.8661
789	2017-08-27	\$1.4480	\$1.5539	\$0.1059	\$1.9789	\$2.8150	\$2.8480	\$2.8661
790	2017-08-28	\$1.4480	\$1.5539	\$0.1059	\$1.9789	\$2.8150	\$2.8480	\$2.8661
791	2017-08-29	\$1.9251	\$1.9269	\$0.0018	\$2.0751	\$2.8400	\$2.8620	\$2.8895
792	2017-08-30	\$1.8448	\$1.8452	\$0.0004	\$2.2266	\$2.8030	\$2.8220	\$2.8671

Centra Gas Manitoba Inc.
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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
793	2017-08-31	\$1.7122	\$1.7123	\$0.0001	\$2.0405	\$2.7870	\$2.8180	\$2.8332
794	2017-09-01	\$1.7044	\$1.7254	\$0.0210	\$2.5844	\$2.7930	\$2.8150	\$2.8654
795	2017-09-02	\$1.5395	\$2.1398	\$0.6003	\$2.6193	\$2.8280	\$2.8860	\$2.9647
796	2017-09-03	\$1.5395	\$2.1398	\$0.6003	\$2.6193	\$2.8280	\$2.8860	\$2.9647
797	2017-09-04	\$1.5395	\$2.1398	\$0.6003	\$2.6193	\$2.8280	\$2.8860	\$2.9647
798	2017-09-05	\$1.5395	\$2.1398	\$0.6003	\$2.6193	\$2.8280	\$2.8860	\$2.9647
799	2017-09-06	\$0.6862	\$1.9951	\$1.3089	\$2.2886	\$2.8290	\$2.8350	\$2.9167
800	2017-09-07	\$0.6182	\$1.9681	\$1.3499	\$2.0379	\$2.8560	\$2.8660	\$2.9575
801	2017-09-08	\$0.5001	\$1.8579	\$1.3578	\$2.2871	\$2.8310	\$2.8250	\$2.9340
802	2017-09-09	\$0.7554	\$2.1286	\$1.3732	\$2.5297	\$2.7370	\$2.7510	\$2.8829
803	2017-09-10	\$0.7554	\$2.1286	\$1.3732	\$2.5297	\$2.7370	\$2.7510	\$2.8829
804	2017-09-11	\$0.7554	\$2.1286	\$1.3732	\$2.5297	\$2.7370	\$2.7510	\$2.8829
805	2017-09-12	\$0.3465	\$2.0397	\$1.6932	\$2.6537	\$2.8150	\$2.8290	\$2.9309
806	2017-09-13	\$0.6437	\$2.3154	\$1.6717	\$2.7464	\$2.8800	\$2.9070	\$3.0255
807	2017-09-14	\$1.9099	\$1.9520	\$0.0421	\$2.7929	\$2.9510	\$2.9780	\$3.0813
808	2017-09-15	\$2.0333	\$2.0891	\$0.0558	\$2.7642	\$2.9320	\$2.9690	\$3.1184
809	2017-09-16	\$1.6119	\$1.7798	\$0.1679	\$2.5508	\$2.8220	\$2.8480	\$2.8917
810	2017-09-17	\$1.6119	\$1.7798	\$0.1679	\$2.5508	\$2.8220	\$2.8480	\$2.8917
811	2017-09-18	\$1.6119	\$1.7798	\$0.1679	\$2.5508	\$2.8220	\$2.8480	\$2.8917
812	2017-09-19	\$1.5506	\$1.7214	\$0.1708	\$2.7273	\$2.9880	\$3.0120	\$3.0781
813	2017-09-20	\$1.3471	\$1.7945	\$0.4474	\$2.7963	\$3.0270	\$3.0300	\$3.1144
814	2017-09-21	\$0.8029	\$1.9771	\$1.1742	\$2.7595	\$3.0460	\$3.0160	\$3.1337
815	2017-09-22	\$1.0874	\$2.3551	\$1.2677	\$2.4206	\$2.9610	\$2.9560	\$3.0347
816	2017-09-23	\$1.0090	\$2.2680	\$1.2590	\$2.2977	\$2.8890	\$2.8790	\$2.9351
817	2017-09-24	\$1.0090	\$2.2680	\$1.2590	\$2.2977	\$2.8890	\$2.8790	\$2.9351
818	2017-09-25	\$1.0090	\$2.2680	\$1.2590	\$2.2977	\$2.8890	\$2.8790	\$2.9351
819	2017-09-26	\$0.3077	\$1.9258	\$1.6181	\$2.0367	\$2.9310	\$2.9050	\$2.9878
820	2017-09-27	\$0.0309	\$2.0327	\$2.0018	\$2.0551	\$2.8670	\$2.8670	\$2.9274
821	2017-09-28	\$0.4198	\$2.0791	\$1.6593	\$2.0808	\$2.8490	\$2.8640	\$2.8899
822	2017-09-29	\$0.4180	\$2.0235	\$1.6055	\$2.0825	\$2.7970	\$2.8350	\$2.8221
823	2017-09-30	\$0.4180	\$2.0235	\$1.6055	\$2.0825	\$2.7110	\$2.7350	\$2.8221
824	2017-10-01	\$0.5520	\$1.6916	\$1.1396	\$1.9617	\$2.7110	\$2.7350	\$2.7200
825	2017-10-02	\$0.5520	\$1.6916	\$1.1396	\$1.9617	\$2.7110	\$2.7350	\$2.7200
826	2017-10-03	\$1.2576	\$1.8208	\$0.5632	\$1.7122	\$2.6310	\$2.7030	\$2.7032
827	2017-10-04	\$1.0762	\$1.8254	\$0.7492	\$1.7077	\$2.5570	\$2.6330	\$2.6505
828	2017-10-05	\$0.5260	\$1.7882	\$1.2622	\$1.7554	\$2.7130	\$2.7490	\$2.7644
829	2017-10-06	\$0.1822	\$1.6508	\$1.4686	\$1.7682	\$2.7960	\$2.8260	\$2.7983
830	2017-10-07	(\$0.0065)	\$2.3839	\$2.3904	\$2.2043	\$2.7070	\$2.7360	\$2.7152
831	2017-10-08	(\$0.0065)	\$2.3839	\$2.3904	\$2.2043	\$2.7070	\$2.7360	\$2.7152
832	2017-10-09	(\$0.0065)	\$2.3839	\$2.3904	\$2.2043	\$2.7070	\$2.7360	\$2.7152
833	2017-10-10	\$0.6622	\$2.7381	\$2.0759	\$2.5468	\$2.7130	\$2.7070	\$2.7671
834	2017-10-11	\$0.4181	\$2.6636	\$2.2455	\$2.6021	\$2.7610	\$2.7720	\$2.7907
835	2017-10-12	\$1.1227	\$2.7125	\$1.5898	\$2.6063	\$2.7850	\$2.8100	\$2.8339
836	2017-10-13	\$1.3659	\$2.6897	\$1.3238	\$2.6247	\$2.7640	\$2.7720	\$2.8328
837	2017-10-14	\$0.2672	\$2.6568	\$2.3896	\$2.6172	\$2.7570	\$2.8080	\$2.8818
838	2017-10-15	\$0.2672	\$2.6568	\$2.3896	\$2.6172	\$2.7570	\$2.8080	\$2.8818
839	2017-10-16	\$0.2672	\$2.6568	\$2.3896	\$2.6172	\$2.7570	\$2.8080	\$2.8818
840	2017-10-17	\$0.2865	\$2.6865	\$2.4000	\$2.6003	\$2.8030	\$2.7780	\$2.9028
841	2017-10-18	\$0.2380	\$2.5559	\$2.3179	\$2.5968	\$2.7950	\$2.7900	\$2.9297
842	2017-10-19	\$0.4892	\$2.4309	\$1.9417	\$2.5350	\$2.7440	\$2.7670	\$2.8383
843	2017-10-20	\$1.0570	\$2.4087	\$1.3517	\$2.4373	\$2.7250	\$2.7340	\$2.7488
844	2017-10-21	\$0.3750	\$2.5830	\$2.2080	\$2.4119	\$2.6430	\$2.6730	\$2.6488
845	2017-10-22	\$0.3750	\$2.5830	\$2.2080	\$2.4119	\$2.6430	\$2.6730	\$2.6488
846	2017-10-23	\$0.3750	\$2.5830	\$2.2080	\$2.4119	\$2.6430	\$2.6730	\$2.6488
847	2017-10-24	\$0.9900	\$2.9788	\$1.9888	\$2.7235	\$2.9840	\$2.9190	\$2.9466
848	2017-10-25	\$1.2387	\$2.8543	\$1.6156	\$2.7878	\$3.0190	\$2.9420	\$2.9826
849	2017-10-26	\$1.1610	\$2.3895	\$1.2285	\$2.2298	\$3.0100	\$2.9480	\$2.9845
850	2017-10-27	\$1.4556	\$2.6251	\$1.1695	\$2.4129	\$2.9330	\$2.8510	\$2.8905
851	2017-10-28	\$1.0217	\$2.7488	\$1.7271	\$2.6415	\$2.8450	\$2.7730	\$2.8114
852	2017-10-29	\$1.0217	\$2.7488	\$1.7271	\$2.6415	\$2.8450	\$2.7730	\$2.8114
853	2017-10-30	\$1.0217	\$2.7488	\$1.7271	\$2.6415	\$2.8450	\$2.7730	\$2.8114
854	2017-10-31	\$1.9151	\$3.0635	\$1.1484	\$2.8333	\$3.0490	\$2.9220	\$2.9769
855	2017-11-01	\$2.2621	\$2.7221	\$0.4600	\$2.6417	\$2.7630	\$2.7960	\$2.7958
856	2017-11-02	\$2.3901	\$2.8896	\$0.4995	\$2.6565	\$2.6740	\$2.7030	\$2.8362
857	2017-11-03	\$2.6211	\$2.9934	\$0.3723	\$2.7710	\$2.7730	\$2.8100	\$2.9258
858	2017-11-04	\$2.5799	\$2.9053	\$0.3254	\$2.7399	\$2.8260	\$2.8280	\$2.9024
859	2017-11-05	\$2.5799	\$2.9053	\$0.3254	\$2.7399	\$2.8260	\$2.8280	\$2.9024
860	2017-11-06	\$2.5799	\$2.9053	\$0.3254	\$2.7399	\$2.8260	\$2.8280	\$2.9024
861	2017-11-07	\$2.5249	\$2.7571	\$0.2322	\$2.9110	\$3.0460	\$3.0220	\$3.1291
862	2017-11-08	\$2.5846	\$2.7306	\$0.1460	\$2.8960	\$3.0760	\$3.0530	\$3.2052
863	2017-11-09	\$2.5747	\$2.8294	\$0.2547	\$3.1331	\$3.3110	\$3.1990	\$3.3418
864	2017-11-10	\$2.4500	\$2.6718	\$0.2218	\$3.1930	\$3.3420	\$3.2250	\$3.3906

Centra Gas Manitoba Inc.
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865	2017-11-11	\$2.3075	\$2.7472	\$0.4397	\$3.0010	\$3.1650	\$3.1330	\$3.3149
866	2017-11-12	\$2.3075	\$2.7472	\$0.4397	\$3.0010	\$3.1650	\$3.1330	\$3.3149
867	2017-11-13	\$2.3075	\$2.7472	\$0.4397	\$3.0010	\$3.1650	\$3.1330	\$3.3149
868	2017-11-14	\$2.1702	\$2.8518	\$0.6816	\$2.9707	\$3.1020	\$3.1360	\$3.2872
869	2017-11-15	\$1.8588	\$3.2630	\$1.4042	\$2.9989	\$2.9960	\$3.0450	\$3.1622
870	2017-11-16	\$2.0042	\$3.3263	\$1.3221	\$3.0362	\$3.0960	\$3.0910	\$3.2205
871	2017-11-17	\$2.0190	\$3.2462	\$1.2272	\$2.9964	\$3.0130	\$3.0080	\$3.1639
872	2017-11-18	\$1.9764	\$3.1713	\$1.1949	\$2.9184	\$2.9980	\$2.9970	\$3.1553
873	2017-11-19	\$1.9764	\$3.1713	\$1.1949	\$2.9184	\$2.9980	\$2.9970	\$3.1553
874	2017-11-20	\$1.9764	\$3.1713	\$1.1949	\$2.9184	\$2.9980	\$2.9970	\$3.1553
875	2017-11-21	\$1.9646	\$3.2535	\$1.2889	\$2.9923	\$3.0300	\$3.0240	\$3.1454
876	2017-11-22	\$1.9782	\$3.2929	\$1.3147	\$3.0097	\$3.0490	\$3.0380	\$3.1593
877	2017-11-23	\$1.8694	\$3.1194	\$1.2500	\$2.7692	\$2.8300	\$2.8440	\$2.9782
878	2017-11-24	\$1.8694	\$3.1194	\$1.2500	\$2.7692	\$2.8300	\$2.8440	\$2.9782
879	2017-11-25	\$1.8694	\$3.1194	\$1.2500	\$2.7692	\$2.8300	\$2.8440	\$2.9782
880	2017-11-26	\$1.8694	\$3.1194	\$1.2500	\$2.7692	\$2.8300	\$2.8440	\$2.9782
881	2017-11-27	\$1.8694	\$3.1194	\$1.2500	\$2.7692	\$2.8300	\$2.8440	\$2.9782
882	2017-11-28	\$1.9056	\$2.3121	\$0.4065	\$2.5889	\$2.6910	\$2.7270	\$2.8919
883	2017-11-29	\$2.0320	\$2.5536	\$0.5216	\$2.7033	\$2.8470	\$2.8600	\$3.0575
884	2017-11-30	\$1.9862	\$3.2928	\$1.3066	\$2.9740	\$2.9920	\$3.0120	\$3.2368
885	2017-12-01	\$1.8680	\$3.1855	\$1.3175	\$2.7221	\$2.7780	\$2.8330	\$2.9799
886	2017-12-02	\$1.8151	\$3.0101	\$1.1950	\$2.6500	\$2.7250	\$2.7550	\$2.7713
887	2017-12-03	\$1.8151	\$3.0101	\$1.1950	\$2.6500	\$2.7250	\$2.7550	\$2.7713
888	2017-12-04	\$1.8151	\$3.0101	\$1.1950	\$2.6500	\$2.7250	\$2.7550	\$2.7713
889	2017-12-05	\$1.9591	\$3.3040	\$1.3449	\$2.8681	\$2.8650	\$2.8750	\$2.8767
890	2017-12-06	\$1.6107	\$3.2652	\$1.6545	\$2.8516	\$2.8900	\$2.8540	\$2.9560
891	2017-12-07	\$1.7058	\$3.3192	\$1.6134	\$2.8742	\$2.9110	\$2.8930	\$3.0223
892	2017-12-08	\$1.5716	\$3.0419	\$1.4703	\$2.7060	\$2.7080	\$2.7070	\$2.8370
893	2017-12-09	\$1.3540	\$3.0452	\$1.6912	\$2.6400	\$2.6280	\$2.6570	\$2.7883
894	2017-12-10	\$1.3540	\$3.0452	\$1.6912	\$2.6400	\$2.6280	\$2.6570	\$2.7883
895	2017-12-11	\$1.3540	\$3.0452	\$1.6912	\$2.6400	\$2.6280	\$2.6570	\$2.7883
896	2017-12-12	\$1.3750	\$3.1367	\$1.7617	\$2.7341	\$2.7810	\$2.7480	\$2.8579
897	2017-12-13	\$1.6510	\$3.1927	\$1.5417	\$2.7285	\$2.7440	\$2.7480	\$2.8281
898	2017-12-14	\$1.5930	\$3.0447	\$1.4517	\$2.6093	\$2.6180	\$2.6040	\$2.7751
899	2017-12-15	\$1.7838	\$2.9869	\$1.2031	\$2.5884	\$2.6120	\$2.5940	\$2.7644
900	2017-12-16	\$1.7820	\$2.8325	\$1.0505	\$2.5255	\$2.5540	\$2.5760	\$2.7473
901	2017-12-17	\$1.7820	\$2.8325	\$1.0505	\$2.5255	\$2.5540	\$2.5760	\$2.7473
902	2017-12-18	\$1.7820	\$2.8325	\$1.0505	\$2.5255	\$2.5540	\$2.5760	\$2.7473
903	2017-12-19	\$1.8589	\$3.0143	\$1.1554	\$2.6673	\$2.6680	\$2.6730	\$2.8714
904	2017-12-20	\$2.0604	\$2.9128	\$0.8524	\$2.7065	\$2.7160	\$2.7180	\$2.9302
905	2017-12-21	\$2.0157	\$2.9454	\$0.9297	\$2.6127	\$2.6320	\$2.6340	\$2.8165
906	2017-12-22	\$1.9678	\$2.5610	\$0.5932	\$2.4834	\$2.5380	\$2.5450	\$2.7131
907	2017-12-23	\$1.9494	\$2.0801	\$0.1307	\$2.6339	\$2.6740	\$2.6140	\$2.7924
908	2017-12-24	\$1.9494	\$2.0801	\$0.1307	\$2.6339	\$2.6740	\$2.6140	\$2.7924
909	2017-12-25	\$1.9494	\$2.0801	\$0.1307	\$2.6339	\$2.6740	\$2.6140	\$2.7924
910	2017-12-26	\$1.9494	\$2.0801	\$0.1307	\$2.6339	\$2.6740	\$2.6140	\$2.7924
911	2017-12-27	\$2.7056	\$3.5703	\$0.8647	\$3.4205	\$2.9290	\$2.6690	\$2.9126
912	2017-12-28	\$2.2414	\$3.7728	\$1.5314	\$3.4328	\$3.1510	\$2.7180	\$3.0249
913	2017-12-29	\$2.5960	\$3.5453	\$0.9493	\$4.3957	\$4.0370	\$2.9520	\$3.4097
914	2017-12-30	\$2.5960	\$3.5453	\$0.9493	\$4.3957	\$4.0370	\$2.9520	\$3.4097
915	2017-12-31	\$2.5960	\$3.5453	\$0.9493	\$4.3957	\$4.0370	\$2.9520	\$3.4097
916	2018-01-01	\$2.8531	\$3.5509	\$0.6978	\$4.4451	\$4.0370	\$2.9520	\$3.7040
917	2018-01-02	\$2.8531	\$3.5509	\$0.6978	\$4.4451	\$4.6120	\$3.0030	\$3.7040
918	2018-01-03	\$2.0682	\$5.7078	\$3.6396	\$9.3728	\$8.7880	\$3.8880	\$8.9218
919	2018-01-04	\$1.8468	\$5.2812	\$3.4344	\$6.2266	\$6.4330	\$3.1800	\$6.4418
920	2018-01-05	\$1.8118	\$8.6480	\$6.8362	\$7.4584	\$6.4680	\$2.9560	\$7.4729
921	2018-01-06	\$1.5531	\$4.5922	\$3.0391	\$4.1732	\$3.4960	\$2.8270	\$4.3314
922	2018-01-07	\$1.5531	\$4.5922	\$3.0391	\$4.1732	\$3.4960	\$2.8270	\$4.3314
923	2018-01-08	\$1.5531	\$4.5922	\$3.0391	\$4.1732	\$3.4960	\$2.8270	\$4.3314
924	2018-01-09	\$1.6858	\$2.8683	\$1.1825	\$2.8493	\$2.8230	\$2.8210	\$3.1693
925	2018-01-10	\$1.9595	\$2.7855	\$0.8260	\$2.8744	\$2.8280	\$2.8630	\$3.1042
926	2018-01-11	\$2.1566	\$2.4333	\$0.2767	\$2.9659	\$3.0310	\$3.0230	\$3.1625
927	2018-01-12	\$2.5356	\$2.7509	\$0.2153	\$3.2283	\$3.2450	\$3.0690	\$3.2939
928	2018-01-13	\$1.9254	\$3.8477	\$1.9223	\$3.8520	\$3.2450	\$3.0690	\$3.7975
929	2018-01-14	\$1.9254	\$3.8477	\$1.9223	\$3.8520	\$3.2450	\$3.0690	\$3.7975
930	2018-01-15	\$1.9254	\$3.8477	\$1.9223	\$3.8520	\$3.2450	\$3.0690	\$3.7975
931	2018-01-16	\$1.9254	\$3.8477	\$1.9223	\$3.8520	\$3.8250	\$3.3100	\$3.7975
932	2018-01-17	\$1.8092	\$3.0554	\$1.2462	\$3.8833	\$3.9080	\$3.6750	\$3.8284
933	2018-01-18	\$1.9294	\$2.9679	\$1.0385	\$3.2339	\$3.3250	\$3.1880	\$3.4608
934	2018-01-19	\$1.8059	\$3.0986	\$1.2927	\$3.0283	\$3.0040	\$3.0330	\$3.1808
935	2018-01-20	\$1.8182	\$2.6315	\$0.8133	\$2.9306	\$2.9310	\$2.9330	\$3.0585
936	2018-01-21	\$1.8182	\$2.6315	\$0.8133	\$2.9306	\$2.9310	\$2.9330	\$3.0585

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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
937	2018-01-22	\$1.8182	\$2.6315	\$0.8133	\$2.9306	\$2.9310	\$2.9330	\$3.0585
938	2018-01-23	\$1.9591	\$2.3596	\$0.4005	\$2.8784	\$2.9110	\$2.9140	\$2.9940
939	2018-01-24	\$2.0371	\$2.3139	\$0.2768	\$3.0564	\$3.0950	\$3.0520	\$3.2267
940	2018-01-25	\$2.0926	\$2.3527	\$0.2601	\$3.2319	\$3.2580	\$3.2690	\$3.4543
941	2018-01-26	\$2.1588	\$2.3304	\$0.1716	\$3.0560	\$3.1250	\$3.1520	\$3.3288
942	2018-01-27	\$2.2801	\$2.4916	\$0.2115	\$3.1430	\$3.2540	\$3.1730	\$3.2349
943	2018-01-28	\$2.2801	\$2.4916	\$0.2115	\$3.1430	\$3.2540	\$3.1730	\$3.2349
944	2018-01-29	\$2.2801	\$2.4916	\$0.2115	\$3.1430	\$3.2540	\$3.1730	\$3.2349
945	2018-01-30	\$2.1853	\$2.3541	\$0.1688	\$3.1505	\$3.2230	\$3.2060	\$3.3354
946	2018-01-31	\$2.2116	\$2.3475	\$0.1359	\$3.1734	\$3.1620	\$3.1890	\$3.2779
947	2018-02-01	\$2.1697	\$2.6923	\$0.5226	\$3.1424	\$3.1020	\$3.0210	\$3.2523
948	2018-02-02	\$2.1755	\$2.4737	\$0.2982	\$2.9068	\$2.8760	\$2.8910	\$3.1127
949	2018-02-03	\$1.8285	\$2.0633	\$0.2348	\$2.8714	\$2.7500	\$2.7640	\$2.9683
950	2018-02-04	\$1.8285	\$2.0633	\$0.2348	\$2.8714	\$2.7500	\$2.7640	\$2.9683
951	2018-02-05	\$1.8285	\$2.0633	\$0.2348	\$2.8714	\$2.7500	\$2.7640	\$2.9683
952	2018-02-06	\$1.8122	\$1.9886	\$0.1764	\$2.8490	\$2.7250	\$2.6850	\$2.8682
953	2018-02-07	\$1.8129	\$1.9937	\$0.1808	\$2.7525	\$2.6870	\$2.6600	\$2.7970
954	2018-02-08	\$1.8542	\$2.0884	\$0.2342	\$2.7360	\$2.6750	\$2.6450	\$2.8067
955	2018-02-09	\$2.0810	\$2.2441	\$0.1631	\$2.7826	\$2.7150	\$2.6930	\$2.8676
956	2018-02-10	\$2.0776	\$2.1765	\$0.0989	\$2.5699	\$2.5710	\$2.5700	\$2.6952
957	2018-02-11	\$2.0776	\$2.1765	\$0.0989	\$2.5699	\$2.5710	\$2.5700	\$2.6952
958	2018-02-12	\$2.0776	\$2.1765	\$0.0989	\$2.5699	\$2.5710	\$2.5700	\$2.6952
959	2018-02-13	\$1.8226	\$1.9207	\$0.0981	\$2.4288	\$2.4520	\$2.4750	\$2.6148
960	2018-02-14	\$1.9113	\$1.9896	\$0.0783	\$2.3814	\$2.4570	\$2.4910	\$2.6090
961	2018-02-15	\$1.8964	\$1.9836	\$0.0872	\$2.4076	\$2.4370	\$2.4270	\$2.4957
962	2018-02-16	\$2.0261	\$2.1264	\$0.1003	\$2.4084	\$2.4420	\$2.4650	\$2.5287
963	2018-02-17	\$1.9716	\$2.1089	\$0.1373	\$2.4018	\$2.4140	\$2.4580	\$2.4790
964	2018-02-18	\$1.9716	\$2.1089	\$0.1373	\$2.4018	\$2.4140	\$2.4580	\$2.4790
965	2018-02-19	\$1.9716	\$2.1089	\$0.1373	\$2.4018	\$2.4140	\$2.4580	\$2.4790
966	2018-02-20	\$1.9716	\$2.1089	\$0.1373	\$2.4018	\$2.4140	\$2.4580	\$2.4790
967	2018-02-21	\$2.0852	\$2.1786	\$0.0934	\$2.5264	\$2.5490	\$2.5760	\$2.5558
968	2018-02-22	\$2.2175	\$2.3239	\$0.1064	\$2.5283	\$2.5720	\$2.5780	\$2.5927
969	2018-02-23	\$2.0102	\$2.1131	\$0.1029	\$2.4992	\$2.5280	\$2.5360	\$2.5512
970	2018-02-24	\$1.9403	\$2.1856	\$0.2453	\$2.3595	\$2.4000	\$2.4440	\$2.4547
971	2018-02-25	\$1.9403	\$2.1856	\$0.2453	\$2.3595	\$2.4000	\$2.4440	\$2.4547
972	2018-02-26	\$1.9403	\$2.1856	\$0.2453	\$2.3595	\$2.4000	\$2.4440	\$2.4547
973	2018-02-27	\$1.8864	\$2.0757	\$0.1893	\$2.3350	\$2.4200	\$2.4570	\$2.4913
974	2018-02-28	\$1.9687	\$2.2969	\$0.3282	\$2.3586	\$2.3570	\$2.3970	\$2.4448
975	2018-03-01	\$1.7771	\$2.4537	\$0.6766	\$2.3674	\$2.4000	\$2.4160	\$2.4517
976	2018-03-02	\$1.8898	\$2.4216	\$0.5318	\$2.3726	\$2.4090	\$2.4300	\$2.4652
977	2018-03-03	\$1.9355	\$2.4342	\$0.4987	\$2.3747	\$2.4130	\$2.4570	\$2.4775
978	2018-03-04	\$1.9355	\$2.4342	\$0.4987	\$2.3747	\$2.4130	\$2.4570	\$2.4775
979	2018-03-05	\$1.9355	\$2.4342	\$0.4987	\$2.3747	\$2.4130	\$2.4570	\$2.4775
980	2018-03-06	\$1.8538	\$2.3892	\$0.5354	\$2.4721	\$2.4890	\$2.5130	\$2.5442
981	2018-03-07	\$1.8638	\$2.5688	\$0.7050	\$2.5473	\$2.6160	\$2.5650	\$2.6020
982	2018-03-08	\$1.8862	\$2.0224	\$0.1362	\$2.5609	\$2.6380	\$2.6240	\$2.6469
983	2018-03-09	\$1.8895	\$2.1190	\$0.2295	\$2.4931	\$2.5560	\$2.5550	\$2.5841
984	2018-03-10	\$1.8558	\$2.3897	\$0.5339	\$2.4412	\$2.5010	\$2.5220	\$2.5550
985	2018-03-11	\$1.8558	\$2.3897	\$0.5339	\$2.4412	\$2.5010	\$2.5220	\$2.5550
986	2018-03-12	\$1.8558	\$2.3897	\$0.5339	\$2.4412	\$2.5010	\$2.5220	\$2.5550
987	2018-03-13	\$1.9443	\$2.4836	\$0.5393	\$2.5709	\$2.6390	\$2.6230	\$2.6511
988	2018-03-14	\$1.9025	\$2.6746	\$0.7721	\$2.5633	\$2.6310	\$2.6200	\$2.6459
989	2018-03-15	\$1.9700	\$2.5166	\$0.5466	\$2.4954	\$2.5440	\$2.5410	\$2.5698
990	2018-03-16	\$2.0000	\$2.4571	\$0.4571	\$2.4719	\$2.5380	\$2.5450	\$2.5753
991	2018-03-17	\$1.9645	\$2.1710	\$0.2065	\$2.3434	\$2.4490	\$2.4750	\$2.5297
992	2018-03-18	\$1.9645	\$2.1710	\$0.2065	\$2.3434	\$2.4490	\$2.4750	\$2.5297
993	2018-03-19	\$1.9645	\$2.1710	\$0.2065	\$2.3434	\$2.4490	\$2.4750	\$2.5297
994	2018-03-20	\$1.9316	\$2.1173	\$0.1857	\$2.4104	\$2.4900	\$2.4900	\$2.5301
995	2018-03-21	\$1.8682	\$2.1056	\$0.2374	\$2.4803	\$2.5430	\$2.5340	\$2.5683
996	2018-03-22	\$1.8190	\$2.1737	\$0.3547	\$2.4606	\$2.5720	\$2.5690	\$2.5779
997	2018-03-23	\$1.9301	\$2.4003	\$0.4702	\$2.3829	\$2.4750	\$2.4940	\$2.5187
998	2018-03-24	\$1.8821	\$2.2911	\$0.4090	\$2.2941	\$2.4260	\$2.4280	\$2.4626
999	2018-03-25	\$1.8821	\$2.2911	\$0.4090	\$2.2941	\$2.4260	\$2.4280	\$2.4626
1000	2018-03-26	\$1.8821	\$2.2911	\$0.4090	\$2.2941	\$2.4260	\$2.4280	\$2.4626
1001	2018-03-27	\$1.8236	\$2.3298	\$0.5062	\$2.3172	\$2.3840	\$2.4240	\$2.4593
1002	2018-03-28	\$2.0080	\$2.3003	\$0.2923	\$2.3587	\$2.4030	\$2.4420	\$2.4803
1003	2018-03-29	\$2.0918	\$2.3543	\$0.2625	\$2.3701	\$2.3950	\$2.4480	\$2.4856
1004	2018-03-30	\$2.0918	\$2.3543	\$0.2625	\$2.3701	\$2.3950	\$2.4480	\$2.4856
1005	2018-03-31	\$2.0918	\$2.3543	\$0.2625	\$2.3701	\$2.3950	\$2.4480	\$2.4856
1006	2018-04-01	\$2.0241	\$2.2823	\$0.2582	\$2.4353	\$2.3950	\$2.4480	\$2.6692
1007	2018-04-02	\$2.0241	\$2.2823	\$0.2582	\$2.4353	\$2.6560	\$2.6450	\$2.6692
1008	2018-04-03	\$1.9679	\$2.0836	\$0.1157	\$2.3970	\$2.6460	\$2.5800	\$2.6097

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1009	2018-04-04	\$1.7960	\$1.8891	\$0.0931	\$2.5402	\$2.7170	\$2.6650	\$2.7155
1010	2018-04-05	\$1.9657	\$2.2009	\$0.2352	\$2.7899	\$2.9200	\$2.8900	\$3.1101
1011	2018-04-06	\$2.0053	\$2.3145	\$0.3092	\$2.8117	\$2.9580	\$2.9250	\$3.0425
1012	2018-04-07	\$1.8739	\$2.3720	\$0.4981	\$2.7128	\$2.8990	\$2.8680	\$3.0128
1013	2018-04-08	\$1.8739	\$2.3720	\$0.4981	\$2.7128	\$2.8990	\$2.8680	\$3.0128
1014	2018-04-09	\$1.8739	\$2.3720	\$0.4981	\$2.7128	\$2.8990	\$2.8680	\$3.0128
1015	2018-04-10	\$0.8384	\$2.0947	\$1.2563	\$2.4507	\$2.6890	\$2.6970	\$2.7918
1016	2018-04-11	\$1.2557	\$2.2025	\$0.9468	\$2.4110	\$2.5780	\$2.6140	\$2.6943
1017	2018-04-12	\$1.4102	\$2.2159	\$0.8057	\$2.3765	\$2.5610	\$2.6130	\$2.6971
1018	2018-04-13	\$0.8743	\$2.0949	\$1.2206	\$2.3625	\$2.5070	\$2.5970	\$2.6931
1019	2018-04-14	\$0.7988	\$2.3764	\$1.5776	\$2.5834	\$2.8290	\$2.9200	\$2.9434
1020	2018-04-15	\$0.7988	\$2.3764	\$1.5776	\$2.5834	\$2.8290	\$2.9200	\$2.9434
1021	2018-04-16	\$0.7988	\$2.3764	\$1.5776	\$2.5834	\$2.8290	\$2.9200	\$2.9434
1022	2018-04-17	\$1.1856	\$3.2926	\$2.1070	\$3.5974	\$3.6300	\$3.6090	\$3.8179
1023	2018-04-18	\$1.1228	\$3.3874	\$2.2646	\$3.7273	\$3.6990	\$3.4450	\$4.1168
1024	2018-04-19	\$0.7567	\$3.3746	\$2.6179	\$3.3763	\$3.1750	\$3.1260	\$4.3832
1025	2018-04-20	\$0.7092	\$2.1565	\$1.4473	\$2.5359	\$2.6930	\$2.6980	\$3.4131
1026	2018-04-21	\$1.2749	\$2.0320	\$0.7571	\$2.2623	\$2.5550	\$2.6480	\$2.7787
1027	2018-04-22	\$1.2749	\$2.0320	\$0.7571	\$2.2623	\$2.5550	\$2.6480	\$2.7787
1028	2018-04-23	\$1.2749	\$2.0320	\$0.7571	\$2.2623	\$2.5550	\$2.6480	\$2.7787
1029	2018-04-24	\$0.6395	\$2.3099	\$1.6704	\$2.4040	\$2.6100	\$2.6400	\$2.6655
1030	2018-04-25	\$1.0064	\$2.6253	\$1.6189	\$2.4071	\$2.6420	\$2.6670	\$2.6811
1031	2018-04-26	\$1.8316	\$1.9235	\$0.0919	\$2.3525	\$2.6060	\$2.6360	\$2.6575
1032	2018-04-27	\$1.9191	\$2.0061	\$0.0870	\$2.3863	\$2.6100	\$2.6730	\$2.6661
1033	2018-04-28	\$1.5203	\$2.0512	\$0.5309	\$2.3299	\$2.5230	\$2.6260	\$2.6277
1034	2018-04-29	\$1.5203	\$2.0512	\$0.5309	\$2.3299	\$2.5230	\$2.6260	\$2.6277
1035	2018-04-30	\$1.5203	\$2.0512	\$0.5309	\$2.3299	\$2.5230	\$2.6260	\$2.6277
1036	2018-05-01	\$0.4137	\$2.3298	\$1.9161	\$2.2071	\$2.3800	\$2.5190	\$2.5106
1037	2018-05-02	\$0.2672	\$2.2357	\$1.9685	\$2.3039	\$2.4060	\$2.5670	\$2.5836
1038	2018-05-03	\$0.2146	\$2.1963	\$1.9817	\$2.2159	\$2.4070	\$2.5460	\$2.5266
1039	2018-05-04	\$0.1957	\$2.2540	\$2.0583	\$2.3041	\$2.4210	\$2.5370	\$2.5069
1040	2018-05-05	(\$0.0235)	\$2.3803	\$2.4038	\$2.2084	\$2.3220	\$2.4900	\$2.4861
1041	2018-05-06	(\$0.0235)	\$2.3803	\$2.4038	\$2.2084	\$2.3220	\$2.4900	\$2.4861
1042	2018-05-07	(\$0.0235)	\$2.3803	\$2.4038	\$2.2084	\$2.3220	\$2.4900	\$2.4861
1043	2018-05-08	\$0.5684	\$2.1064	\$1.5380	\$2.1016	\$2.3700	\$2.5270	\$2.5374
1044	2018-05-09	\$0.6061	\$2.2472	\$1.6411	\$2.2078	\$2.3830	\$2.5310	\$2.5332
1045	2018-05-10	\$0.6261	\$2.3650	\$1.7389	\$2.2669	\$2.4160	\$2.5330	\$2.5314
1046	2018-05-11	\$0.6026	\$2.3850	\$1.7824	\$2.3185	\$2.4270	\$2.5280	\$2.5347
1047	2018-05-12	\$0.2644	\$2.2708	\$2.0064	\$2.2039	\$2.3670	\$2.5390	\$2.5402
1048	2018-05-13	\$0.2644	\$2.2708	\$2.0064	\$2.2039	\$2.3670	\$2.5390	\$2.5402
1049	2018-05-14	\$0.2644	\$2.2708	\$2.0064	\$2.2039	\$2.3670	\$2.5390	\$2.5402
1050	2018-05-15	\$0.2130	\$2.4102	\$2.1972	\$2.2976	\$2.5310	\$2.5970	\$2.5922
1051	2018-05-16	\$0.6289	\$2.7414	\$2.1125	\$2.4310	\$2.6160	\$2.6470	\$2.6378
1052	2018-05-17	\$1.7993	\$1.9045	\$0.1052	\$2.1583	\$2.4930	\$2.6130	\$2.5998
1053	2018-05-18	\$1.7947	\$1.9469	\$0.1522	\$2.1676	\$2.3780	\$2.5320	\$2.5568
1054	2018-05-19	\$1.6509	\$1.9805	\$0.3296	\$2.1527	\$2.4490	\$2.6060	\$2.6104
1055	2018-05-20	\$1.6509	\$1.9805	\$0.3296	\$2.1527	\$2.4490	\$2.6060	\$2.6104
1056	2018-05-21	\$1.6509	\$1.9805	\$0.3296	\$2.1527	\$2.4490	\$2.6060	\$2.6104
1057	2018-05-22	\$1.2249	\$2.3023	\$1.0774	\$2.2556	\$2.5500	\$2.6080	\$2.6092
1058	2018-05-23	\$1.2138	\$2.3545	\$1.1407	\$2.5027	\$2.6820	\$2.6840	\$2.6809
1059	2018-05-24	\$1.7881	\$2.5981	\$0.8100	\$2.6052	\$2.7370	\$2.7580	\$2.7518
1060	2018-05-25	\$1.8302	\$2.6023	\$0.7721	\$2.5039	\$2.6960	\$2.7460	\$2.7466
1061	2018-05-26	\$1.7150	\$2.4933	\$0.7783	\$2.3857	\$2.6750	\$2.7740	\$2.7800
1062	2018-05-27	\$1.7150	\$2.4933	\$0.7783	\$2.3857	\$2.6750	\$2.7740	\$2.7800
1063	2018-05-28	\$1.7150	\$2.4933	\$0.7783	\$2.3857	\$2.6750	\$2.7740	\$2.7800
1064	2018-05-29	\$1.7150	\$2.4933	\$0.7783	\$2.3857	\$2.6750	\$2.7740	\$2.7800
1065	2018-05-30	\$1.7956	\$2.2479	\$0.4523	\$2.2275	\$2.6180	\$2.6880	\$2.6841
1066	2018-05-31	\$1.8034	\$2.1770	\$0.3736	\$2.2737	\$2.6570	\$2.7200	\$2.7085
1067	2018-06-01	\$1.8221	\$1.9988	\$0.1767	\$2.4172	\$2.7180	\$2.7390	\$2.7321
1068	2018-06-02	\$0.8546	\$2.4255	\$1.5709	\$2.4519	\$2.6970	\$2.7520	\$2.7489
1069	2018-06-03	\$0.8546	\$2.4255	\$1.5709	\$2.4519	\$2.6970	\$2.7520	\$2.7489
1070	2018-06-04	\$0.8546	\$2.4255	\$1.5709	\$2.4519	\$2.6970	\$2.7520	\$2.7489
1071	2018-06-05	\$0.2973	\$2.5736	\$2.2763	\$2.4792	\$2.7330	\$2.7470	\$2.7432
1072	2018-06-06	\$0.5686	\$2.2353	\$1.6667	\$2.3679	\$2.6740	\$2.6900	\$2.6876
1073	2018-06-07	\$1.0348	\$2.4136	\$1.3788	\$2.4160	\$2.6420	\$2.6900	\$2.6861
1074	2018-06-08	\$1.2397	\$2.4718	\$1.2321	\$2.4845	\$2.6960	\$2.7660	\$2.7505
1075	2018-06-09	\$0.6917	\$2.2370	\$1.5453	\$2.3861	\$2.6190	\$2.6690	\$2.6861
1076	2018-06-10	\$0.6917	\$2.2370	\$1.5453	\$2.3861	\$2.6190	\$2.6690	\$2.6861
1077	2018-06-11	\$0.6917	\$2.2370	\$1.5453	\$2.3861	\$2.6190	\$2.6690	\$2.6861
1078	2018-06-12	\$0.5698	\$2.5273	\$1.9575	\$2.5335	\$2.7280	\$2.7400	\$2.7389
1079	2018-06-13	\$1.0670	\$2.7959	\$1.7289	\$2.4950	\$2.6930	\$2.7400	\$2.7326
1080	2018-06-14	\$1.4023	\$2.6378	\$1.2355	\$2.4992	\$2.7200	\$2.7640	\$2.7602

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1081	2018-06-15	\$1.2113	\$2.7429	\$1.5316	\$2.6168	\$2.7800	\$2.7800	\$2.7759
1082	2018-06-16	\$1.0015	\$2.6938	\$1.6923	\$2.5852	\$2.8430	\$2.8490	\$2.8439
1083	2018-06-17	\$1.0015	\$2.6938	\$1.6923	\$2.5852	\$2.8430	\$2.8490	\$2.8439
1084	2018-06-18	\$1.0015	\$2.6938	\$1.6923	\$2.5852	\$2.8430	\$2.8490	\$2.8439
1085	2018-06-19	\$1.0695	\$2.9633	\$1.8938	\$2.6071	\$2.7950	\$2.8300	\$2.8328
1086	2018-06-20	\$0.8507	\$2.6960	\$1.8453	\$2.5295	\$2.7190	\$2.7450	\$2.7444
1087	2018-06-21	\$1.3200	\$2.7797	\$1.4597	\$2.5860	\$2.7570	\$2.7820	\$2.7764
1088	2018-06-22	\$1.6561	\$2.7020	\$1.0459	\$2.5166	\$2.8010	\$2.8300	\$2.8120
1089	2018-06-23	\$1.6667	\$1.9616	\$0.2949	\$2.4184	\$2.6990	\$2.7490	\$2.7515
1090	2018-06-24	\$1.6667	\$1.9616	\$0.2949	\$2.4184	\$2.6990	\$2.7490	\$2.7515
1091	2018-06-25	\$1.6667	\$1.9616	\$0.2949	\$2.4184	\$2.6990	\$2.7490	\$2.7515
1092	2018-06-26	\$1.6368	\$2.0435	\$0.4067	\$2.4170	\$2.7280	\$2.7400	\$2.7459
1093	2018-06-27	\$1.1169	\$2.5718	\$1.4549	\$2.4888	\$2.7340	\$2.7590	\$2.7568
1094	2018-06-28	\$0.9415	\$2.5715	\$1.6300	\$2.5864	\$2.8130	\$2.8520	\$2.8435
1095	2018-06-29	\$1.5604	\$2.4330	\$0.8726	\$2.5992	\$2.8810	\$2.8860	\$2.8894
1096	2018-06-30	\$1.5604	\$2.4330	\$0.8726	\$2.5992	\$2.7950	\$2.8200	\$2.8894
1097	2018-07-01	\$1.6355	\$2.2042	\$0.5687	\$2.5355	\$2.7950	\$2.8200	\$2.8474
1098	2018-07-02	\$1.6355	\$2.2042	\$0.5687	\$2.5355	\$2.7950	\$2.8200	\$2.8474
1099	2018-07-03	\$0.8933	\$2.6572	\$1.7639	\$2.6050	\$2.8140	\$2.8450	\$2.8460
1100	2018-07-04	\$1.3254	\$2.7516	\$1.4262	\$2.5831	\$2.7470	\$2.8340	\$2.8350
1101	2018-07-05	\$1.3254	\$2.7516	\$1.4262	\$2.5831	\$2.7470	\$2.8340	\$2.8350
1102	2018-07-06	\$1.3684	\$2.6840	\$1.3156	\$2.5265	\$2.7100	\$2.7980	\$2.8019
1103	2018-07-07	\$1.0132	\$2.5325	\$1.5193	\$2.4481	\$2.6000	\$2.7480	\$2.7533
1104	2018-07-08	\$1.0132	\$2.5325	\$1.5193	\$2.4481	\$2.6000	\$2.7480	\$2.7533
1105	2018-07-09	\$1.0132	\$2.5325	\$1.5193	\$2.4481	\$2.6000	\$2.7480	\$2.7533
1106	2018-07-10	\$1.3105	\$2.5349	\$1.2244	\$2.5434	\$2.6970	\$2.7400	\$2.7450
1107	2018-07-11	\$1.4820	\$2.5292	\$1.0472	\$2.6055	\$2.7170	\$2.7330	\$2.7439
1108	2018-07-12	\$1.6384	\$2.6550	\$1.0166	\$2.5937	\$2.7470	\$2.7560	\$2.7578
1109	2018-07-13	\$1.6043	\$2.6331	\$1.0288	\$2.5905	\$2.7410	\$2.7500	\$2.7457
1110	2018-07-14	\$1.3466	\$2.6293	\$1.2827	\$2.5817	\$2.6330	\$2.7030	\$2.7123
1111	2018-07-15	\$1.3466	\$2.6293	\$1.2827	\$2.5817	\$2.6330	\$2.7030	\$2.7123
1112	2018-07-16	\$1.3466	\$2.6293	\$1.2827	\$2.5817	\$2.6330	\$2.7030	\$2.7123
1113	2018-07-17	\$1.0869	\$2.6616	\$1.5747	\$2.5493	\$2.7090	\$2.7130	\$2.7431
1114	2018-07-18	\$1.2683	\$2.7205	\$1.4522	\$2.5799	\$2.7290	\$2.7400	\$2.7545
1115	2018-07-19	\$1.4570	\$2.6951	\$1.2381	\$2.5127	\$2.6690	\$2.7080	\$2.7051
1116	2018-07-20	\$1.3176	\$2.6909	\$1.3733	\$2.5256	\$2.5850	\$2.6710	\$2.6842
1117	2018-07-21	\$0.9585	\$2.5924	\$1.6339	\$2.5039	\$2.6270	\$2.7550	\$2.7614
1118	2018-07-22	\$0.9585	\$2.5924	\$1.6339	\$2.5039	\$2.6270	\$2.7550	\$2.7614
1119	2018-07-23	\$0.9585	\$2.5924	\$1.6339	\$2.5039	\$2.6270	\$2.7550	\$2.7614
1120	2018-07-24	\$1.5308	\$2.8135	\$1.2827	\$2.6017	\$2.6810	\$2.7330	\$2.7406
1121	2018-07-25	\$1.5919	\$2.8162	\$1.2243	\$2.5691	\$2.6540	\$2.7530	\$2.7717
1122	2018-07-26	\$1.5037	\$2.6769	\$1.1732	\$2.5290	\$2.7000	\$2.8130	\$2.8177
1123	2018-07-27	\$1.4153	\$2.6474	\$1.2321	\$2.5562	\$2.6990	\$2.8170	\$2.8333
1124	2018-07-28	\$0.8479	\$2.6585	\$1.8106	\$2.5582	\$2.6420	\$2.8280	\$2.8349
1125	2018-07-29	\$0.8479	\$2.6585	\$1.8106	\$2.5582	\$2.6420	\$2.8280	\$2.8349
1126	2018-07-30	\$0.8479	\$2.6585	\$1.8106	\$2.5582	\$2.6420	\$2.8280	\$2.8349
1127	2018-07-31	\$1.1586	\$2.8720	\$1.7134	\$2.5972	\$2.6750	\$2.8030	\$2.8095
1128	2018-08-01	\$1.3205	\$2.9313	\$1.6108	\$2.6807	\$2.7280	\$2.8340	\$2.8635
1129	2018-08-02	\$1.2394	\$2.8389	\$1.5995	\$2.6658	\$2.7400	\$2.8020	\$2.8566
1130	2018-08-03	\$1.2519	\$2.8439	\$1.5920	\$2.6802	\$2.7410	\$2.7960	\$2.8825
1131	2018-08-04	\$0.8248	\$2.8355	\$2.0107	\$2.7919	\$2.8370	\$2.8950	\$2.9911
1132	2018-08-05	\$0.8248	\$2.8355	\$2.0107	\$2.7919	\$2.8370	\$2.8950	\$2.9911
1133	2018-08-06	\$0.8248	\$2.8355	\$2.0107	\$2.7919	\$2.8370	\$2.8950	\$2.9911
1134	2018-08-07	\$1.2633	\$3.0784	\$1.8151	\$2.9145	\$2.9880	\$2.9960	\$3.1027
1135	2018-08-08	\$1.2298	\$3.1660	\$1.9362	\$2.9247	\$2.9640	\$2.9800	\$3.1345
1136	2018-08-09	\$0.9633	\$3.0791	\$2.1158	\$2.9614	\$2.9990	\$3.0050	\$3.1002
1137	2018-08-10	\$1.3343	\$2.9936	\$1.6593	\$2.8644	\$2.9100	\$2.9880	\$3.0585
1138	2018-08-11	\$1.0612	\$2.9653	\$1.9041	\$2.7672	\$2.8230	\$2.9750	\$2.9981
1139	2018-08-12	\$1.0612	\$2.9653	\$1.9041	\$2.7672	\$2.8230	\$2.9750	\$2.9981
1140	2018-08-13	\$1.0612	\$2.9653	\$1.9041	\$2.7672	\$2.8230	\$2.9750	\$2.9981
1141	2018-08-14	\$1.2672	\$3.0576	\$1.7904	\$2.8572	\$2.9290	\$2.9750	\$3.0754
1142	2018-08-15	\$1.3985	\$3.0348	\$1.6363	\$2.8571	\$2.9460	\$3.0200	\$3.1078
1143	2018-08-16	\$1.4838	\$3.0145	\$1.5307	\$2.8503	\$2.9510	\$3.0200	\$3.1189
1144	2018-08-17	\$1.2992	\$2.9371	\$1.6379	\$2.8433	\$2.9240	\$2.9900	\$3.1183
1145	2018-08-18	\$0.5163	\$2.7877	\$2.2714	\$2.8526	\$2.8890	\$2.9940	\$3.0684
1146	2018-08-19	\$0.5163	\$2.7877	\$2.2714	\$2.8526	\$2.8890	\$2.9940	\$3.0684
1147	2018-08-20	\$0.5163	\$2.7877	\$2.2714	\$2.8526	\$2.8890	\$2.9940	\$3.0684
1148	2018-08-21	\$1.0207	\$2.9457	\$1.9250	\$2.8622	\$2.8930	\$2.9870	\$3.0273
1149	2018-08-22	\$0.9759	\$2.9654	\$1.9895	\$2.8634	\$2.8770	\$2.9870	\$3.0247
1150	2018-08-23	\$1.2771	\$3.0482	\$1.7711	\$2.8299	\$2.8400	\$3.0040	\$3.0464
1151	2018-08-24	\$0.9916	\$2.9190	\$1.9274	\$2.8121	\$2.8430	\$3.0010	\$3.0237
1152	2018-08-25	\$0.3469	\$3.0476	\$2.7007	\$2.7759	\$2.8180	\$2.9500	\$2.9989

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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
1153	2018-08-26	\$0.3469	\$3.0476	\$2.7007	\$2.7759	\$2.8180	\$2.9500	\$2.9989
1154	2018-08-27	\$0.3469	\$3.0476	\$2.7007	\$2.7759	\$2.8180	\$2.9500	\$2.9989
1155	2018-08-28	\$1.0568	\$3.1803	\$2.1235	\$2.8486	\$2.8480	\$2.9700	\$3.0662
1156	2018-08-29	\$0.8601	\$2.9772	\$2.1171	\$2.8280	\$2.7910	\$2.9060	\$3.0450
1157	2018-08-30	\$0.6976	\$2.9552	\$2.2576	\$2.7505	\$2.7250	\$2.8860	\$3.0008
1158	2018-08-31	\$0.3303	\$2.9470	\$2.6167	\$2.7053	\$2.6920	\$2.8690	\$2.9384
1159	2018-09-01	\$0.5285	\$2.7014	\$2.1729	\$2.6732	\$2.8210	\$2.9300	\$2.9858
1160	2018-09-02	\$0.5285	\$2.7014	\$2.1729	\$2.6732	\$2.8210	\$2.9300	\$2.9858
1161	2018-09-03	\$0.5285	\$2.7014	\$2.1729	\$2.6732	\$2.8210	\$2.9300	\$2.9858
1162	2018-09-04	\$0.5285	\$2.7014	\$2.1729	\$2.6732	\$2.8210	\$2.9300	\$2.9858
1163	2018-09-05	\$0.9667	\$2.9091	\$1.9424	\$2.7213	\$2.8650	\$2.9030	\$3.0099
1164	2018-09-06	\$1.0895	\$2.8653	\$1.7758	\$2.7298	\$2.8610	\$2.9110	\$2.9996
1165	2018-09-07	\$0.8726	\$2.7773	\$1.9047	\$2.6190	\$2.7350	\$2.8360	\$2.9194
1166	2018-09-08	\$0.4460	\$2.7038	\$2.2578	\$2.5843	\$2.6980	\$2.8070	\$2.8726
1167	2018-09-09	\$0.4460	\$2.7038	\$2.2578	\$2.5843	\$2.6980	\$2.8070	\$2.8726
1168	2018-09-10	\$0.4460	\$2.7038	\$2.2578	\$2.5843	\$2.6980	\$2.8070	\$2.8726
1169	2018-09-11	\$1.1113	\$2.7860	\$1.6747	\$2.5711	\$2.6970	\$2.8700	\$2.8492
1170	2018-09-12	\$0.9911	\$2.8996	\$1.9085	\$2.6169	\$2.6440	\$2.8600	\$2.8781
1171	2018-09-13	\$1.3553	\$2.8394	\$1.4841	\$2.6468	\$2.7080	\$2.8380	\$2.8943
1172	2018-09-14	\$1.2544	\$2.9726	\$1.7182	\$2.6665	\$2.7580	\$2.8260	\$2.8807
1173	2018-09-15	\$1.3867	\$2.9539	\$1.5672	\$2.6218	\$2.6560	\$2.7860	\$2.8221
1174	2018-09-16	\$1.3867	\$2.9539	\$1.5672	\$2.6218	\$2.6560	\$2.7860	\$2.8221
1175	2018-09-17	\$1.3867	\$2.9539	\$1.5672	\$2.6218	\$2.6560	\$2.7860	\$2.8221
1176	2018-09-18	\$1.1556	\$3.0957	\$1.9401	\$2.8692	\$2.8800	\$2.8640	\$2.9331
1177	2018-09-19	\$1.0429	\$3.1502	\$2.1073	\$2.8433	\$2.9710	\$2.8970	\$2.9614
1178	2018-09-20	\$1.4850	\$2.9511	\$1.4661	\$2.8327	\$2.9720	\$2.9370	\$2.9597
1179	2018-09-21	\$1.3486	\$2.8113	\$1.4627	\$2.7072	\$2.8120	\$2.9250	\$2.9594
1180	2018-09-22	\$1.3688	\$2.8367	\$1.4679	\$2.7141	\$2.8010	\$2.9440	\$2.9678
1181	2018-09-23	\$1.3688	\$2.8367	\$1.4679	\$2.7141	\$2.8010	\$2.9440	\$2.9678
1182	2018-09-24	\$1.3688	\$2.8367	\$1.4679	\$2.7141	\$2.8010	\$2.9440	\$2.9678
1183	2018-09-25	\$1.5724	\$2.8430	\$1.2706	\$2.7151	\$2.8440	\$2.9940	\$2.9995
1184	2018-09-26	\$1.7609	\$2.8675	\$1.1066	\$2.7363	\$2.9080	\$3.0310	\$3.0362
1185	2018-09-27	\$2.0292	\$2.9113	\$0.8821	\$2.7913	\$2.8690	\$3.0310	\$3.0333
1186	2018-09-28	\$2.1685	\$3.0274	\$0.8589	\$2.7781	\$2.8430	\$3.0030	\$3.0074
1187	2018-09-29	\$2.1685	\$3.0274	\$0.8589	\$2.7781	\$2.8380	\$2.9330	\$3.0074
1188	2018-09-30	\$2.1685	\$3.0274	\$0.8589	\$2.7781	\$2.8380	\$2.9330	\$3.0074
1189	2018-10-01	\$2.1221	\$3.0315	\$0.9094	\$2.7637	\$2.8380	\$2.9330	\$2.9240
1190	2018-10-02	\$2.1686	\$2.9895	\$0.8209	\$2.8340	\$2.9030	\$2.9840	\$3.0235
1191	2018-10-03	\$2.3672	\$3.0857	\$0.7185	\$2.9684	\$2.9810	\$3.0950	\$3.0974
1192	2018-10-04	\$2.3624	\$3.2407	\$0.8783	\$3.1387	\$3.1750	\$3.2040	\$3.2511
1193	2018-10-05	\$2.5471	\$2.8271	\$0.2800	\$2.9172	\$2.9850	\$3.1820	\$3.2268
1194	2018-10-06	\$2.5145	\$2.8200	\$0.3055	\$2.7926	\$2.8840	\$3.0900	\$3.0905
1195	2018-10-07	\$2.5145	\$2.8200	\$0.3055	\$2.7926	\$2.8840	\$3.0900	\$3.0905
1196	2018-10-08	\$2.5145	\$2.8200	\$0.3055	\$2.7926	\$2.8840	\$3.0900	\$3.0905
1197	2018-10-09	\$2.3491	\$2.6349	\$0.2858	\$2.9671	\$3.1460	\$3.2460	\$3.2401
1198	2018-10-10	\$1.8561	\$3.5762	\$1.7201	\$3.3512	\$3.2660	\$3.2740	\$3.3057
1199	2018-10-11	\$1.5435	\$4.0344	\$2.4909	\$3.4099	\$3.3740	\$3.3930	\$3.3560
1200	2018-10-12	\$1.6615	\$3.7330	\$2.0715	\$3.2058	\$3.2450	\$3.2190	\$3.2243
1201	2018-10-13	\$1.9117	\$3.0281	\$1.1164	\$3.0440	\$3.1830	\$3.1870	\$3.1769
1202	2018-10-14	\$1.9117	\$3.0281	\$1.1164	\$3.0440	\$3.1830	\$3.1870	\$3.1769
1203	2018-10-15	\$1.9117	\$3.0281	\$1.1164	\$3.0440	\$3.1830	\$3.1870	\$3.1769
1204	2018-10-16	\$1.1635	\$3.7199	\$2.5564	\$3.3109	\$3.2890	\$3.2610	\$3.3044
1205	2018-10-17	\$0.6440	\$3.7584	\$3.1144	\$3.3483	\$3.3970	\$3.3500	\$3.3907
1206	2018-10-18	\$0.4624	\$3.8176	\$3.3552	\$3.4043	\$3.4060	\$3.4290	\$3.4534
1207	2018-10-19	\$0.4046	\$3.6927	\$3.2881	\$3.2916	\$3.2930	\$3.2850	\$3.3965
1208	2018-10-20	\$0.0021	\$3.8153	\$3.8132	\$3.3399	\$3.3300	\$3.3120	\$3.4304
1209	2018-10-21	\$0.0021	\$3.8153	\$3.8132	\$3.3399	\$3.3300	\$3.3120	\$3.4304
1210	2018-10-22	\$0.0021	\$3.8153	\$3.8132	\$3.3399	\$3.3300	\$3.3120	\$3.4304
1211	2018-10-23	\$1.2243	\$3.6830	\$2.4587	\$3.3893	\$3.4310	\$3.3620	\$3.4320
1212	2018-10-24	\$0.7818	\$3.7865	\$3.0047	\$3.4928	\$3.4920	\$3.4070	\$3.5227
1213	2018-10-25	\$0.2346	\$3.8096	\$3.5750	\$3.5164	\$3.5250	\$3.4650	\$3.5644
1214	2018-10-26	\$0.6601	\$3.8723	\$3.2122	\$3.4302	\$3.4050	\$3.4000	\$3.5296
1215	2018-10-27	\$0.3758	\$3.5672	\$3.1914	\$3.2749	\$3.2950	\$3.2740	\$3.3625
1216	2018-10-28	\$0.3758	\$3.5672	\$3.1914	\$3.2749	\$3.2950	\$3.2740	\$3.3625
1217	2018-10-29	\$0.3758	\$3.5672	\$3.1914	\$3.2749	\$3.2950	\$3.2740	\$3.3625
1218	2018-10-30	\$0.4829	\$3.5952	\$3.1123	\$3.2905	\$3.1610	\$3.2760	\$3.3714
1219	2018-10-31	\$0.6762	\$3.7200	\$3.0438	\$3.3572	\$3.1650	\$3.3010	\$3.4157
1220	2018-11-01	\$1.0000	\$3.3326	\$2.3326	\$3.0998	\$3.1050	\$3.1440	\$3.3519
1221	2018-11-02	\$0.5649	\$3.5053	\$2.9404	\$3.2165	\$3.1700	\$3.1410	\$3.3534
1222	2018-11-03	\$1.0098	\$3.4784	\$2.4686	\$3.1417	\$3.1200	\$3.1150	\$3.3034
1223	2018-11-04	\$1.0098	\$3.4784	\$2.4686	\$3.1417	\$3.1200	\$3.1150	\$3.3034
1224	2018-11-05	\$1.0098	\$3.4784	\$2.4686	\$3.1417	\$3.1200	\$3.1150	\$3.3034

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1225	2018-11-06	\$2.5845	\$3.9119	\$1.3274	\$3.5775	\$3.5650	\$3.4720	\$3.7139
1226	2018-11-07	\$2.8047	\$4.1145	\$1.3098	\$3.6355	\$3.6960	\$3.5920	\$3.6947
1227	2018-11-08	\$2.9681	\$4.0695	\$1.1014	\$3.6877	\$3.6670	\$3.5740	\$3.6882
1228	2018-11-09	\$2.9623	\$4.2121	\$1.2498	\$3.8057	\$3.7570	\$3.6510	\$3.7639
1229	2018-11-10	\$2.7734	\$4.5385	\$1.7651	\$3.9734	\$3.9000	\$3.7660	\$3.9031
1230	2018-11-11	\$2.7734	\$4.5385	\$1.7651	\$3.9734	\$3.9000	\$3.7660	\$3.9031
1231	2018-11-12	\$2.7734	\$4.5385	\$1.7651	\$3.9734	\$3.9000	\$3.7660	\$3.9031
1232	2018-11-13	\$2.3694	\$4.5975	\$2.2281	\$4.0081	\$4.0070	\$3.8680	\$3.9902
1233	2018-11-14	\$2.1436	\$4.7456	\$2.6020	\$4.0710	\$4.0610	\$3.9630	\$4.1703
1234	2018-11-15	\$2.4595	\$5.2364	\$2.7769	\$4.6936	\$3.7570	\$3.6510	\$4.8370
1235	2018-11-16	\$2.4924	\$5.0044	\$2.5120	\$4.4921	\$4.5340	\$4.5420	\$4.5536
1236	2018-11-17	\$1.8246	\$4.7332	\$2.9086	\$4.3529	\$4.2230	\$4.2360	\$4.3648
1237	2018-11-18	\$1.8246	\$4.7332	\$2.9086	\$4.3529	\$4.2230	\$4.2360	\$4.3648
1238	2018-11-19	\$1.8246	\$4.7332	\$2.9086	\$4.3529	\$4.2230	\$4.2360	\$4.3648
1239	2018-11-20	\$1.4856	\$5.1726	\$3.6870	\$4.6266	\$4.6080	\$4.5640	\$4.8261
1240	2018-11-21	\$1.4758	\$5.2429	\$3.7671	\$4.6997	\$4.6490	\$4.6930	\$5.0068
1241	2018-11-22	\$1.1393	\$5.1532	\$4.0139	\$4.5985	\$4.5970	\$4.6640	\$4.9138
1242	2018-11-23	\$1.1393	\$5.1532	\$4.0139	\$4.5985	\$4.5970	\$4.6640	\$4.9138
1243	2018-11-24	\$1.1393	\$5.1532	\$4.0139	\$4.5985	\$4.5970	\$4.6640	\$4.9138
1244	2018-11-25	\$1.1393	\$5.1532	\$4.0139	\$4.5985	\$4.5970	\$4.6640	\$4.9138
1245	2018-11-26	\$1.1393	\$5.1532	\$4.0139	\$4.5985	\$4.5970	\$4.6640	\$4.9138
1246	2018-11-27	\$1.1772	\$4.8399	\$3.6627	\$4.3657	\$4.3430	\$4.3450	\$4.4442
1247	2018-11-28	\$0.4279	\$4.9071	\$4.4792	\$4.3052	\$4.2860	\$4.2730	\$4.3983
1248	2018-11-29	\$0.6052	\$5.0926	\$4.4874	\$4.4063	\$4.3960	\$4.4170	\$4.5776
1249	2018-11-30	\$0.6089	\$5.2094	\$4.6005	\$4.4890	\$4.4430	\$4.5090	\$4.6910
1250	2018-12-01	\$1.8188	\$5.0870	\$3.2682	\$4.4563	\$4.4010	\$4.4750	\$4.6367
1251	2018-12-02	\$1.8188	\$5.0870	\$3.2682	\$4.4563	\$4.4010	\$4.4750	\$4.6367
1252	2018-12-03	\$1.8188	\$5.0870	\$3.2682	\$4.4563	\$4.4010	\$4.4750	\$4.6367
1253	2018-12-04	\$1.8373	\$5.0014	\$3.1641	\$4.3896	\$4.3930	\$4.3790	\$4.4263
1254	2018-12-05	\$1.4221	\$5.2070	\$3.7849	\$4.4914	\$4.5130	\$4.5050	\$4.5237
1255	2018-12-06	\$1.4163	\$5.1198	\$3.7035	\$4.4986	\$4.4780	\$4.4560	\$4.4854
1256	2018-12-07	\$1.3443	\$4.4119	\$3.0676	\$4.2151	\$4.2320	\$4.2210	\$4.2602
1257	2018-12-08	\$1.2252	\$4.8766	\$3.6514	\$4.3057	\$4.3040	\$4.3320	\$4.3709
1258	2018-12-09	\$1.2252	\$4.8766	\$3.6514	\$4.3057	\$4.3040	\$4.3320	\$4.3709
1259	2018-12-10	\$1.2252	\$4.8766	\$3.6514	\$4.3057	\$4.3040	\$4.3320	\$4.3709
1260	2018-12-11	\$1.1557	\$4.8315	\$3.6758	\$4.3941	\$4.3700	\$4.4100	\$4.5020
1261	2018-12-12	\$1.2424	\$4.8041	\$3.5617	\$4.2758	\$4.2700	\$4.3110	\$4.4140
1262	2018-12-13	\$1.3697	\$4.4594	\$3.0897	\$4.0000	\$3.9900	\$4.0640	\$4.1463
1263	2018-12-14	\$1.5938	\$4.2841	\$2.6903	\$4.0054	\$4.0690	\$4.1010	\$4.1945
1264	2018-12-15	\$1.3623	\$3.7715	\$2.4092	\$3.6665	\$3.6970	\$3.7600	\$3.7862
1265	2018-12-16	\$1.3623	\$3.7715	\$2.4092	\$3.6665	\$3.6970	\$3.7600	\$3.7862
1266	2018-12-17	\$1.3623	\$3.7715	\$2.4092	\$3.6665	\$3.6970	\$3.7600	\$3.7862
1267	2018-12-18	\$1.6867	\$3.3504	\$1.6637	\$3.2860	\$3.3690	\$3.4860	\$3.5271
1268	2018-12-19	\$1.7468	\$3.1176	\$1.3708	\$3.4015	\$3.4920	\$3.5290	\$3.5889
1269	2018-12-20	\$1.8163	\$2.7643	\$0.9480	\$3.2225	\$3.3340	\$3.4110	\$3.4821
1270	2018-12-21	\$1.7851	\$2.8797	\$1.0946	\$3.3360	\$3.4340	\$3.5060	\$3.6242
1271	2018-12-22	\$1.7790	\$2.1495	\$0.3705	\$3.0619	\$3.2470	\$3.3100	\$3.3507
1272	2018-12-23	\$1.7790	\$2.1495	\$0.3705	\$3.0619	\$3.2470	\$3.3100	\$3.3507
1273	2018-12-24	\$1.7790	\$2.1495	\$0.3705	\$3.0619	\$3.2470	\$3.3100	\$3.3507
1274	2018-12-25	\$1.7790	\$2.1495	\$0.3705	\$3.0619	\$3.2470	\$3.3100	\$3.3507
1275	2018-12-26	\$1.7790	\$2.1495	\$0.3705	\$3.0619	\$3.2470	\$3.3100	\$3.3507
1276	2018-12-27	\$1.9574	\$2.2272	\$0.2698	\$2.9009	\$2.9430	\$3.0560	\$3.1617
1277	2018-12-28	\$1.8997	\$2.2310	\$0.3313	\$2.7934	\$2.9710	\$3.0140	\$2.9887
1278	2018-12-29	\$1.8997	\$2.2310	\$0.3313	\$2.7934	\$3.0760	\$3.0170	\$2.9887
1279	2018-12-30	\$1.8997	\$2.2310	\$0.3313	\$2.7934	\$3.0760	\$3.0170	\$2.9887
1280	2018-12-31	\$1.8997	\$2.2310	\$0.3313	\$2.7934	\$3.0760	\$3.0170	\$2.9887
1281	2019-01-01	\$1.4846	\$2.1514	\$0.6668	\$3.0080	\$3.0760	\$3.0170	\$2.9823
1282	2019-01-02	\$1.4846	\$2.1514	\$0.6668	\$3.0080	\$3.0760	\$3.0170	\$2.9823
1283	2019-01-03	\$1.3026	\$1.9199	\$0.6173	\$2.6023	\$2.6280	\$2.6560	\$2.6536
1284	2019-01-04	\$1.5440	\$1.9370	\$0.3930	\$2.4388	\$2.4970	\$2.5280	\$2.5374
1285	2019-01-05	\$1.6941	\$2.0447	\$0.3506	\$2.4891	\$2.5900	\$2.6040	\$2.6053
1286	2019-01-06	\$1.6941	\$2.0447	\$0.3506	\$2.4891	\$2.5900	\$2.6040	\$2.6053
1287	2019-01-07	\$1.6941	\$2.0447	\$0.3506	\$2.4891	\$2.5900	\$2.6040	\$2.6053
1288	2019-01-08	\$1.7700	\$1.9636	\$0.1936	\$2.4533	\$2.5340	\$2.5710	\$2.5590
1289	2019-01-09	\$1.8453	\$2.0566	\$0.2113	\$2.6885	\$2.7280	\$2.7260	\$2.7128
1290	2019-01-10	\$1.5947	\$1.9644	\$0.3697	\$2.6635	\$2.6950	\$2.7500	\$2.7199
1291	2019-01-11	\$1.5525	\$1.8570	\$0.3045	\$2.6803	\$2.7110	\$2.7330	\$2.7564
1292	2019-01-12	\$1.4852	\$1.8437	\$0.3585	\$2.6780	\$2.7160	\$2.7380	\$2.7356
1293	2019-01-13	\$1.4852	\$1.8437	\$0.3585	\$2.6780	\$2.7160	\$2.7380	\$2.7356
1294	2019-01-14	\$1.4852	\$1.8437	\$0.3585	\$2.6780	\$2.7160	\$2.7380	\$2.7356
1295	2019-01-15	\$1.8849	\$2.3327	\$0.4478	\$3.2465	\$3.2810	\$3.2920	\$3.3479
1296	2019-01-16	\$1.9241	\$2.2347	\$0.3106	\$3.3715	\$3.4540	\$3.3910	\$3.4374

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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
1297	2019-01-17	\$2.1424	\$2.4976	\$0.3552	\$3.4562	\$3.4970	\$3.5100	\$3.5683
1298	2019-01-18	\$1.8734	\$2.2702	\$0.3968	\$3.4017	\$3.4000	\$3.4180	\$3.4641
1299	2019-01-19	\$1.8632	\$2.6811	\$0.8179	\$3.2992	\$3.2490	\$3.2000	\$3.3220
1300	2019-01-20	\$1.8632	\$2.6811	\$0.8179	\$3.2992	\$3.2490	\$3.2000	\$3.3220
1301	2019-01-21	\$1.8632	\$2.6811	\$0.8179	\$3.2992	\$3.2490	\$3.2000	\$3.3220
1302	2019-01-22	\$1.8632	\$2.6811	\$0.8179	\$3.2992	\$3.2490	\$3.2000	\$3.3220
1303	2019-01-23	\$1.9178	\$2.2565	\$0.3387	\$2.9533	\$2.9640	\$2.9980	\$3.0683
1304	2019-01-24	\$1.8984	\$2.2949	\$0.3965	\$3.0564	\$3.1030	\$2.9760	\$3.0664
1305	2019-01-25	\$1.8714	\$2.1987	\$0.3273	\$3.0930	\$3.1450	\$2.9940	\$3.1555
1306	2019-01-26	\$1.8922	\$2.3159	\$0.4237	\$3.0927	\$3.1260	\$2.9980	\$3.0820
1307	2019-01-27	\$1.8922	\$2.3159	\$0.4237	\$3.0927	\$3.1260	\$2.9980	\$3.0820
1308	2019-01-28	\$1.8922	\$2.3159	\$0.4237	\$3.0927	\$3.1260	\$2.9980	\$3.0820
1309	2019-01-29	\$2.0386	\$2.5401	\$0.5015	\$3.2595	\$4.2300	\$3.0820	\$3.0759
1310	2019-01-30	\$2.0880	\$2.6579	\$0.5699	\$3.8140	\$7.4160	\$3.0700	\$3.0412
1311	2019-01-31	\$2.2078	\$3.0461	\$0.8383	\$5.3808	\$5.0850	\$4.0010	\$4.9157
1312	2019-02-01	\$2.4465	\$2.7601	\$0.3136	\$2.8619	\$2.7520	\$2.7810	\$3.2065
1313	2019-02-02	\$2.6057	\$2.7962	\$0.1905	\$2.5848	\$2.4930	\$2.5510	\$2.6315
1314	2019-02-03	\$2.6057	\$2.7962	\$0.1905	\$2.5848	\$2.4930	\$2.5510	\$2.6315
1315	2019-02-04	\$2.6057	\$2.7962	\$0.1905	\$2.5848	\$2.4930	\$2.5510	\$2.6315
1316	2019-02-05	\$3.1243	\$3.1195	(\$0.0048)	\$2.6813	\$2.5220	\$2.5330	\$2.5936
1317	2019-02-06	\$3.0236	\$3.0446	\$0.0210	\$2.6649	\$2.5160	\$2.5510	\$2.5943
1318	2019-02-07	\$2.7705	\$2.8495	\$0.0790	\$2.6216	\$2.5670	\$2.5720	\$2.5823
1319	2019-02-08	\$3.0897	\$3.1780	\$0.0883	\$2.8149	\$2.6280	\$2.5550	\$2.6107
1320	2019-02-09	\$2.9582	\$3.0562	\$0.0980	\$2.6686	\$2.5390	\$2.4720	\$2.5551
1321	2019-02-10	\$2.9582	\$3.0562	\$0.0980	\$2.6686	\$2.5390	\$2.4720	\$2.5551
1322	2019-02-11	\$2.9582	\$3.0562	\$0.0980	\$2.6686	\$2.5390	\$2.4720	\$2.5551
1323	2019-02-12	\$2.9844	\$3.0546	\$0.0702	\$2.7124	\$2.6230	\$2.6460	\$2.6864
1324	2019-02-13	\$2.9471	\$2.9925	\$0.0454	\$2.6447	\$2.6230	\$2.6240	\$2.6764
1325	2019-02-14	\$2.9443	\$3.0136	\$0.0693	\$2.6743	\$2.5710	\$2.5970	\$2.6417
1326	2019-02-15	\$2.8067	\$2.9076	\$0.1009	\$2.6181	\$2.5870	\$2.5700	\$2.6156
1327	2019-02-16	\$2.8541	\$2.9851	\$0.1310	\$2.6555	\$2.5850	\$2.5800	\$2.6383
1328	2019-02-17	\$2.8541	\$2.9851	\$0.1310	\$2.6555	\$2.5850	\$2.5800	\$2.6383
1329	2019-02-18	\$2.8541	\$2.9851	\$0.1310	\$2.6555	\$2.5850	\$2.5800	\$2.6383
1330	2019-02-19	\$2.8541	\$2.9851	\$0.1310	\$2.6555	\$2.5850	\$2.5800	\$2.6383
1331	2019-02-20	\$2.8682	\$3.0153	\$0.1471	\$2.6890	\$2.6880	\$2.6500	\$2.7054
1332	2019-02-21	\$2.8920	\$3.0201	\$0.1281	\$2.6538	\$2.6780	\$2.6930	\$2.6825
1333	2019-02-22	\$3.1545	\$3.2077	\$0.0532	\$2.7366	\$2.6910	\$2.6890	\$2.7069
1334	2019-02-23	\$3.2485	\$3.2569	\$0.0084	\$2.8191	\$2.7170	\$2.7270	\$2.7217
1335	2019-02-24	\$3.2485	\$3.2569	\$0.0084	\$2.8191	\$2.7170	\$2.7270	\$2.7217
1336	2019-02-25	\$3.2485	\$3.2569	\$0.0084	\$2.8191	\$2.7170	\$2.7270	\$2.7217
1337	2019-02-26	\$3.5499	\$3.5507	\$0.0008	\$3.1231	\$2.9150	\$2.8400	\$2.8976
1338	2019-02-27	\$3.6441	\$3.6512	\$0.0071	\$3.2259	\$3.0080	\$2.9070	\$3.0173
1339	2019-02-28	\$3.5691	\$3.5761	\$0.0070	\$3.1525	\$2.9470	\$2.8710	\$2.9630
1340	2019-03-01	\$3.4071	\$3.4838	\$0.0767	\$3.1097	\$2.9110	\$2.8830	\$2.9274
1341	2019-03-02	\$5.4003	\$6.4817	\$1.0814	\$5.9966	\$9.6970	\$4.3320	\$4.6388
1342	2019-03-03	\$5.4003	\$6.4817	\$1.0814	\$5.9966	\$9.6970	\$4.3320	\$4.6388
1343	2019-03-04	\$5.4003	\$6.4817	\$1.0814	\$5.9966	\$9.6970	\$4.3320	\$4.6388
1344	2019-03-05	\$3.0297	\$3.5973	\$0.5676	\$4.2520	\$4.2640	\$3.9300	\$4.1696
1345	2019-03-06	\$2.9840	\$3.2745	\$0.2905	\$3.0713	\$3.0720	\$3.0180	\$3.4005
1346	2019-03-07	\$3.1876	\$3.4232	\$0.2356	\$2.9772	\$2.9680	\$2.9420	\$3.0045
1347	2019-03-08	\$2.9344	\$3.1527	\$0.2183	\$2.7854	\$2.8170	\$2.8360	\$2.9057
1348	2019-03-09	\$2.6971	\$3.1515	\$0.4544	\$2.7644	\$2.8130	\$2.8120	\$2.8458
1349	2019-03-10	\$2.6971	\$3.1515	\$0.4544	\$2.7644	\$2.8130	\$2.8120	\$2.8458
1350	2019-03-11	\$2.6971	\$3.1515	\$0.4544	\$2.7644	\$2.8130	\$2.8120	\$2.8458
1351	2019-03-12	\$2.3144	\$2.6224	\$0.3080	\$2.4450	\$2.6340	\$2.6790	\$2.6905
1352	2019-03-13	\$2.5736	\$2.8521	\$0.2785	\$2.5712	\$2.6510	\$2.6780	\$2.6845
1353	2019-03-14	\$2.5934	\$2.8507	\$0.2573	\$2.5849	\$2.6840	\$2.6760	\$2.6875
1354	2019-03-15	\$2.6658	\$2.9478	\$0.2820	\$2.6757	\$2.7300	\$2.7380	\$2.7404
1355	2019-03-16	\$2.4144	\$2.8156	\$0.4012	\$2.6218	\$2.6900	\$2.7200	\$2.7239
1356	2019-03-17	\$2.4144	\$2.8156	\$0.4012	\$2.6218	\$2.6900	\$2.7200	\$2.7239
1357	2019-03-18	\$2.4144	\$2.8156	\$0.4012	\$2.6218	\$2.6900	\$2.7200	\$2.7239
1358	2019-03-19	\$2.1041	\$2.6925	\$0.5884	\$2.6080	\$2.7280	\$2.7300	\$2.7414
1359	2019-03-20	\$2.1253	\$2.7692	\$0.6439	\$2.6635	\$2.7440	\$2.7650	\$2.7658
1360	2019-03-21	\$1.2340	\$3.1530	\$1.9190	\$2.7035	\$2.6840	\$2.7200	\$2.7346
1361	2019-03-22	\$2.1198	\$2.9991	\$0.8793	\$2.6614	\$2.6700	\$2.6940	\$2.7109
1362	2019-03-23	\$2.2158	\$2.9638	\$0.7480	\$2.6193	\$2.6670	\$2.6500	\$2.6802
1363	2019-03-24	\$2.2158	\$2.9638	\$0.7480	\$2.6193	\$2.6670	\$2.6500	\$2.6802
1364	2019-03-25	\$2.2158	\$2.9638	\$0.7480	\$2.6193	\$2.6670	\$2.6500	\$2.6802
1365	2019-03-26	\$1.9395	\$2.9364	\$0.9969	\$2.6327	\$2.6440	\$2.6770	\$2.6983
1366	2019-03-27	\$1.8500	\$2.8718	\$1.0218	\$2.6180	\$2.5960	\$2.6570	\$2.6860
1367	2019-03-28	\$1.7373	\$2.7854	\$1.0481	\$2.5042	\$2.5220	\$2.5650	\$2.6002
1368	2019-03-29	\$1.8070	\$2.7135	\$0.9065	\$2.4227	\$2.5440	\$2.5700	\$2.5990

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	Daily Index Prices	AECO (\$CDN/GJ)	Empress (\$CDN/GJ)	Empress/AECO Transportation Differential (\$CDN/GJ)	Emerson (\$US/MMBTU)	Chicago (\$US/MMBTU)	Michigan City Gate (\$US/MMBTU)	Dawn (\$US/MMBTU)
1369	2019-03-30	\$1.8070	\$2.7135	\$0.9065	\$2.4227	\$2.5920	\$2.5750	\$2.5990
1370	2019-03-31	\$1.8070	\$2.7135	\$0.9065	\$2.4227	\$2.5920	\$2.5750	\$2.5990

REFERENCE:

Schedules 8.7.0, 8.7.2(b), 8.7.3(b), 8.7.4(b), 8.8.0, 8.8.2(b), 8.8.3(b), 8.8.4(b), and 8.9.5

PREAMBLE TO IR (IF ANY):

The schedules referenced above for the 2016/17, 2017/18, and 2018/19 gas years have a column labeled “Interim Approved Forecast”.

QUESTION:

For gas years 2016/17, 2017/18, and 2018/19, explain what is meant by “Interim Approved Forecast”. Also, explain who granted approval and when such approvals were obtained.

RESPONSE:

The figures in the Interim Approved Forecast columns of the above-noted schedules represent Centra’s most recently approved future test year gas cost forecast figures that relate to the 2015/16 Gas Year. This gas cost forecast was approved on an interim basis by the PUB in Order 108/15, flowing from Centra’s 2015/16 Cost of Gas Application proceeding. This gas cost forecast formed the basis of the Non-Primary Gas base rates that became effective on November 1, 2015, which were also approved on an interim basis in Order 108/15.

REFERENCE:

Tab 8 Schedule 8.8.6

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Provide Centra's most current Monthly Gas Cost Deferral Account Update report filed with the Board.
- b) Similar to Schedule 8.8.6, provide a summary of all non-Primary Gas Deferral Account Balances as at October 31, 2019 (including the latest forecast of the 2018/19 non-Primary Gas deferral balances).
- c) Explain the reasons contributing to any forecast 2018/19 non-Primary Gas deferral balances in excess of \$2 million.

RESPONSE:

- a) and b)

Please see attachment to this response.

- c) The only 2018/19 non-Primary Gas deferral balance that is forecast to conclude the Gas Year in excess of \$2 million is Centra's Transportation PGVA (\$11.2 million owing to customers, denoted on Schedule 5 of the above-referenced Attachment). There are a number of factors contributing to the direction and magnitude of this balance, the most significant being TCPL Mainline toll decreases effective January 1, 2018 & February 1, 2019 (\$6 million of the \$11.2 million owing to customers). Centra will provide comprehensive variance analyses of all 2018/19 gas cost deferral account balances based on a more up-to-date outlook as part of its pre-hearing update which is scheduled to be filed in July 2019.

Centra Gas Manitoba Inc.
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CENTRA GAS MANITOBA INC

Purchase Variance Account - Supplemental Gas

2018/19 Gas Year Outlook based on Futures Market Strip as of:

Mar. 15, 2019

Schedule 1

	Actual Nov-18	Actual Dec-18	Actual Jan-19	Actual Feb-19	Outlook Mar-19	Outlook Apr-19	Outlook May-19	Outlook Jun-19	Outlook Jul-19	Outlook Aug-19	Outlook Sep-19	Outlook Oct-19	Total	
1 <u>Inflows</u>														
2 Supplemental Supply Direct to the Load														1a
3 Storage Gas - Supplemental Supply														1a
4 Supplemental Gas Delivered Service														1a
5 Alternate Supply Service														1a
6														
7 <u>Total Inflows</u>														1e
8 Less: UFG Component to Distribution PGVA	(\$38,522)	(\$24,737)	(\$13,244)	(\$85,459)	(\$90,589)	(\$3,895)	(\$21)	\$0	\$0	\$0	\$0	(\$148)	(\$256,615)	
9 Plus: UFG True-up Transferred from Distribution PGVA	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
10 <u>Net Inflow After UFG Transfer</u>														1e
11														
12 <u>Outflows</u>														
13 WACOG Outflows														1a
14 WACOG on Alternate Supply Service														1a
15 <u>Total Outflows</u>														1e
16														
17 Carrying Costs														1a
18														
19 <u>Net Balance</u>														
20														
21 <u>GJ</u>														
22 Supplemental Supply Direct to the Load														1d
23 Storage Gas - Supplemental Supply														1d
24 Supplemental Gas Delivered Service														1d
25 Alternate Supply Service														1d
26 <u>Total</u>														1d
27														
28														
29 <u>Monthly Unit Costs- \$/GJ</u>														
30 Supplemental Supply Direct to the Load														1a
31 Storage Gas - Supplemental Supply														1a
32 Supplemental Gas Delivered Service														1a
33 Overall Supplemental Gas Average Unit Cost														1a
34 Alternate Supply Service														1a
35														
36 <u>Monthly Index Prices- \$/GJ</u>														
37 Emerson Index Price	\$4.29	\$6.59	\$4.74	\$3.86	\$3.54	\$3.19	\$3.10	\$3.15	\$3.15	\$3.13	\$3.12	\$3.12	\$3.75	
38 Michigan City Gate Index Price	\$3.96	\$5.79	\$3.76	\$3.47	\$3.25	\$3.39	\$3.35	\$3.38	\$3.43	\$3.44	\$3.39	\$3.41	\$3.67	
39 NYMEX Index Price	\$4.02	\$6.10	\$4.54	\$3.68	\$3.61	\$3.53	\$3.53	\$3.60	\$3.66	\$3.67	\$3.66	\$3.67	\$3.94	
40 Chicago/Joliet Index Price	\$4.45	\$6.69	\$4.84	\$3.77	\$3.60	\$3.36	\$3.26	\$3.31	\$3.40	\$3.42	\$3.37	\$3.40	\$3.91	
41														
42 Note 1: Outlook balances based upon currently approved non-Primary Gas base rates.														

Volume Weighted
Average

Arithmetic Average

CENTRA GAS MANITOBA INC

Purchase Variance Account - Transportation

2018/19 Gas Year Outlook based on Futures Market Strip as of:

Mar. 15, 2019

Schedule 2

	Actual Nov-18	Actual Dec-18	Actual Jan-19	Actual Feb-19	Outlook Mar-19	Outlook Apr-19	Outlook May-19	Outlook Jun-19	Outlook Jul-19	Outlook Aug-19	Outlook Sep-19	Outlook Oct-19	Total
1 Inflows													
2													
3 Fixed Cost													
4 TCPL													
5													
6 ANR													
7 GLGT													
8 Swan Valley service Territory & CTHI													
9													
10 Total Fixed Costs	\$5,520,346	\$5,564,823	\$5,524,939	\$4,909,801	\$4,932,458	\$4,636,914	\$4,635,817	\$4,634,807	\$4,633,766	\$4,632,641	\$4,631,694	\$4,630,697	\$58,888,704
11													
12 Variable Costs													
13 TCPL	\$898	\$293	\$2,283	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,473
14 ANR	\$54,833	\$80,564	\$114,352	\$102,083	\$43,342	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$375,174
15 GLGT	\$25,617	\$27,112	\$41,066	\$39,615	\$19,993	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$153,402
16 Storage Gas - Transportation & Delivery Cost	\$226,591	\$244,017	\$490,277	\$413,987	\$163,155	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,538,028
17 Supplemental Gas Delivered Service Imputed Transportation Cost													
18 Compressor Fuel for Storage and Supplemental Gas													
19 Primary Gas Delivered Service Imputed Transportation Cost													
20													
21 Total Variable Costs	\$577,180	\$1,114	\$608,128	\$808,632	\$266,855	\$223,315	\$2	\$0	\$0	\$0	\$0	\$49,830	\$2,535,057
22													
23 Other													
24 TCPL Balancing Fees	\$5,665	\$6,123	\$6,349	\$1,250	\$17,000	\$55,000	\$50,000	\$5,000	\$4,000	\$4,000	\$18,000	\$55,000	\$227,387
25 Capacity Management													(\$5,830,373)
26 Miscellaneous Transportation													\$41,356
27													
28													
29 Total Inflows	\$5,571,980	\$4,807,683	\$5,310,014	\$4,988,989	\$4,849,647	\$4,548,562	\$4,319,153	\$4,273,140	\$4,271,100	\$4,269,974	\$4,283,028	\$4,368,860	\$55,862,130
30													
31 Outflows													
32 WACOG Outflows	\$8,364,336	\$9,360,938	\$11,611,916	\$10,966,594	\$7,889,403	\$4,595,839	\$2,745,113	\$1,934,030	\$1,493,928	\$1,447,597	\$1,963,428	\$4,290,276	\$66,663,400
33													
34 Total Carrying Costs	(\$3,521)	(\$11,907)	(\$23,525)	(\$34,164)	(\$45,088)	(\$61,768)	(\$59,868)	(\$54,731)	(\$47,951)	(\$40,498)	(\$33,645)	(\$30,488)	(\$447,155)
35													
36 Net Balance	(\$2,795,877)	(\$7,361,039)	(\$13,686,466)	(\$19,698,235)	(\$22,783,080)	(\$22,892,125)	(\$21,377,953)	(\$19,093,574)	(\$16,364,353)	(\$13,582,474)	(\$11,296,519)	(\$11,248,424)	
37													

38 Note 1: Outlook balances based upon currently approved non-Primary Gas base rates.

Centra Gas Manitoba Inc.
2019/20 General Rate Application

PUB/Centra I-125 (a) & (b)
Attachment 1

CENTRA GAS MANITOBA INC

Purchase Variance Account - Distribution

2018/19 Gas Year Outlook based on Futures Market Strip as of:

Mar. 15, 2019

Schedule 3

	Actual Nov-18	Actual Dec-18	Actual Jan-19	Actual Feb-19	Outlook Mar-19	Outlook Apr-19	Outlook May-19	Outlook Jun-19	Outlook Jul-19	Outlook Aug-19	Outlook Sep-19	Outlook Oct-19	Total
Inflows													
1 Minell Pipeline Charges	\$16,537	\$16,537	\$16,537	\$16,537	\$16,537	\$16,537	\$16,537	\$16,537	\$16,537	\$16,537	\$16,537	\$16,537	\$198,444
2 UFG Costs Transferred In From Primary and Supplemental Gas PGVA's	\$265,306	\$335,259	\$310,973	\$289,245	\$238,584	\$132,356	\$84,369	\$52,685	\$42,062	\$45,843	\$58,537	\$131,796	\$1,987,013
3 UFG True-up Impacts Transferred to Primary & Supplemental Gas PGVA's	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4													
5 Total Inflows	\$281,843	\$351,796	\$327,510	\$305,782	\$255,121	\$148,893	\$100,906	\$69,222	\$58,599	\$62,380	\$75,074	\$148,333	\$2,185,457
6													
Outflows													
8 WACOG Outflows	\$299,639	\$323,307	\$419,891	\$374,737	\$280,942	\$169,355	\$107,942	\$80,792	\$67,303	\$64,896	\$80,779	\$160,083	\$2,429,664
9													
10 Carrying Costs	(\$20)	(\$8)	(\$79)	(\$238)	(\$348)	(\$508)	(\$546)	(\$573)	(\$602)	(\$619)	(\$631)	(\$657)	(\$4,828)
11													
12 Net Balance	(\$17,815)	\$10,666	(\$81,794)	(\$150,987)	(\$177,156)	(\$198,126)	(\$205,709)	(\$217,852)	(\$227,157)	(\$230,292)	(\$236,628)	(\$249,036)	
13													

14 Note 1: Outlook balances based upon currently approved non-Primary Gas base rates.

CENTRA GAS MANITOBA INC
Purchase Variance Account - Heating Value Margin Deferral Account
2018/19 Gas Year Outlook based on Futures Market Strip as of:

Mar. 15, 2019

Schedule 4

[illegible]

Centra Gas Manitoba Inc.
2019/20 General Rate Application

PUB/Centra I-125 (a) & (b)
Attachment 1

CENTRA GAS MANITOBA INC
October 31, 2019 Prior Period Gas Deferrals Account

Schedule 5

	Outlook Account Balances as at October 31, 2019	
1 <u>2018/19 Gas Year Balances</u>		
2 Supplemental Gas PGVA		1e
3 Transportation PGVA	(\$11,248,424)	
4 Distribution PGVA	(\$249,035)	
5 Heating Value Margin Deferral		1e
6 Sub-Total	(\$12,363,228)	
7		
8 <u>2017/18 Gas Year Balances</u>		
9 Supplemental Gas PGVA		1e
10 Transportation PGVA	(\$6,092,998)	
11 Distribution PGVA	(\$1,296,630)	
12 Heating Value Margin Deferral		1e
13 Sub-Total	(\$16,691,578)	
14		
15 <u>2016/17 Gas Year Balances</u>		
16 Supplemental Gas PGVA		1e
17 Transportation PGVA	\$4,907,080	
18 Distribution PGVA	(\$955,144)	
19 Heating Value Margin Deferral		1e
20 Sub-Total	\$2,535,746	
21		
22 <u>2015/16 Gas Year Balances</u>		
23 Supplemental Gas PGVA		1e
24 Transportation PGVA	\$5,100,762	
25 Distribution PGVA	(\$1,700,489)	
26 Heating Value Margin Deferral		1e
27 Sub-Total	(\$456,034)	
28		
29 October 31, 2015 Prior-Period Gas Cost Deferral		1e
30		
31 Total	(\$20,486,119)	

REFERENCE:

Tab 1 Item (h); Tab 9; Pre-hearing conference transcript p. 99

PREAMBLE TO IR (IF ANY):

Centra requests: "Approval of certain proposed storage and transportation costs effective April 1, 2020 as discussed in Tab 9 of the Application"

During the pre-hearing conference, Centra requested that those approvals be given by July 31, 2019.

QUESTION:

Explain why Centra requires approval of the proposed storage and transportation costs by July 31, 2019 and the implications if Centra does not receive approval by that date. Indicate whether later approval dates are satisfactory to Centra.

RESPONSE:

[REDACTED]

¹ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

REFERENCE:

Tab 9 pgs. 1 and 23 of 23

PREAMBLE TO IR (IF ANY):

[REDACTED]

QUESTION:

- a) [REDACTED]
- b) [REDACTED]
- c) [REDACTED]

RESPONSE:

- a) [REDACTED]
- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

b) [REDACTED]

c) [REDACTED]

REFERENCE:

Tab 9 p. 1 of 23

PREAMBLE TO IR (IF ANY):

QUESTION:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

RESPONSE:

a) and b)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[Redacted text block]

[Redacted text block]

[REDACTED]

[REDACTED]

REFERENCE:

Tab 9 p. 1 of 23

PREAMBLE TO IR (IF ANY):

QUESTION:

Explain how Centra's proposed storage and transportation arrangements incorporate the lessons learned from the 2013/14 winter [REDACTED] [REDACTED] during a colder-than-normal winter).

RESPONSE:

[REDACTED]

[REDACTED]

REFERENCE:

Tab 9 p. 4 of 23 (Figure 9.2) and Appendix 9.3

PREAMBLE TO IR (IF ANY):

QUESTION:

[REDACTED]

RESPONSE:

[REDACTED]

REFERENCE:

Tab 9 p. 4, 20 of 23

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) [REDACTED]
- b) [REDACTED]
- c) [REDACTED]
- d) [REDACTED]

RESPONSE:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

d)

[REDACTED]

[REDACTED]

REFERENCE:

Tab 9 p. 8 of 23 [REDACTED]

PREAMBLE TO IR (IF ANY):

[REDACTED]
[REDACTED]

QUESTION:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

RESPONSE:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



REFERENCE:

Tab 9 pgs. 13-14 of 23 [REDACTED]

PREAMBLE TO IR (IF ANY):

[REDACTED]

QUESTION:

[REDACTED]

RESPONSE:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

¹ [REDACTED]

REFERENCE:

Tab 10 p. 1 of 14

PREAMBLE TO IR (IF ANY):

Centra states that it has not made substantial changes to its Cost Allocation approach since the 2013/14 GRA.

QUESTION:

Identify any non-substantive changes in Centra's cost allocation methodology since the last GRA and why they were made. For example, have any changes been made on account of the adoption of IFRS?

RESPONSE:

In a manner consistent with past GRA practice, Centra has updated the Functionalization, Classification and Allocation factors to reflect the 2019/20 forecast data. The updated forecast data includes volumes, number of customers, coincident peak, rate base and revenue requirement.

Centra notes that there have been changes to the program view of Centra's O&A expenses from that discussed in the last GRA; however, Centra has endeavored to treat these expenses in a manner similar to past GRAs for cost allocation purposes. Please see Appendix 5.9 for further details for a description of Centra's programs.

REFERENCE:

Tab 10 p. 3 of 14, Tab 11 p. 4 of 14

PREAMBLE TO IR (IF ANY):

Centra states that Unaccounted for Gas (UFG) costs are functionalized as Transmission.

QUESTION:

File the most recent study supporting Centra's UFG allocators. Explain whether Centra has studied its UFG allocators since 2004 or otherwise considered the ongoing appropriateness of these allocators.

RESPONSE:

Please see the attached study, as filed in the 2004/05 Cost of Gas Application.

In Order 131/04, the PUB varied the UFG allocation percentages identified in the study, and approved a reduction in the allocation of UFG to the Special Contract class, from 5.7% to 2.8%, with the balance of the UFG to be recovered from the SGS and LGS classes.

Centra considers the allocation percentages directed by the PUB in Order 131/04 to continue to be appropriate at this time.

CENTRA GAS MANITOBA INC.
2004/05 COST OF GAS APPLICATION

Unaccounted for Gas Review

Introduction

The factors that contribute to UFG on the system can be categorized into three main subject areas: measurement, physical loss and accounting.

A.) Measurement

Gas measurement is complex due to the physical nature of natural gas. The pressure and temperature of a given volume of gas will determine the actual amount of energy that is contained within that volume. The measurement system must determine the actual volume of gas delivered to the customer considering the pressure and temperature of that gas. All gas meters meet government approval standards, and are tested prior to installation to ensure that they will operate within the allowable accuracy tolerances.

Centra is diligent in maintaining reliable gas metering at each customer's premises. Nonetheless, gas measurement tends to make a large contribution to overall UFG on the system. Over the long run, Centra's UFG has averaged approximately 1% of total system receipts. Centra puts small volume meters into service at no more than +/-1% tolerance and large volume meters at no more than +/-1.3% tolerance. Compared with the overall average UFG of 1%, it is reasonable to assume that the meters are performing within the allowed tolerances. Even so, natural variation in gas metering will result in a contribution to UFG.

1 Generally, small volume residential and commercial customers are served by
2 positive displacement diaphragm-type meters that provide good reliability at low
3 cost. These devices rely on the pressure control capabilities of the service
4 regulator to maintain predictable gas pressure at the meter (fixed pressure factor
5 billing) and generally utilize an internal mechanism to compensate for the
6 temperature of the gas. These meter set assemblies are expected to accurately
7 measure a wide range of flows, from pilot light usage in the summer to full
8 domestic appliance load in the winter.

9
10 SGS Commercial and some LGS customers are served by positive displacement
11 meters of either diaphragm or rotary design. While most customers are metered
12 at a standard residential-type pressure of 0.25 psig, more than two thousand
13 commercial customers require pressures in excess of 0.25 psig. Meter sets for
14 those customers may either include instruments to compensate the uncorrected
15 reading for pressure and temperature, or else they may compensate for
16 increased pressure by use of fixed pressure correction factors in the billing
17 system.

18
19 Large volume customers in the High Volume Firm, Interruptible, Main Line and
20 Power Station classes are served either through positive displacement rotary
21 meters or through inferential turbine meters. In all cases, these meters are
22 equipped with sophisticated on-site flow computers that correct for absolute gas
23 pressure and flowing gas temperatures in real time. These units are also
24 connected via telemetry to Centra's gas control facility, where operating
25 conditions and meter readings can be obtained on a daily basis.

26
27 The metering requirements for the Special Contract Class customer are unique
28 to the Centra system in several ways. This customer consumes almost [REDACTED] of 2d
29 the overall annual system throughput, and its usage pattern is characterized by
30 extremely consistent flow. It requires un-odorized gas directly from the Centra
31 transmission system at transmission line pressure. It is served through a pair of

close tolerance auto-correcting turbine meters, that enable Centra to switch from one meter run to another if required. Centra calibrates the pressure and temperature correction apparatus once each month to ensure optimum accuracy. This customer has invested in a redundant check metering facility in series with the Centra metering station. Both metering stations are connected to the Centra SCADA system and are monitored daily. The potential for an out-of-range meter error is fairly low compared to other customer classes.

Overall metering accuracies were estimated and a percentage loss for UFG purposes was estimated for each customer class as shown in the table below. These metering accuracies were estimated from a review of the types of meters in service, the meter proving records for the various types of meters and from customer load information.

	UFG Loss Factor Applied	UFG Volume Impact (10 ³ m ³)
Small General Service	-0.3%	2,320
Large General Service	-0.4%	1,970
High Volume Firm	-0.7%	960
Main Line Firm	-0.7%	860
Interruptible	-0.7%	960
Special Contract	-0.2%	840
Power Station	-0.7%	720
Total		8,630

1 Barometric Pressure

2

3 Gas metering is influenced by barometric pressure. Barometric pressure varies
4 with geographic elevation and the billing system adjusts the registered volumes
5 by applying fixed factors to compensate for differences in pressure caused by
6 differences in elevation. Centra's service territory is divided into three different
7 pressure zones, and each pressure zone has been assigned an average
8 barometric pressure determined by the mean elevation of the zone. The average
9 barometric pressure factor is applied within the billing system to the volumes
10 delivered to customers in each zone.

11

12 There are two types of variability that can influence the accuracy of the fixed
13 barometric pressure factor applied by the billing system. First, the customer may
14 be located at an elevation higher or lower than the average elevation of the zone,
15 which causes their billing to be slightly over stated or under stated. Second,
16 actual weather conditions will produce barometric pressure conditions that are
17 higher or lower than those embedded in the fixed barometric pressure factor.

18

19 One method of determining the impact of barometric pressure on UFG is to
20 compare actual barometric weather conditions to the long term average
21 barometric pressure as reflected in the fixed pressure factor. This indicates that,
22 on an annualized basis, approximately $1,890 \times 10^3 \text{ m}^3$ is under recorded and
23 therefore adds to UFG. Approximately $1,200 \times 10^3 \text{ m}^3$ of under recording may be
24 attributed to the SGS class and approximately $690 \times 10^3 \text{ m}^3$ may be attributed to
25 the LGS class. Variations in barometric pressure will have no impact on the
26 large volume customer classes (High Volume Firm, Main Line, Interruptible,
27 Power Station or Special Contract) as each of these customers have
28 sophisticated gas metering instruments that are set to sense actual barometric
29 pressure conditions and calculate the appropriate pressure correction factor in
30 the flow measurement computer on the meter.

31

1

Customer Class	UFG Volume Attributed to Barometric Pressure (10 ³ m ³)	Comments
Small General Service	1,200	
Large General Service	690	
High Volume Firm	n/a	Corrected in meter
Main Line	n/a	Corrected in meter
Interruptible	n/a	Corrected in meter
Special Contract	n/a	Corrected in meter
Power Station	n/a	Corrected in meter
Total	1,890	

2

3 Differences in base pressure and temperature

4

5 Gas measurement is made in reference to a prescribed base pressure and base
6 temperature that defines the accepted standard conditions for a cubic metre of
7 natural gas. TransCanada PipeLines ("TCPL") utilizes a metric base condition of
8 101.325 kPa (pressure) and 15 degrees Celsius (temperature). The metric
9 conditions used by TCPL, when stated in Imperial units, refer to a pressure of
10 14.696 psia and a temperature of 59 degrees Fahrenheit. While Centra's Terms
11 and Conditions of Service refer to metric base conditions, a closer examination of
12 the billing system revealed that the base conditions employed are the Imperial
13 measurement system of 14.73 psia pressure and 60 degrees Fahrenheit for
14 temperature.

15

16 Gas receipt volumes from TCPL form the basis of UFG calculations, and are the
17 reference volume to which delivery volumes are compared to determine overall
18 UFG on Centra's system. If the TCPL volumes were restated to Imperial base
19 conditions directly comparable to the base conditions used by Centra to measure
20 the volumes to its customers, the receipt volumes would be increased by

1 approximately 0.04%. This represents a gain of gas on the Centra system, and
2 therefore a reduction to UFG. This gain can be distributed to the various
3 customer classes in direct proportion to their forecast volume requirements, as
4 indicated below.

5

	Percentage of Total Annual Volume By Class	UFG Volume (10 ³ m ³) (gain)
Small General Service		
Large General Service		
High Volume Firm		
Main Line Class		
Interruptible		
Special Contract		
Power Station		
Total	100%	

1d, 1e

6

7 Supercompressibility

8

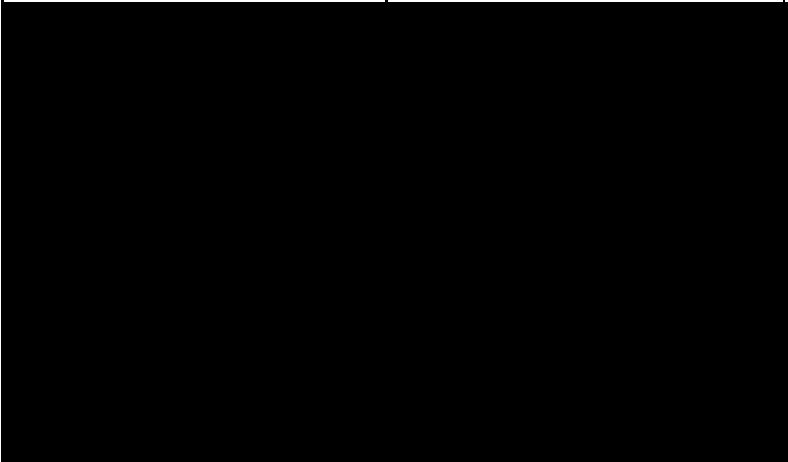
9 Supercompressibility is the thermodynamic property of gas where the volumetric
10 correction factor for gas pressure becomes increasingly non-linear as gas
11 pressures are increased. At a pressure of 100 psig or greater Measurement
12 Canada requires supercompressibility factors to be included on all custody
13 transfers to compensate for this effect.

14

15 Centra corrects for supercompressibility for all customers receiving measurement
16 at 100 psig or greater in accordance with Measurement Canada regulations.
17 However, approximately 160,000 10³ m³ are delivered annually to customers in
18 LGS, High Volume Firm, Interruptible and Main Line classes at elevated
19 pressures between 10 and 99 psig, which are not corrected for

1 supercompressibility. The table below indicates the effect of non-corrected
2 supercompressibility for each applicable customer class.

3

Customer Class	UFG Volume Due to Non-Corrected Supercompressibility (10 ³ m ³)	Explanation
Small General Service		
Large General Service		
High Volume Firm		
Main Line		
Interruptible		
Special Contract		
Power Station		
Total		

4

5 Pressure Factor Metering

6

7 More than 2,000 SGS and LGS customers require gas service at pressures
8 above the standard 0.25 psig residential pressure and have special
9 meter/regulator sets that are known as pressure factor meters (“PFM”). These
10 meters measure the flow of gas at a pressure of 5, 10, 15 psig or more, and fixed
11 pressure correction factors are applied through the billing system to correct the
12 meter index reading to compensate for the greater energy flow related to higher
13 gas pressure and density.

14

15 Centra periodically inspects PFM installations to verify that the pressure settings
16 are within tolerance. Installations that perform outside of tolerances would have
17 their billing history reviewed to determine if any billing adjustments are
18 warranted. A review of Centra’s inspection records and customer accounting
19 data indicates that approximately 110 10³ m³ of UFG were attributable to the

1e

SGS class customers, and approximately $220 \times 10^3 \text{ m}^3$ of UFG were attributable to LGS class customers.

Gas Temperature Effects

Most gas meters have the capability to adjust the registered volumes to account for the variation in flowing gas temperature. However, there are still approximately 8,000 small volume customers that have older non-temperature compensated meters in use. The use of non-temperature compensated meters contributes to UFG. The flowing gas temperature may be colder in winter and consequently the natural gas would be more dense. A non-temperature compensated meter cannot reflect this change in density in its meter register and therefore will slightly under record the actual volume of gas consumed. Given that the winter period is the season of highest gas demand, the result is an estimated contribution to UFG of approximately $400 \times 10^3 \text{ m}^3$ per year for the SGS class.

B.) Physical loss

The physical escape of gas from the utility system is a relatively small contributor to overall UFG. Overall, it is estimated that between 5% and 10% of total UFG can be attributed to physical loss factors. These loss factors include:

- Fugitive emissions (leakage from pipe lines, service lines, meter sets and pressure regulating stations)
- Vented gas (from control instrument operation, station purging and venting, system pressure relief valve operation, system blowdown and purging, odorant injection and losses from line hits and damages)
- Company use (provision of line pack in new mains and services)

1 Estimation of Physical Losses

2

3 Centra submits annual reports on greenhouse gas emissions to the Voluntary
4 Challenge and Registry Inc. The data collected and reported for these purposes
5 was utilized as the basis for determining the amount of natural gas that is lost
6 each year through fugitive and vented emissions.

7

8 The volume of gas attributed as lost through these categories was calculated by
9 quantifying the number of sources in each category (i.e. number of meter sets,
10 regulating stations, length of transmission main in service, number of reported
11 leaks per year, etc.) and applying industry standard or company specific
12 emission factors to the number of sources in each category. The loss rates used
13 are averages based on industry studies or company specific calculations, and
14 actual loss volumes may vary from time to time. In all, the procedure used for
15 the collection of data and the calculation of losses and emissions provided
16 appropriate data for the UFG analysis.

17

18 In addition to fugitive and vented emissions, gas is required to pressurize new
19 mains and services prior to the commencement of service to a customer. This
20 gas, while not “lost” to the atmosphere, is required to establish line pack in the
21 system. It is effectively gas in inventory that cannot be sold to a customer. An
22 estimate was made of the amount of gas required to establish line pack in newly
23 installed lines each year, based upon the length of each diameter of pipe
24 installed and the expected operating pressure of the main or service line.

25

26 It is estimated that the volume of gas lost through fugitive and vented emissions
27 and the establishment of line pack is approximately $1,550 \times 10^3 \text{ m}^3$ on an annual
28 basis. This amount of loss was first split between transmission and distribution,
29 and then distributed between customer classes by use of capacity allocators that
30 exist in the current cost allocation model. The results are reported in the table
31 below.

1

	Transmission UFG Loss (10 ³ m ³)	Distribution UFG Loss (10 ³ m ³)	Total UFG Loss (10 ³ m ³)
Small General Service	80	740	820
Large General Service	50	360	410
High Volume Firm	15	135	150
Main Line	60	n/a	60
Interruptible	10	60	70
Special Contract	30	n/a	30
Power Stations	10	n/a	10
Total	255	1,295	1,550

2

3 **C.) Accounting factors**

4

5 Accounting factors influence the level of UFG in two ways. First, the cyclic billing
6 of SGS and LGS accounts causes impacts on the level of UFG that may fluctuate
7 from year to year. Secondly, customer service policies associated with gas
8 volume concessions and write-offs may contribute to UFG on a permanent basis.

9

10 **Cyclic Billing**

11

12 It is an oversimplification to describe UFG as the difference between the volumes
13 recorded on gas receipts to the utility and the volumes recorded on gas bills to
14 customers, because there are timing differences between the periods recorded
15 on the TCPL statements and the periods on the bills sent to most gas customers.
16 While gas receipts record the quantity of gas received by the utility on a calendar
17 month basis, almost 60% of the gas volume delivered to end-users is billed at
18 various times throughout the month, on a series of 21 billing cycles. The utility
19 uses cyclic billing and bi-monthly consumption estimation to balance the

1 workload required to bill more than 250,000 SGS and LGS customers each
2 month, which helps to lower the overall cost of providing this service.

3

4 To compare the quantity of gas received with the quantity of gas delivered for
5 those customers billed on a cyclic basis, estimates must be made on the opening
6 and closing months of the true-up test period. In the opening month of the
7 period, bills for cyclic accounts include volumes that were delivered in the prior
8 month. Therefore an estimate must be made of the quantity of gas billed, but not
9 consumed in the opening month of the period. Similarly at the closing month of
10 the period, customers consume gas that is not billed to them until sometime in
11 the following month after the closing period. An estimate must be made of the
12 quantity of gas delivered but not billed during the closing month of the study
13 period. A regression model is used to forecast the quantity of gas consumed
14 during the month that has not yet been billed to customers. This model utilizes
15 the number of degree days and billing days as independent variables for the
16 analysis.

17

18 Customer usage can be influenced by variables other than temperature, and
19 consumption volumes can be difficult to estimate. The actual volume of gas
20 consumed by customers may vary from the estimated consumption used to
21 calculate UFG. When compared to the level of gas receipts for the same period,
22 variability in reported UFG levels can be the result.

23

24 The accuracy of the UFG calculation is also influenced by the number of
25 estimated bills that are produced in the period, especially in cases where actual
26 meter readings are unavailable for several months in a row. There are
27 approximately 6000 small volume customer consecutive estimates each year.
28 The result is an over or understatement of volumes due to differences in the
29 estimation results with the actual usage at the customer's location. This situation
30 is eventually corrected when actual readings are obtained for those customer's

1 meters, but the timing of the situation can create swings in UFG percentage from
2 one period to another.

3
4 Large volume customers in the High Volume Firm, Interruptible, Main Line,
5 Power Station and Special Contract Classes have their meters read on the
6 month-end, which corresponds more appropriately with the invoicing received
7 from TCPL for pipeline deliveries. These customer groups do not contribute to
8 the variability of UFG related to cyclic billing.

9
10 Customer Billing Policies

11
12 Company policies also influence the level of UFG. For example, in cases where
13 a customer's meter has been found to be slow or non-recording, an estimate is
14 made of the gas that was consumed but not billed due to the meter problem. A
15 revised bill is issued to the customer, less a 10% concession (reduction) due to
16 the fact that the usage must be estimated and cannot always be determined with
17 a high degree of certainty. The accumulated impact of bill concessions cause a
18 build up in UFG, as these volumes were consumed but will not be recovered.

19
20 Centra's Terms and Conditions of Service state that, in the event that a meter
21 fails to register properly, a correction in billing may be made to a maximum of two
22 (2) years retroactive to the date of discovery. For under recording meters,
23 Centra will generally recover the most recent 6 months of volume associated with
24 the slow or non-recording meter failure, less the 10% concession described
25 above. This policy is in effect for SGS and LGS customers, but has not been
26 applied to large volume customer classes, as there have been no recent
27 instances of under-recording found for large volume customers that exceed six
28 months.

29
30 The impact of the concession policy is approximately $40 \times 10^3 \text{ m}^3$ of UFG for the
31 SGS class and approximately $160 \times 10^3 \text{ m}^3$ for the LGS class.

Conclusion

UFG is the aggregate of all volumetric losses originating in factors of measurement, physical loss and accounting sources. While all customers have some responsibility for UFG, the above data indicates that different customer classes bear different levels of cost responsibility. Some sources of UFG are applicable to certain classes only. Other sources may be applicable to all customers on the system. The following table summarizes the volumes of UFG identified by customer class, based upon the forecast sales and delivery volumes for the 2004/05 Test Year.

	UFG Volume Identified (10 ³ m ³)	Percentage of Total UFG Identified
Small General Service	4,590	36.7%
Large General Service	3,280	26.3%
High Volume Firm	1,100	8.8%
Co-op	2	0.0%
Main Line Firm	910	7.3%
Interruptible	1,210	9.7%
Special Contract	710	5.7%
Power Stations	690	5.5%
Total	12,492	100%

Over the long term, UFG averages about 1% of total gas receipts on the Centra system. On an annual throughput of approximately 2,200,000 10³ m³, the amount of UFG would be approximately 22,000 10³ m³. While it was not possible to identify the sources of all of the UFG volumes, approximately 55% of the UFG was identified.

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1 It is recommended that UFG costs be allocated to customer classes in proportion
2 to the percentage of known UFG attributable to each customer class. It is
3 expected that the pro-rata share of UFG would be relatively constant over time,
4 assuming that the variables examined in this study remain constant and the
5 forecast volumes for each customer class remain relatively unchanged. Should
6 an individual customer class volume forecast change significantly in the future, or
7 if there are significant changes to the factors that influence the overall level of
8 UFG, the allocation percentages should be reviewed and adjusted if deemed
9 appropriate.

REFERENCE:

Tab 10 p. 3 of 14, Schedule 10.1.3; Appendix 6.1 pp. 18-19 of 27

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Provide the allocators used to allocate functionalized Transmission costs and rate base and explain the basis of the classifications and allocations.
- b) Explain how the costs incurred on the Winnipeg North West Phases 1 and 2 expansion projects were functionalized, classified, and allocated to each customer class. Provide the specific allocators and amounts allocated to each class.

RESPONSE:

- a) The list of classification and allocation factors used to classify and allocate costs functionalized as transmission costs is provided in the attachments to this response. Attachment 1 provides the list of classification factors used to classify costs functionalized as transmission. Attachment 2 lists the allocation factors used to allocate among customer classes, costs functionalized as transmission and classified as demand (capacity) or energy (commodity) related.

Classification Factors

Costs deemed to be demand related would be allocated 100% demand. Such costs include, for example, transmission plant (TRANPT). In Centra's approved cost allocation methodology, costs functionalized to transmission are mainly classified as demand (capacity) with the exceptions of DSM and UFG costs which are classified as energy related. The table below provides the brief explanations of each classification factor.

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Classification factor	Description
DEMAND	All costs (100%) are classified as demand (capacity) related.
TRANPT	Classify costs in the same proportion that all plant costs in the transmission function are classified.
TRANO&M	Classify costs in the same proportion that total O&M costs in the transmission function is classified. The small portion classified as energy related is mainly related to the back/middle office services and organizational support O&M costs.
TRANREVREQ	Classify costs in the same proportion that total Revenue Requirement in the transmission function is classified. The cost classified as commodity (energy) relates mainly to UFG costs and DSM amortization.
TRANRTBASE	Classify costs in the same proportion that the total Rate Base in the transmission function is classified. The costs classified as commodity (energy) mainly relates to the investment in DSM.
TRANGAS	Classify costs in the same proportion that total Cost of Gas in the transmission function is classified. The costs classified as commodity (energy) mainly relates to the UFG costs. The costs classified as demand (capacity) are Minell Pipeline costs.
TRANWC	Classify costs in the same proportion that all costs in the transmission Working Capital sub-report are classified.
TRANDEP	Classify costs in the same proportion that all Accumulated Depreciation costs in the transmission function are classified.
TRANDEPEXP	Classify costs in the same proportion that the total Depreciation Expense costs in the transmission function are classified.
TRANCIAC	Classify costs in the same proportion that all CIAC costs in the transmission function are classified.

Allocation Factors

Demand related costs are allocated mainly to customer classes on the basis of the peak and average allocator. Peak and average (PAVG-T) allocates costs related to transmission system costs. The calculation of PAVG-T allocator is provided in the attachment to IGU/Centra I-13 c).

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There are also allocators that are defined for plant, working capital, revenue, O&A, rate base, accumulated depreciation and depreciation expense. These allocators contain the name of the functional-classification they are referencing along with the allocator type. For example, the allocators such as TRANPT-D assigns cost to customer classes on the basis of the each class allocation of demand-related transmission plant. Similarly any O&A costs functionalized to transmission and classified as demand related would be allocated to customer classes using the TRANO&M-D. Each of these allocators assigns costs in the similar manner that plant costs or O&M costs.

In addition there are allocators like COMUFG and CUSTSDM that are used to allocate costs functionalized to transmission and classified as energy related. The COMUFG factor reflects the percentage of unaccounted for gas allocable to each customer class on the basis of the percentages established through Order 131/04.

The CUSTDSM assigns DSM amortization expense and investment in DSM on the basis of anticipated participation which is forecast by customer class.

- b) There was no separate functionalization, classification or allocation done for the costs and asset additions incurred on the North West Phases 1 & 2 expansion projects. In the 2019/20 Cost Allocation Study the additions from this project to Transmission Plant, Distribution Plant and Intangible (Rate Base) and additional Finance Expense, Taxes and other costs (Revenue Requirement) are functionalized, classified and allocated to customer classes consistent with the approved cost allocation methodology from past GRAs.

Classification Factors:

Step II. Classification				
Allocator Name	Total	Demand	Energy	Customer
DEMAND	EXT	1		
DEMAND%	1	100.00%	0.00%	0.00%
TRANPT	INT	174,667,313	0	0
TRANPT%	174,667,313	100.00%	0.00%	0.00%
TRANO&M	INT	5,394,199	3,287	0
TRANO&M%	5,397,486	99.94%	0.06%	0.00%
TRANREVREQ	INT			
TRANREVREQ%				
TRANRTBASE	INT	86,785,465	54,853,398	0
TRANRTBASE%	141,638,863	61.27%	38.73%	0.00%
TRANGAS	INT			
TRANGAS%				
TRANWC	INT	889,332	1,326,946	0
TRANWC%	2,216,278	40.13%	59.87%	0.00%
TRANDEP	INT	42,932,772	394	0
TRANDEP%	42,933,167	100.00%	0.00%	0.00%
TRANDEPEXP	INT	3,238,191	14	0
TRANDEPEXP%	3,238,204	100.00%	0.00%	0.00%
TRANCIAC	INT	42,932,772	394	0
TRANCIAC%	42,933,167	100.00%	0.00%	0.00%

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Allocation Factors:

Step III. Allocation

Allocator Name	Total	Residential SGS-R	Small Commercial SGS-C	Large Gen Service LGS	High Volume HVF	Cooperative CO-OP	Main Line ML	Special Contracts SC	Power Stations GS	Interruptible INT	Primary Gas PG	Firm Supplemental FSP	Interruptible Supplemental ISP	Fixed Price Offering FPO
PLANT IN SERVICE														
TRANPT-D	INT	57,311,375	10,950,066	52,266,097	16,049,484	25,595	9,810,792	25,825,483	777,006	1,651,415	0	0	0	0
TRANPT-D%	174,667,313	32.81%	6.27%	29.92%	9.19%	0.01%	5.62%	14.79%	0.44%	0.95%	0.00%	0.00%	0.00%	0.00%
WORKING CAPITAL														
TRANWC-D	INT	328,017	69,810	259,499	79,592	107	59,327	95,272	-7,359	5,068	0	0	0	0
TRANWC-D%	889,332	36.88%	7.85%	29.18%	8.95%	0.01%	6.67%	10.71%	-0.83%	0.57%	0.00%	0.00%	0.00%	0.00%
TRANWC-E	INT	566,292	195,449	500,013	42,143	0	15,805	1,127	2,214	3,904	0	0	0	0
TRANWC-E%	1,326,946	42.68%	14.73%	37.68%	3.18%	0.00%	1.19%	0.08%	0.17%	0.29%	0.00%	0.00%	0.00%	0.00%
REVENUE REQUIREMENT														
TRANREVREQ-D	INT													
TRANREVREQ-D%														
TRANREVREQ-E														
TRANREVREQ-E%														
O&M EXPENSES														
TRANO&M-D	INT	1,673,872	319,815	1,526,517	546,819	748	442,676	773,792	61,728	48,232	0	0	0	0
TRANO&M-D%	5,394,199	31.03%	5.93%	28.30%	10.14%	0.01%	8.21%	14.34%	1.14%	0.89%	0.00%	0.00%	0.00%	0.00%
TRANO&M-E	INT	1,062	200	904	289	0	240	92	181	319	0	0	0	0
TRANO&M-E%	3,287	32.33%	6.07%	27.50%	8.80%	0.00%	7.30%	2.80%	5.50%	9.70%	0.00%	0.00%	0.00%	0.00%
RATE BASE														
TRANBASE-E	INT	23,582,703	8,224,447	20,840,102	1,647,916	0	551,048	1,117	2,195	3,870	0	0	0	0
TRANBASE-E%	54,853,398	42.99%	14.99%	37.99%	3.00%	0.00%	1.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%
TRANBASE-D	INT	28,498,124	5,451,885	25,950,722	7,979,215	12,689	4,902,622	12,793,177	380,137	816,895	0	0	0	0
TRANBASE-D%	86,785,465	32.84%	6.28%	29.90%	9.19%	0.01%	5.65%	14.74%	0.44%	0.94%	0.00%	0.00%	0.00%	0.00%
GAS COSTS														
TRANGAS-E	INT													
TRANGAS-E%														
TRANGAS-D	INT													
TRANGAS-D%														
ACCUMULATED DEPRECIATION														
TRANDEP-D	INT	14,075,457	2,689,295	12,836,356	3,951,063	6,286	2,428,235	6,344,984	195,515	405,581	0	0	0	0
TRANDEP-D%	42,932,772	32.78%	6.26%	29.90%	9.20%	0.01%	5.66%	14.78%	0.46%	0.94%	0.00%	0.00%	0.00%	0.00%
TRANDEP-E	INT	128	24	108	35	0	29	11	22	38	0	0	0	0
TRANDEP-E%	394	32.33%	6.07%	27.50%	8.80%	0.00%	7.30%	2.80%	5.50%	9.70%	0.00%	0.00%	0.00%	0.00%
DEPRECIATION EXPENSE														

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Allocator Name	Total	Residential SGS-R	Small Commercial SGS-C	Large Gen Service LGS	High Volume HVF	Cooperative CO-OP	Main Line ML	Special Contracts SC	Power Stations GS	Interruptible INT	Primary Gas PG	Firm Supplemental FSP	Interruptible Supplemental ISP	Fixed Price Offering FPO
TRANDEPEXP-D	INT	1,062,105	202,929	968,605	297,758	474	182,468	478,684	14,563	30,604	0	0	0	0
TRANDEPEXP-D%	3,238,191	32.80%	6.27%	29.91%	9.20%	0.01%	5.63%	14.78%	0.45%	0.95%	0.00%	0.00%	0.00%	0.00%
TRANDEPEXP-E	INT	4	1	4	1	0	1	0	1	1	0	0	0	0
TRANDEPEXP-E%	14	32.33%	6.07%	27.50%	8.80%	0.00%	7.30%	2.80%	5.50%	9.70%	0.00%	0.00%	0.00%	0.00%
Peak and Average														
PAVG	INT													
PAVG%														
PAVG-T	INT													
PAVG-T%														
PAVG-TBS	INT													
PAVG-TBS%														
PAVG-D	INT													
PAVG-D%														
Gas Cost Studies														
COMUFG	EXT													
COMUFG%														
Customer Service Special Studies														
CUSTDSM	EXT	43	15	38	3	0	1	0	0	0	0	0	0	0
CUSTDSM%	100	43.00%	15.00%	38.00%	3.00%	0.00%	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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REFERENCE:

Tab 10 Schedule 10.1.3; Tab 8 Schedule 8.9.3(b)

PREAMBLE TO IR (IF ANY):**QUESTION:**

Provide the functionalization and classification of each gas cost item in Schedule 8.9.3(b).

RESPONSE:

Please see the attachment to this response.

FUNCTIONALIZATION COST OF GAS:

Account Description	Account Balance	Direct Assignment Factor	Total Direct Assignment	Balance to be Allocated	Functional Factor	Functionalization Phase					
						Production	Pipeline	Storage	Transmission	Distribution	OnSite
I. COST OF GAS											
A. FIXED COSTS											
TCPL FS Demand - Sask Zone					PIPE					0	0
TCPL STS Demand					PIPE					0	0
					PIPE					0	0
TCPL Firm Service - Emerson to Man Zone					PIPE					0	0
TCPL FS Demand - Man Zone					PIPE					0	0
Other Pipeline Fixed Tolls					PIPE					0	0
ANR Joliet to Storage Winter					STOR					0	0
ANR Crystal Falls from Storage					STOR					0	0
GLGT Storage to Deward					STOR					0	0
Seasonal Storage Capacity					STOR					0	0
Seasonal Storage Deliverability					STOR					0	0
Annual Storage Capacity					STOR					0	0
Annual Storage Deliverability					STOR					0	0
ANR Joliet to Storage Summer					STOR					0	0
ANR Crystal Falls to Storage					STOR					0	0
GLGT Emerson to Crystal Falls					STOR					0	0
Forecast Capacity Management Revenues					PIPE					0	0
Sub-total										0	0
B. VARIABLE TRANSPORTATION											
GLGT Storage Transportation					STOR					0	0
ANR Storage Transportation					STOR					0	0
ANR Storage Withdrawl Chg.					STOR					0	0
Storage Gas - Transportation & Delivery Cost					STOR					0	0
Compressor Fuel: Primary					PROD					0	0
Compressor Fuel: Emerson					STOR					0	0
Compressor Fuel: Storage & Supplemental US Supplies					STOR					0	0
Sub-total										0	0
C. COMMODITY COST											
Primary Direct to System					UFG-PRI					0	0
Storage Gas: Primary to System					UFG-PRI					0	0
Storage Gas: Supplemental Supply					UFG-SUPP					0	0
Emerson Supply					UFG-SUPP					0	0
Fixed Price Offering					UFG-PRI					0	0
Sub-total										0	0
D. OTHER GAS COSTS											
Minell Charges					TRANS					0	0
Load Balancing Charges					PIPE					0	0
Sub-total										0	0
Total Cost of Gas	177,264,835		0	177,264,835		112,024,220	43,618,659	19,945,429	1,676,527	0	0

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CLASIFICATION COST OF GAS:

Account Description	Classification Factor	Production		Pipeline		Storage		Transmission		Distribution		OnSite	
		Demand	Energy	Demand	Energy	Demand	Energy	Demand	Energy	Demand	Energy	Demand	Energy
I. COST OF GAS													
A. FIXED COSTS													
TCPL FS Demand - Sask Zone	DEMAND									0	0	0	0
TCPL STS Demand	DEMAND									0	0	0	0
	DEMAND									0	0	0	0
TCPL Firm Service - Emerson to Man Zone	DEMAND									0	0	0	0
TCPL FS Demand - Man Zone	DEMAND									0	0	0	0
Other Pipeline Fixed Tolls	DEMAND									0	0	0	0
ANR Storage Deliverability	DEMAND									0	0	0	0
ANR Joliet to Storage Winter	DEMAND									0	0	0	0
ANR Crystal Falls from Storage	DEMAND									0	0	0	0
GLGT Storage to Deward	DEMAND									0	0	0	0
Seasonal Storage Capacity	DEMAND									0	0	0	0
Seasonal Storage Deliverability	DEMAND									0	0	0	0
Annual Storage Capacity	DEMAND									0	0	0	0
Annual Storage Deliverability	DEMAND									0	0	0	0
ANR Joliet to Storage Summer	DEMAND									0	0	0	0
ANR Crystal Falls to Storage	DEMAND									0	0	0	0
GLGT Emerson to Crystal Falls	DEMAND									0	0	0	0
Forecast Capacity Management Revenues	DEMAND									0	0	0	0
Sub-total										0	0	0	0
B. VARIABLE TRANSPORTATION													
TCPL FS - Sask Zone	ENERGY									0	0	0	0
TCPL FS - Flowing directly to Man Zone	ENERGY									0	0	0	0
TCPL FS - SSDA (Welwyn)	ENERGY									0	0	0	0
Firm Service - Emerson to Man Zone	ENERGY									0	0	0	0
GLGT Storage Transportation	ENERGY									0	0	0	0
ANR Storage Transportation	ENERGY									0	0	0	0
ANR Storage Withdrawl Chg.	ENERGY									0	0	0	0
Storage Gas - Transportation & Delivery Cost	ENERGY									0	0	0	0
Compressor Fuel: TCPL SSDA	ENERGY									0	0	0	0
Compressor Fuel: Primary	ENERGY									0	0	0	0
Compressor Fuel: Emerson	ENERGY									0	0	0	0
Compressor Fuel: TCPL SSDA (Welwyn) to MDA	ENERGY									0	0	0	0
Compressor Fuel: Oklahoma	ENERGY									0	0	0	0
Compressor Fuel: Storage & Supplemental US Supplies	ENERGY									0	0	0	0
Sub-total										0	0	0	0
C. COMMODITY COST													
Primary Direct to System	ENERGY									0	0	0	0
Storage Gas: Primary to System	ENERGY									0	0	0	0
Oklahoma Supply	ENERGY									0	0	0	0
Storage Gas: Supplemental Supply	ENERGY									0	0	0	0
Emerson Supply	ENERGY									0	0	0	0
Delivered Service	ENERGY									0	0	0	0
Fixed Price Offering	ENERGY									0	0	0	0
Sub-total										0	0	0	0
D. OTHER GAS COSTS													
Minell Charges	DEMAND									0	0	0	0
Load Balancing Charges	DEMAND									0	0	0	0
Sub-total										0	0	0	0
Total Cost of Gas		177,264,835	0	112,024,220	43,618,659	0	18,019,383	1,926,046	198,444	1,478,083	0	0	0

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REFERENCE:

Tab 10 Schedule 10.1.0U; Order 118/03 p. 81; 2013/14 GRA PUB/Centra I-119

PREAMBLE TO IR (IF ANY):

In Order 118/03, the Board directed that any changes in the terms and conditions for the Power Station customers, or extensions of the contract term, be filed with the Board for review, and if necessary, approval.

QUESTION:

- a) Confirm whether the Power Stations are being served under the original contracts, new contracts, or renewed versions of the original contracts. If new or renewed contracts, identify any changes in the terms and conditions of these contracts.
- b) Explain the minimum annual gross margin provision in the Power Station contracts and the MAGM amounts for each Power Station customer.
- c) Provide a schedule showing the minimum annual gross margin, actual billed demand, and required payments to Centra for the years 2013 to 2018 in a similar format to PUB/Centra I-119 from the 2013/14 GRA.
- d) Schedule 10.1.0 lines 51 and 57 appear to show a gross margin for the Power Station customers of approximately \$158,000. Confirm whether, if Power Station usage is as forecast, the Power Stations will contribute approximately \$158,000 of gross margin through their billed rates, and will also be required to remit to Centra the difference between their minimum annual gross margin and the actual amounts billed (i.e. \$947,100 less \$158,000 = \$789,100). If confirmed, does this additional revenue flow to Centra's net income?
- e) Does the Special Contract class have similar minimum annual gross margin provisions in those contracts? If so, provide the details of the amount and whether the Special Contract class customers have been required to make payments related to this provision.

RESPONSE:

- a) The Power Stations continue to be served under their original contracts. No new contract has been executed to replace the Power Stations contracts. While the initial term of each contract expired July 31, 2013, each contract contained an evergreen provision that allows it to continue until either party gives one year written notice of termination. No termination notice has been provided by either party.
- b) The natural gas service extensions to the Brandon Generating Station and the Selkirk Generating Stations each had a feasibility test prepared in advance of constructing the transmission line extension, in order to determine the amount of contribution in aid of construction that would be required to make each extension feasible. Each generating station was expected to have unique operating characteristics associated with the intermittent use of each plant. For feasibility test purposes, Centra incorporated a conservative forecast of usage for each plant. Given the unusual operating patterns, Centra determined that an annual minimum gross margin guarantee would be appropriate to support the assumptions in the feasibility study recognizing the potential highly variable use profile of the customers. In addition, the contract called for three separate "true ups" to be calculated, in which excess contribution may be refunded or insufficient contribution be "topped up" by Manitoba Hydro.

As per the terms of the Power Stations Contracts, the Minimum Annual Gross Margin Amount only applied to the initial term of the contract, which was 10 years. For that period, the amount for the Brandon Power Station was \$572,600 and the amount for the Selkirk Power Station was \$374,500.

- c) As per the terms of the contract referenced in b), the last year to which the Minimum Annual Gross Margin Amount applied was August 2012 to July 2013. Please see the attachment to this response.
- d) Not confirmed. Centra notes that the figures provided on lines 51 and 57 of Schedule 10.1.0 represent amounts allocated to the Power Station customer class and not gross margin.

The Minimum Annual Gross Margin provision was last required for the August 2012 to July 2013 contract year, in accordance with the terms of the contract with these customers. Amounts previously paid to Centra under the contract for gross margin guarantees settled to Centra's net income.

- e) No. The Special Contract class customer is not subject to a minimum margin guarantee.

Power Stations Payments required to meet Minimum Gross Margin Amount - August 1, 2012 through July 31,2013

	<u>2013</u>	
<u>Minimum Annual Gross Margin</u>		
Brandon	\$ 572,600	
Selkirk	\$ 374,504	
Total	\$ 947,104	
<u>Actual billed demand and BMC charges</u>		
Brandon	\$ [REDACTED]	2d
Selkirk	\$ [REDACTED]	
Total	\$ [REDACTED]	
<u>Difference - Over /(Under) Minimum Annual Gross Margin</u>		
Brandon	\$ [REDACTED]	1e
Selkirk	\$ [REDACTED]	
Total	\$ [REDACTED]	
<u>Required Payments</u>		
Brandon	\$ [REDACTED]	1e
Selkirk	\$ [REDACTED]	
Total	\$ [REDACTED]	

REFERENCE:

Tab 13 pgs. 10-11 of 14

PREAMBLE TO IR (IF ANY):

QUESTION:

Provide the presentations given at the January 17, 2019 stakeholder engagement session on Centra's unbundled rate structure. Provide any participant feedback Centra received regarding its January 17, 2019 unbundled rate structure stakeholder engagement session. Provide an update of the next steps and timelines of Centra's unbundled rate structure consultations and amendments, including Centra's planned customer research efforts and gas marketer discussions.

RESPONSE:

Please see the attached April 30, 2019 letter from Centra which contains the next steps in the process for the commodity rate re-bundling and the feedback submissions from the Consumers Association of Canada (Manitoba) and Direct Energy on the potential changes to the current natural gas rate structure.



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April 30, 2019

Mr. D. Christle
Secretary and Executive Director
Public Utilities Board
400-330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

Dear Mr. Christle:

RE: DIRECTIVE 14 OF ORDER 65/11 – COMMODITY RATE RE-BUNDLING STAKEHOLDER ENGAGEMENT

On January 17, 2019, Centra Gas Manitoba Inc. ("Centra") hosted a stakeholder engagement session to explore options by which Centra's rate structure could be simplified, as requested by the Public Utilities Board of Manitoba (PUB) in its Directive 14 from Order 65/11. Following the meeting, Centra requested that stakeholders provide feedback on potential changes to the current natural gas rate structure.

Centra has received submissions from the Consumers Association of Canada (Manitoba) ("CAC") and Direct Energy and has obtained consent to share this information with participants to the stakeholder engagement process (attached). Centra requested feedback following the January 17, 2019 stakeholder meeting by February 8, 2019 and since then, Centra has also engaged with interested Western Transportation Service (WTS) marketers to obtain feedback from them, one on one. No concerns were expressed by these WTS marketers about any aspect of the potential changes to the current natural gas rate structure. Accordingly, Centra does not anticipate receiving any further feedback.

CAC's submission suggests that a sizeable review of WTS may be required, as well as a review of the outcomes from the competitive landscape/generic hearings of 1996 and 2007. Centra's view is that WTS would not change fundamentally¹ and these relatively straightforward proposals for rate and bill simplification can be achieved without the

¹ While not required as part of rate rebundling, Centra is also exploring the potential to change the location at which WTS marketers deliver gas to Centra, from Empress to the more liquid AECO/NIT hub. Feedback from WTS marketers in this regard has thus far been positive. Aside from the change in delivery location, WTS would be largely unchanged.

Public Utilities Board of Manitoba
Directive 14 of Order 65/11

April 30, 2019
Page 2 of 2

significant cost of revisiting these proceedings or the structure of WTS.

Based on the feedback received to date, Centra intends to conduct market research using a third-party firm to gauge consumer preferences with respect to unbundled and rebundled rates. Prior to conducting that research, Centra will hold another stakeholder meeting, anticipated to be scheduled in the fall of 2019, to gain input on the research objectives and discuss next steps. Another possible step in the process could be a workshop at which Centra would walk through the mechanics of the proposal.

Should you have any questions with respect to this submission, please contact the writer at 204-360-3257 or Liz Carriere at (204) 360-3591.

Yours truly,

MANITOBA HYDRO LEGAL SERVICES DIVISION

Per:



BRENT A. CZARNECKI
Barrister & Solicitor

Att.

Commodity Rate Re-bundling

Summary of CAC Manitoba Preliminary Views on the Proposal, Issues and Process

2019-02-11

CAC Manitoba would like to thank Centra Gas for the invitation to participate in the initial stakeholder meeting, held in January, and for the opportunity to submit some comments on this issue.

Centra's Proposal and Issues

- Centra has proposed an alternative rate design to address the PUB's 2011 (Order 66/11) directive to potentially simplify its rate structure. This directive arose out of a concern raised by CAC Manitoba that reliance on delivered service had shifted from its use to supplement supply in colder than normal weather to relying on delivered service as part of Centra's normal weather supply portfolio – the implications of which included that the original intent of primary and supplemental supply service had changed, and that the volumes retail marketers could supply were reduced.

- Centra's bill simplification proposal, among other things, does away with primary and supplemental supply distinction, allowing brokers to supply 100% of a customer's commodity, possibly deliverable at AECO rather than at Empress.

The bill simplification proposal appears to contemplate establishing a commodity rate for system supply customers based on the weighted average cost of western Canadian supply and the creation of one commodity PGVA, possibly to be disposed of through the distribution/delivery rate. It is somewhat unclear what variances are to be captured through this commodity PGVA or how this would be done but may capture several variances including

- 1) the difference between the forecasted weighted average cost of western Canadian supply and the actual cost for system supply customers
- 2) the difference between the forecasted weighted average cost of

western Canadian supply and the actual cost of gas procured to supplement gas requirements (including from non-Canadian sources and delivered service) and

3) volume variances.

- While the end goal is bill simplification, the potential scope/implications to get there may be sizable as there appears to be a number of technical issues to address and some tricky content issues underneath including likely the redefining of WTS service (such as risk assessment, obligations of parties, contractual arrangements, gas loan mechanism) as brokers will have a different field of play. Could this trigger a review of some elements pertinent to the competitive landscape/generic hearings of 1996 and 2007?
- While bill simplification is the outcome, to get there may require a sizable review of the WTS, the service of which approximately 10,000 customers elect of approximately 280,000 total natural gas customers.
- CAC Manitoba would like to understand the implications of this compliance matter, and to see an analysis of potential costs versus potential benefits:
 - For customers?
 - For Centra?
 - For the PUB?
 - For other stakeholders?

Process

Given that the directive of the PUB flowing from Order 65/11 is for Centra to propose a process to review and obtain PUB approval of Centra's rate and service structure (page 64), CAC suggests Centra prepare a plan with the timetable of the milestones and file it along with a presentation of the implications (including the potential disruption of how parties are currently integrated in the marketplace) with the PUB as part of the GRA currently underway. CAC views that it may be an appropriate point and worthwhile to check back with the PUB through the upcoming GRA to obtain further guidance in finding the best path moving forward given the potential implications and scope of this directive.

CAC Manitoba suggests that any process to address bill simplification should include both consumer/customer engagement and stakeholder engagement. Engaging with representatives of an organization representing consumers is appropriate for stakeholder engagement, but does not replace the importance of hearing directly from individual consumers and customers.

Consumer Engagement

- CAC Manitoba is typically of the view that more information available to consumers on the bill is better, but we are very interested in hearing directly from consumers and from other stakeholders on this issue, and on the types of alternatives that might work better for them than what we currently are using.
- Before any specific bill simplification alternative is finalized, CAC Manitoba views that consumer engagement, undertaken by a firm with specific expertise in consumer engagement, is critical. The purpose of this engagement would be to discuss
 - customers interest in bill simplification,
 - what bill simplification options are available and would work best for consumers,
 - whether or not they are prepared to pay for this change, and how much they are prepared to pay.. .
- CAC Manitoba suggests that such consumer engagement could be expanded to include other matters, such as bill presentation generally.
- CAC suggests that a second round of consumer engagement be planned, when options have been narrowed down to one or two, to include face-to-face engagement, such as focus groups or workshops (with a mock bill).

Stakeholder Engagement

- CAC Manitoba recommends that several more stakeholder engagement sessions are needed to learn about results of consumer engagement, other bill simplification options that might be considered, the cost of various options versus the inherent benefits and to better understand the technical workings of Centra's proposal (or other alternatives).
 - It would be great if materials to be reviewed and discussed could be provided a week to several days before the sessions, to give participants time to think through the options and determine questions they want to ask or ideas/comments they want to share with the group.
- In addition to those stakeholders in attendance in January (assuming representation included the broker community, the PUB, large customers, residential customers), CAC Manitoba wonders whether any other stakeholders should be included, (such as small business customers, for example), and that invitations be extended to those parties (if not already done).
- CAC Manitoba would appreciate the sharing of feedback obtained from other stakeholders (with their permission, of course) to better understand the variety of perspectives on this issue..

February 6, 2019

Mr. Jonathan Niemczak
Regulatory Coordinator
Regulatory Services Department
Manitoba Hydro
360 Portage Avenue
Winnipeg, MB
R3C 0G8

Dear Mr. Niemczak:

Re: Centra Gas Manitoba Commodity Rate Re-Bundling Stakeholder Consultation

Direct Energy Marketing Limited (DEML) attended the stakeholder consultation that was held by Centra Gas on January 17, 2019. DEML is active in the Centra Gas service territory and has contracts with large commercial and industrial customers, including a Canada-wide contract for certain agencies within the Government of Canada.

DEML is fully supportive of the re-bundled commodity-only rate as proposed by Centra Gas. The increased liquidity at AECO would mitigate operational issues and would facilitate equal and open competition, while providing price transparency to natural gas consumers in Manitoba.

If you have any further questions, please contact me directly at (403) 776-2154.

Regards,

Nicole Black
Senior Manager, Government & Regulatory Affairs,
Direct Energy Marketing Limited
2500, 530-8th Avenue S.W.
Calgary, Alberta T2P 3S8

REFERENCE:

Tab 11

PREAMBLE TO IR (IF ANY):

QUESTION:

Provide a ranking of retail gas distribution rates across Canadian jurisdictions. Show details and calculations of how the ranking is determined and comment on the differences between these gas distribution rate structures and that of Centra's.

RESPONSE:

The following table provides a ranked list of natural gas retail distribution rates across Canadian jurisdictions based on the average residential gas bill:

City	Utility	Natural Gas Retail Distribution Rates (Annual \$)	Rank
Winnipeg, MB	Centra Gas / Manitoba Hydro	362	1
Hamilton, ON	Union Gas	374	2
Toronto, ON	Enbridge Gas Distribution	448	3
Calgary, AB	ATCO Gas - South	462	4
Edmonton, AB	ATCO Gas - North	496	5
Vancouver, BC	Fortis BC Energy Inc	534	6
Regina, SK	SaskEnergy	537	7
Montreal, PQ	Énergir / Gaz Métro	1077	8

This measure is based on data collected by the Canadian Gas Association (Standing Committee on Corporate Affairs) and caution should be exercised on its use for the following reasons. The basis of comparison may be inconsistent as each utility uses a different annual average consumption basis and a different mixture of fixed and variable costs. The distribution rates provided by other utilities do not exclude transportation and fuel costs in all situations (ATCO, SaskEnergy, Union Gas) whereas Centra's does.

REFERENCE:

Tab 11 pgs. 2-6 of 14 and Schedule 11.1.0

PREAMBLE TO IR (IF ANY):

In accordance with the Greenhouse Gas Pollution Pricing Act, S.C. 2018, c. 12, s. 186 (GGPPA) and the associated regulations, a Fossil Fuel Charge equivalent to \$20 per tonne of CO₂ emitted in 2019, increasing by \$10 annually to a maximum of \$50 per tonne emitted in 2022, is expected to take effect in Manitoba on April 1, 2019. An Output Based Pricing System for emissions-intensive trade-exposed industries also took effect January 1, 2019. On January 16, 2019, Centra filed a letter with the Board seeking written concurrence to implement the Federal Carbon Charge on its customers' bills. On January 23, 2019, Centra provided an updated submission regarding its Federal Carbon Charge customer communication plan.

On January 28, 2019, pursuant to the requirements of the GGPPA and section 82(1)(b) of The Public Utilities Board Act, the Board approved the addition of the \$0.0391/cubic metre of natural gas Federal Carbon Charge (plus applicable taxes) to Centra's customers' bills starting April 1, 2019. The Board further directed Centra to provide the Board with confirmation as to whether either PST or the City of Winnipeg Tax is applicable to the Federal Carbon Charge and to seek the Board's written authorization for further changes, revisions, or amendments to the Federal Carbon Charge.

QUESTION:

- a) Provide Centra's January 16, 2019 filing including attachments that seeks concurrence for implementation of the Federal Carbon Charge as well as Centra's March 22, 2019 filing with respect to the taxation status of the Federal Carbon Charge.
- b) Provide an annual bill impact schedule that includes both the proposed change in billed rates and the 2019 Federal Carbon Charge of \$0.0391/m³ applied to non-exempt customers.

RESPONSE:

- a) Please see Attachment 1 to this response for the correspondence on the Federal Carbon Charge.
- b) Please see Attachment 2 to this response.



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January 16, 2019

Mr. D. Christle
Secretary and Executive Director
Public Utilities Board
400-330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

Dear Mr. Christle:

**RE: CENTRA GAS MANITOBA INC. ("Centra") THE GREENHOUSE GAS POLLUTION PRICING
ACT REQUEST FOR CONCURRENCE TO IMPLEMENT THE ANTICIPATED FEDERAL FOSSIL
FUEL CHARGE**

We are writing to apprise the Public Utilities Board of Manitoba ("PUB") of Centra Gas Manitoba Inc.'s ("Centra") legal obligations as a distributor of natural gas in the Province of Manitoba pursuant to the *Greenhouse Gas Pollution Pricing Act*, S.C. 2018, c. 12 ("GGPPA") and the draft regulations enacted thereto, and to request the PUB's written concurrence for Centra to implement the anticipated mandatory fossil fuel charge to its customers commencing as of April 1, 2019.

Background on the GGPPA

On June 21, 2018 the GGPPA received Royal Assent, creating the federal carbon pricing program (also commonly referred to as the "federal backstop"). The aim of the federal carbon pricing program is to achieve a reduction in Canadian greenhouse gas emissions by increasing the economic cost of using fossil fuels.

The federal backstop is applicable to any province who either voluntarily commits to participate in it or for those provincial jurisdictions who did not design their own carbon pricing program and systems in accordance with the requirements of the GGPPA. On October 23, 2018, the Government of Canada released draft regulations listing Ontario, New Brunswick, Manitoba

Public Utilities Board of Manitoba
The Greenhouse Gas Pollution Pricing Act

January 16, 2019
Page 2 of 5

and Saskatchewan as designated provinces in Part 1 of the Schedule (the “federal backstop jurisdictions”).¹

The federal backstop consists of two components for implementation in each of the federal backstop jurisdictions:

1. An Output-Based Pricing System (“OBPS”) – for larger industrial facilities, an output-based pricing system for emissions-intensive trade-exposed industries took effect in January 2019 covering facilities emitting 50,000 tonnes of carbon dioxide equivalent per year or more, with smaller facilities emitting 10,000 tonnes of carbon dioxide equivalent per year or more to voluntarily opt into the system over time.
2. A Fossil Fuel Charge – is a carbon charge applied to fossil fuels that are consumed within a federal backstop jurisdiction. This carbon charge will generally be paid by fuel producers and distributors starting as of April 1, 2019.

The carbon charge is a cost per-unit for each listed fossil fuel and is imposed upon the distributors, importers, and producers of each particular fossil fuel. The per-unit fee is intended to be proportional to the greenhouse gas emissions released when the fuel is consumed. The carbon charge is to be equivalent to \$20.00 per tonne of CO₂ emitted by the particular fossil fuel in 2019, and shall increase by \$10.00 per tonne annually to a maximum of \$55.00 per tonne in 2022.² The carbon charge becomes payable by the registered distributor when the fuel is delivered to another person.

The *GGPPA* exempts certain persons from the application of the carbon charge. Industrial emitters participating in the OBPS will be exempted from the carbon charge. Additionally, the *GGPPA* provides relief to particular groups or sectors, including farmers, fishers, and greenhouse operators, from paying certain fuel charges, but it is noteworthy that most of these exemptions will not be afforded to a typical natural gas customer.³ Eligible persons must apply

¹ Draft Regulations Amending Part 1 of Schedule 1 and Schedule 2 of the Greenhouse Gas Pollution Pricing Act, October 23, 2018, online: <https://www.fin.gc.ca/drlég-apl/2018/ggpp-tpcgcs-1018-schedules-annexes-1-2-eng.asp>.

² Government of Canada, “Technical Paper: Federal Carbon Pricing Backstop” January 1, 2018, online: <https://www.canada.ca/en/services/environment/weather/climatechange/technical-paper-federal-carbon-pricing-backstop.html>.

³ The Act, section 17; also see Department of Finance Canada, “Backgrounder: Targeted Relief for Farmers and Fishers, and Residents of Rural and Remote Communities”, October 23, 2018, online: https://www.fin.gc.ca/n18/data/18-097_3-eng.asp.

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January 16, 2019
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to the Canada Revenue Agency ("CRA") to receive an exemption certificate, which will indicate that the person is exempt from paying the carbon charge on a specific fuel use.

Fuel distributors, such as Centra, are required to register with CRA prior to the implementation of the carbon charge on April 1, 2019. Distributors must report and remit the net carbon charge monthly thereafter.

The *GGPPA* contains a modern enforcement regime which includes imposition of interest on monies not remitted, fines and imprisonment for failures to file a return, filing false or deceptive returns, and evasion. Directors and officers of corporations may be found personally liable for their participation in a corporation's offence.

Centra's Statutory Obligations Pursuant to the *GGPPA*

Centra is a fuel distributor as defined in the *GGPPA* and distributes natural gas within Manitoba, a federal backstop jurisdiction. Centra is therefore obliged to:

- i. Register as a fuel distributor with CRA;
- ii. Calculate and report to CRA the volume of natural gas imported and delivered on a monthly basis; and
- iii. Remit the carbon charge applicable to the volume of natural gas delivered on a monthly basis.

The carbon charge on marketable natural gas in Manitoba, as a federal backstop jurisdiction, for the period of April 1, 2019 to March 31, 2020 is legislated at \$0.0391 per cubic metre.⁴ This amount escalates over the following years to \$0.0979 per cubic metre as of April 1, 2022.

Proposed Implementation of the Carbon Charge by Centra

As discussed above, Centra will be required to remit to CRA carbon charges on the natural gas supplied to its customers as of April 1, 2019. As a result, Centra proposes to charge, all of its non-exempt customers the legislated unit rate, \$0.0391/cubic metre of natural gas supplied commencing April 1, 2019 to March 31, 2020. Thereafter, Centra will charge the corresponding

⁴ Draft Regulations Amending Part 1 of Schedule 1 and Schedule 2 of the Greenhouse Gas Pollution Pricing Act, October 23, 2018, online: <https://www.fin.gc.ca/drlleg-apl/2018/ggpp-tocges-1018-schedules-annexes-1-2-eng.asp>.

Public Utilities Board of Manitoba
The Greenhouse Gas Pollution Pricing Act

January 16, 2019
Page 4 of 5

escalated annual legislated unit rate for natural gas, all in strict accordance with and as set forth in Schedule 2 of the *GPPAA*.

The customer-related carbon charge will be displayed as a separate line item on the customer's bill. As GST must be applied to the carbon charge, a second additional line will be added directly below the carbon charge line to set out the applicable GST. For the PUB's information, a sample bill is provided in Attachment 1. Displaying the carbon charge as a separate line item is the most transparent method of incorporating the charge into a customer's bill. The additional lines will appear within the "taxes" section of the bill which reflects the nature of the charges.

As noted above, not all of Centra's customers will be impacted by the implementation of the carbon charge. Industrial customers who are participants in the OBPS will be exempted, as may certain other Centra customers eligible for an exemption certificate. Centra will not be aware which customers are exempt from the carbon charge, either by reason of their participation in the OBPS or those that are subject to another exemption, until customers provide an exemption certificate. Centra will not include the carbon charge on customer's bills where a CRA exemption certificate has been provided. At this time, Centra does not have an estimate of the number of customers who will be exempt.

The implementation of the carbon charge will have administrative costs. At this time, Centra does not have a forecast of the administrative costs associated with the federal carbon pricing program. Those costs shall form part of Centra's overall operations and administrative expenses, which are recovered through non-gas components of a customer's bill.

Customer Communication Plan

Centra appreciates the importance of assisting its customers in understanding the mandatory carbon charges on their bills. As such, a customer communication plan has been developed to educate customers with respect to the implementation of the pending carbon charges. For the PUB's information, and to assist the PUB in responding to inquiries from members of the public, a version of that plan is provided as Attachment 2. A draft copy of the insert that will be included in customer bills prior to April 1, 2019 is provided as Attachment 3. An additional insert will be included in customer bills following April 1, 2019 (with the first bill that will include the carbon charge). The content of that insert will be developed with the input of feedback and questions received from customers during the coming months.

Public Utilities Board of Manitoba
The Greenhouse Gas Pollution Pricing Act

January 16, 2019
Page 5 of 5

Anticipated Impact on Centra Customers from the Carbon Charge on Natural Gas

The bill impact in the first year of implementation of the carbon charge for an average residential customer will be approximately \$88. The impact of the carbon charge shall be mitigated through the Government of Canada's proposed tax-free Climate Action Incentive payment. The average household in Manitoba will receive \$336.00 through their income tax return.⁵ The Climate Action Incentive payment will increase annually to reflect the increased carbon charge.

Summary

To enable Centra to comply with the legislative requirements of the *GGPPA* and communicate in a timely manner with its customers, pursuant to paragraph 82(1)(b) of *The Public Utilities Board Act*, Centra respectfully requests the PUB's written concurrence for Centra to implement the federal carbon charge on the natural gas it distributes within Manitoba to its customers as of April 1, 2019 as outlined herein, on or before February 1, 2019.

If you have any questions with respect to this matter, please contact Liz Carriere at 204-360-3591 or the writer at 204-360-3257.

Yours truly,

MANITOBA HYDRO LEGAL SERVICES DIVISION

Per:



BRENT A. CZARNECKI
Barrister and Solicitor

cc: Bob Peters, Board Counsel

⁵ Government of Canada, "Manitoba and pollution pricing", October 23, 2018, online: <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/manitoba.html>.



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Dépannage 24 h sur 24

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Outside Winnipeg / Extérieur de Winnipeg	1-888-MBHYDRO (1-888-624-9376)
Deaf access line Ligne pour malentendants	204-360-6154
E- Mail address Adresse électronique	customerservice@hydro.mb.ca

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Customer name Nom du client	CUSTOMER NAME
Account number N° de compte	1234567 7654321
Service location Adresse de service	123 STREET NAME RD CITY NAME MB Z9Z 9Z9
Date issued Date d'émission	Jan 11 JAN 2019
Amount due Montant à payer	\$ 170.00
Due date Date d'échéance	Jan 25 JAN 2019

Account summary / Sommaire du compte

Previous charges and credits / Frais et crédits antérieurs	
Previous balance / Solde antérieur	\$ 170.00
Payment / Paiement	Dec 27 DÉC 170.00 CR
Balance forward / Solde reporté	\$ 0.00

New charges / Nouveaux frais			
Electricity / Électricité	(GST/TPS	\$ 5.28)	EPP/R.P.É \$ 99.00
Natural gas / Gaz naturel	(GST/TPS	6.15)	EPP/R.P.É 71.00

Amount due / Montant à payer \$ 170.00

Due date / Date d'échéance Jan 25 JAN 2019

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WINNIPEG MB R3C 5R1

If mailing, please specify amount paid on return portion of bill and enclose with payment.
Si vous payez par la poste, veuillez inclure le talon de la facture sur lequel le montant payé est indiqué.

CUSTOMER NAME
123 STREET NAME RD
CITY NAME MB Z9Z 9Z9

Account number/N° de compte 1234567 7654321	Payment enclosed/ Paiement ci-joint \$
Amount due/Montant à payer \$ 170.00	
Due date /Date d'échéance Jan 25 JAN 2019	<input type="checkbox"/> CH <input type="checkbox"/> CA <input type="checkbox"/> DR

2 / 3



Customer name Nom du client	CUSTOMER NAME
Account number N° de compte	1234567 7654321
Service location Adresse de service	123 STREET NAME RD CITY NAME MB Z9Z 9Z9
Date issued Date d'émission	Jan 11 JAN 2019

Electricity / Électricité								
Meter number / N° de compteur	Service / Pour la période From / Du To / Au	Days / Jours	Meter readings / Relevés du compteur		Multiplier / Multiplicateur	kW.h / kWh	Reading type / Type de relevé	
			Previous / Précédent	Present / Nouveau				
888999	Dec 10 DÉC/18 Jan 11 JAN/19	32	3912	4023	10	1,110	Actual Réel	
Basic Charge / Redevance de base						\$ 8.41		
Energy Charge / Frais d'énergie						1,110.000 kW.h x \$0.08527	94.65	
Subtotal / Total partiel							103.06	
2.50% City Tax / Taxe mun.							2.58	
8.00% Prov Tax / Taxe prov.							8.24	
5.00% GST / TPS							5.15	
5.00% GST on City Tax / TPS sur taxe mun							0.13	
Electricity charges / Frais d'électricité							119.16	
EPP instalment / Versement du R.P.É.							99.00	

Natural Gas / Gaz Naturel													
Meter number / N° de compteur	Service / Pour la période From / Du To / Au		Days / Jours	Meter readings / Relevés du compteur Previous / Present / Précédent Nouveau		Usage / Consommation		Base pressure adj/Facteur de la pression de base		Metric conversion factor/Facteur de conversion métrique		Cubic metres (m³) / Mètres cubes (m³)	Reading type / Type de relevé
888999	Dec 10 DÉC/18	Jan 11 JAN/19	32	4830	4975	145	x	0.98780	x	2.832784	=	405.742	Actual Réel
Basic Charge / Redevance de base												\$ 14.00	
Primary Gas (Centra) / Gaz d'inventaire (Centra)				93.0	%	x		405.742	m³	x	\$ 0.08320	31.39	
Supplemental Gas / Gaz de réserve				7.0		x		405.742		x	0.15590	4.43	
Transportation to Centra / Transport jusqu'à Centra				100.0		x		405.742		x	0.05380	21.83	
Distribution to Customer / Distribution aux clients				100.0		x		405.742		x	0.08660	35.14	
Subtotal / Total partiel												106.79	
2.50% City Tax Based on Non Heating Load / Taxe mun. fondée sur la charge de non-chauffage												0.56	
1.40% Prov Tax / Taxe prov.												1.50	
5.00% GST / TPS												5.34	
5.00% GST on City Tax / TPS sur taxe mun												0.02	
Federal Carbon Charge / Redevance fédérale sur le carbone - 405.742 m³ x \$ 0.0391												15.86	
5.00% GST on Federal Carbon Charge / TPS sur Redevance fédérale sur le carbone												0.79	
Natural gas charges / Frais de gaz naturel												130.86	
EPP instalment / Versement du R.P.É.													71.00

EPP summary / Sommaire du R.P.É

Equal payment plan year to date / Régime de paiements égaux - cumul annuel à ce jour						
	Meter number / N° de compteur	Beginning of EPP year / Début d'année RPÉ	Instalments billed / Versements facturés	Use / Consommation	Difference / Différence	End of EPP year / Fin d'année RPÉ
Electricity / Électricité	888999	Sep/SEP	\$ 495.00	\$ 333.58	\$ 161.42 CR	Aug/AOÛ
Natural gas / Gaz naturel	888999	Sep/SEP	\$ 355.00	\$ 377.64	\$ 22.64	Aug/AOÛ

Consumption history / Histoire de la consommation

	Meter number / N° de compteur	Use this year/ Consommation (cette année)	Days in period/ Nbre de jours	Use per day this year/ Consommation / jour (cette année)	Use last year/ Consommation (an dernier)	Days in period/ Nbre de jours	Use per day last year/ Consommation / jour (an dernier)	Use for the last twelve months / Consommation (12 derniers mois)
Electricity kW.h / Électricité (kWh)	888999	Jan 1,110	32	34.69	0	0	0.00	2,890
Natural gas m³ / Gas naturel (m³)	888999	Jan 405.742	32	12.68	0.000	0	0.00	1,147.272

Communication Plan

Application of Carbon Charge to Natural Gas Bills

Audiences

- All Natural gas customers
 - Large industrial gas customers
- Manitoba Hydro employees
 - Line management
 - Contact Centre staff
 - Major and Key Account
- Media

Approach

Once required implementation aspects are clarified, we plan to begin proactively advising our customers of the implications for their natural gas bills using news media opportunities, social media, our external website, bill messages and bill inserts.

These communications will include notification of the coming change effective April 1, information on how to calculate the impact of the levy including an online calculator at hydro.mb.ca, where to find information on your previous consumption, and suggestions of energy efficiency programs that may benefit those looking to lower natural gas consumption.

A Q&A will be developed to support those employees responding to customer inquiries and two internal Hydrogram stories will be posted, one in January to advise staff of coming levy and impacts on customers and one in late March as a reminder of key messages.

Tactics

Deliverable	Target audience	Timing	Responsibility
Social media posts (Facebook & Twitter)	All customers	Starting January 16, frequency ramping to weekly in March/April.	Corporate Communications
Web content and calculator	All customers	January 15	Corp Comm & Marketing Services
Q&A / Speaking Points (See Appendix A)	Line management, Contact Centre, Key Account and Media Relations staff	January 11	Corp Comm
Bill insert	All customers	February (January deadline) and April bills (March deadline)	Corp Comm & Marketing Services
Bill message & Mybill notification email	Natural gas customers	February and April bills	Corp Comm & Customer Billing

Hydrogram article	All employees	Initial week of January 15 with follow-up week of March 18.	Corp Comm
CIS Newsletter	Banner Users	Week of January 15	Customer Billing

Key messages

- Effective April 1, the federal governments' new carbon charge will be applied to fossil fuels including natural gas consumed by Manitoba Hydro customers.
- This federal carbon charge is expected to result in an average 13% increase in natural gas bills for the typical residential customer or approximately \$88 per year. Commercial customers will see increases in the range of 15% to 30%.
- The federal carbon charge starts at \$20 per tonne and will increase by \$10 per tonne each year until it reaches \$50 per tonne in 2022. That's the equivalent of 3.91 cents per cubic metre of gas growing to 9.78 cents per cubic metre in 2022.
- The carbon charge is the result of federal legislation.
- Funds Manitoba Hydro collects from customers for the carbon charge will flow to the federal government.

Supporting messages

- We began informing our customers of the federal carbon charge's application to their bills as soon as the federal government confirmed applicability to Manitoba and associated implementation details were clarified.
- The carbon charge rate is set by the federal government. The 3.91 cent charge on each cubic metre of natural gas consumed is based on the \$20 tonne rate and an established measure of the amount of carbon produced by burning a cubic metre of natural gas.
- The carbon charge is a flat fee on consumption however our large service and high volume customers will see higher percentage impacts on their bills compared to residential customers because they are paying lower distribution and transportation charges on each cubic metre used and thus proportionately the carbon levy equates to a higher overall increase.
- GST will be charged on the carbon charge. PST and City Tax will not.
- Customers who know their previous gas consumption can use a calculator on our website to estimate the potential cost impact of the carbon charge.
- We have programs available to help customers who are looking to reduce natural gas consumption, including rebates for improving their homes' insulation or financing for natural gas upgrades. More information is available at hydro.mb.ca.
- Under the Affordable Energy Program, low income customers may qualify for a financing a new high-efficiency natural gas furnace at a cost of just \$9.50 a month for five years.
- The carbon charge does not apply directly to electricity customers because nearly all the electricity produced in Manitoba is renewable hydropower and virtually emission free. However,

there will be some additional costs associated with the use of diesel fuel for fleet vehicles, building heating and the operation of the natural gas-fuelled Brandon and Selkirk generating stations. These costs will be added into electric operating costs and broadly recovered from all customers through rates.

- Even with the addition of the carbon charge, heating with natural gas is still more cost effective than using electricity. A space heating comparison chart is available at hydro.mb.ca.

Appendix A – Question & Answer

1. What is the carbon charge?

Federal legislation creating the carbon pollution pricing system became law on June 21, 2018. This legislation and associated regulations introduce carbon pricing on fossil fuels starting at \$20 per tonne in 2019 and rising to \$50 per tonne of carbon dioxide equivalent by 2022, along with an output-based pricing system for large industrial emitters.

The output-based pricing system uses various incentives and limits to encourage continuous improvement in industrial facilities competing in emissions-intensive, trade-exposed sectors of the economy.

2. Why a charge on fossil fuels?

Burning fossil fuels results in greenhouse gas emissions like carbon dioxide being emitted to the atmosphere. These emissions are causing climate change. Refer to the federal government's website for more information on the issue

at: <https://pm.gc.ca/eng/news/2018/10/23/government-canada-fighting-climate-change-price-pollution>

3. Why is Manitoba Hydro applying a carbon charge to my bill?

The federal government created a charge on fossil fuels that produce carbon dioxide emissions or other greenhouse gases with an equivalent global warming potential. Since burning natural gas produces greenhouse gases, the carbon charge applies to the natural gas sold to our customers.

4. When will the carbon levy be implemented?

The carbon charge is effective April 1.

5. How much is the carbon levy going to cost me?

In the first year, the carbon levy will result in an average 13% increase in natural gas bills for the typical residential customer or approximately \$88 per year. Commercial customers will see increases in the range of 15% to 30%.

The carbon charge will increase by \$10 per year until the year 2022 resulting in an overall average 32% increase for the typical residential customers compared to today or approximately \$219 per year. Commercial customers will see increases in the range of 40 to 70% over that period.

6. Why are some customers seeing a higher percentage increase relative to others?

The carbon charge is a flat fee on consumption however our large service and high volume customers will see a higher percentage change to their bills compared to residential customers because gas costs are a larger portion of their bill so the carbon charge equates to a higher overall increase.

Very large consumers may also qualify for reduced rates of carbon pricing by participating in the federal government's Output Based Pricing System. For more information visit: <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system.html>

7. How can I calculate what the carbon levy will actually cost me?

Customers who know their previous natural gas consumption can use a calculator on our website to estimate the cost impact of the carbon charge. The calculation is 3.91 cents per cubic metre of natural gas purchased. That rate is based on the \$20 per tonne charge rate established by the federal government and an established measure of the amount of carbon produced by burning a cubic metre of natural gas.

You can also use the calculator to estimate the impact of the carbon charge when it increases to \$30, \$40 and then \$50 per tonne.

8. Why didn't Manitoba Hydro tell me about this increase sooner so I could have planned for this expense?

We required confirmation that Manitoba would be a listed province, along with finalization of other details relevant to our customers. Once everything was clarified, we began providing information for customers on our website and communicating via social media in January and reaching out to our customers via bills in February informing them of the carbon levy and the potential impacts on their bills.

9. Will the carbon charge increase?

Yes. Federal legislation indicates that the carbon levy will rise by \$10 per tonne of emissions each year until reaching \$50 per tonne in 2022.

10. Will the carbon increase always increase on April 1?

Yes. The amount of the carbon charge will increase by \$10 per tonne on April 1 for the next four years.

11. I want to speak to someone at the Federal Government. Who should I contact?

I suggest visiting the contact us webpage for Environment and Climate Change Canada at <https://www.canada.ca/en/environment-climate-change/corporate/contact.html>

12. How can I lower my bill and avoid paying more?

We have a number of programs available to help customers who are looking to reduce natural gas consumption, including rebates for improving their home's insulation or financing for natural gas upgrades. More information is available at hydro.mb.ca.

Example: Under our Affordable Energy Program, low income customers may qualify for financing a new high-efficiency natural gas furnace at a cost of just \$9.50 a month for five years.

13. Does Manitoba Hydro receive any of the carbon charge revenue?

No. All money collected by Manitoba Hydro for the carbon levy is passed on to the federal government.

14. Will I be getting a rebate for the cost of the carbon charge on my natural gas bill?

The federal government committed to returning most direct proceeds from the carbon levy collected in Manitoba through payments to individuals or families and investments in energy efficiency. For more information, please visit the federal government's website: <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/manitoba.html>.

15. I'm on the Equal Payment Plan, how will the carbon charge be applied to my bill?

Anticipating that a provincial carbon levy would be introduced in December 2018, an additional 8% was added to the Equal Payment Plan (EPP) calculation for natural gas services this year. With the federal carbon levy not coming into effect until April 2019, we expect most people will see bill credits for natural gas services when their accounts are reconciled next year, unless there are abnormally cold temperatures this winter. Going forward, the EPP calculation for natural gas services will include the carbon levy.

The EPP by design forecasts annual bills and divides that over 12 months, taking into consideration past consumption, forecast weather conditions etc. Any difference (whether an amount further owing by customers or owed back to customers) is reconciled once annually in August.

16. Why don't I see a carbon charge on the electricity portion of my bill?

The carbon charge only applies to the consumption of fossil fuels and does not apply to the consumption of electricity.

However, there are some additional costs to Manitoba Hydro's electricity operations arising from the carbon levy's application to diesel fuel for our fleet vehicles, building heating and the infrequent use of the Brandon and Selkirk generating stations that are fuelled by natural gas. (Those two stations are only used in emergency situations, such as extreme droughts.) These costs will be added to electric operating costs and broadly recovered from customers through rates.

17. Does it make sense to switch from natural gas to electricity for my space heating?

Even with the addition of the carbon charge, heating with natural gas is still more cost effective than using electricity. This remains true even after the carbon levy escalates to \$50 per tonne. A space heating comparison chart is available at hydro.mb.ca.

18. I'm an agricultural producer - am I exempt?

Based on the provisions in the federal legislation, all natural gas use is subject to the carbon charge. There is not a natural gas exemption for agricultural use, although some greenhouse operations may qualify for a lower carbon charge on natural gas consumption. Other fuels used for eligible farming activities, such as diesel and gasoline, will be eligible for exemption.

19. Will GST be applied to the carbon charge?

Yes, GST will be applied to the carbon charge.

20. Isn't that a tax on a tax?

Canada Revenue Agency (CRA) sets the rules on the application of tax. Your question in this regard would be best directed to CRA.

21. What about the PST and City of Winnipeg Tax?

The PST and City Tax will not be applied to the carbon charge.

22. Are customers on Indigenous reserves exempt from the carbon levy?

No.

23. Does Manitoba Hydro have to pay the charge on natural gas burned at the Selkirk and Brandon Generating Stations for electricity generation?

Yes. However, the Selkirk and Brandon generating stations are only used in emergencies, such as a drought. In a normal year, the carbon charge costs associated with the infrequent use of those thermal stations will be very low compared to overall revenue.

Should Brandon or Selkirk be used for a prolonged period during droughts or other emergencies, the significant additional costs of such an event including fuel purchases, carbon charges and imports of electricity may necessitate an increase in rates.

24. When Selkirk or Brandon are used, do export customers pay a carbon charge for the electricity they purchase from Manitoba Hydro?

No. There is no direct added charge to either US or Canadian electricity customers.

25. Does Manitoba Hydro have to pay a levy on diesel fuel used in northern off-grid communities?

No. Diesel used for electricity generation in northern off-grid communities is exempted from the carbon charge.

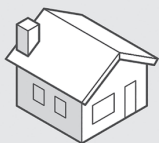
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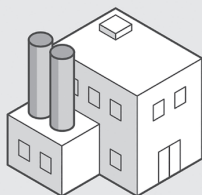
Federal carbon charge on natural gas starts April 1.

As part of the federal government's carbon pollution pricing system, a new carbon charge will be applied to the natural gas section of your bill starting April 1, 2019.

How it affects you



↑ 13%



↑ 15-30%

ESTIMATED AVERAGE GAS BILL IMPACTS

For typical households, the federal carbon charge will add about 13 per cent or \$88 a year to your natural gas costs. If you're a larger volume gas customer, your natural gas cost will increase by 15 to 30 per cent depending on your customer class and consumption levels.

All money collected for the federal carbon charge goes to the federal government.

For more information, visit
hydro.mb.ca/carboncharge



360 Portage Ave (22) • Winnipeg Manitoba Canada • R3C 0G8
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January 23, 2019

Mr. D. Christle
Secretary and Executive Director
Public Utilities Board
400-330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

Dear Mr. Christle:

RE: CENTRA GAS MANITOBA INC. ("Centra") THE GREENHOUSE GAS POLLUTION PRICING ACT REQUEST FOR CONCURRENCE TO IMPLEMENT THE ANTICIPATED FEDERAL FOSSIL FUEL CHARGE- UPDATE TO ATTACHMENT 2

On January 16, 2019, Centra filed a submission with the Public Utilities Board of Manitoba ("PUB") related to its legal obligations as a distributor of natural gas in the Province of Manitoba pursuant to the *Greenhouse Gas Pollution Pricing Act*, S.C. 2018, c. 12 ("GGPPA") and the draft regulations enacted thereto, and to request the PUB's written concurrence for Centra to implement the anticipated mandatory fossil fuel charge to its customers commencing as of April 1, 2019. As Attachment 2 of this submission, Centra provided a customer communication plan to educate customers with respect to the implementation of the pending carbon charges, including potential Questions and Answers (Appendix A).

The response to Question 21 of Appendix A indicated that PST would not be applied to the carbon charge. However, it has come to Centra's attention that a formal decision on whether the PST will be applied to the federal carbon charge is, in fact, still pending. Centra has updated the response to Question 21 of Attachment 2, as follows:

A decision on whether the PST and City Tax will be applied to the carbon charge is pending.

An updated version of Appendix A of Attachment 2 is enclosed.

Public Utilities Board of Manitoba
The Greenhouse Gas Pollution Pricing Act

January 23, 2019
Page 2 of 2

If you have any questions with respect to this matter, please contact Liz Carriere at 204-360-3591 or the writer at 204-360-3257.

Yours truly,

MANITOBA HYDRO LEGAL SERVICES DIVISION

Per:



BRENT A. CZARNECKI
Barrister and Solicitor

cc: Bob Peters, Board Counsel

Appendix A- Question & Answer

1. What is the carbon charge?

Federal legislation creating the carbon pollution pricing system became law on June 21, 2018. This legislation and associated regulations introduce carbon pricing on fossil fuels starting at \$20 per tonne in 2019 and rising to \$50 per tonne of carbon dioxide equivalent by 2022, along with an output-based pricing system for large industrial emitters.

The output-based pricing system uses various incentives and limits to encourage continuous improvement in industrial facilities competing in emissions-intensive, trade-exposed sectors of the economy.

2. Why a charge on fossil fuels?

Burning fossil fuels results in greenhouse gas emissions like carbon dioxide being emitted to the atmosphere. These emissions are causing climate change. Refer to the federal government's website for more information on the issue

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Very large consumers may also qualify for reduced rates of carbon pricing by participating in the federal government's Output Based Pricing System. For more information visit: <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system.html>

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However, there are some additional costs to Manitoba Hydro's electricity operations arising from the carbon charge's application to diesel fuel for our fleet vehicles, building heating and the infrequent use of the Brandon and Selkirk generating stations that are fuelled by natural gas (Those two stations are only used in emergency situations, such as extreme droughts). These costs will be added to electric operating costs and broadly recovered from customers through rates.

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No. Diesel used for electricity generation in northern off-grid communities is exempted from the carbon charge.



January 28, 2019

VIA EMAIL

Mr. Brent Czarnecki
Law Department
Manitoba Hydro
22nd Floor – 360 Portage Avenue
Winnipeg, MB R3C 0G8

- and -

Parties to the Centra Gas Pre-Hearing Conference on January 24, 2019
(As per attached list)

Dear Parties:

Re: Centra Gas Manitoba Inc. Request for Concurrence to Implement the Anticipated Federal Fossil Fuel Charge

Section 82(1)(b) of *The Public Utilities Board Act* states:

"No owner of a public utility shall [...] without the written authorization of the board and subject to subsection (2), make, impose, exact, or collect, any rate, toll, fare, or charge, or any schedule of rates, either individual or joint, for any product supplied or service rendered by it within the province;"

On January 16, 2019, Centra Gas Manitoba Inc.'s ("Centra") filed a letter informing the Board of Centra's legal obligations as a distributor of natural gas in Manitoba pursuant to the *Greenhouse Gas Pollution Pricing Act*, S.C. 2018 c.12 ("GGPPA"), and the draft regulations enacted thereto.

In addition to background information regarding the GGPPA, Centra's submission also described the proposed implementation and customer communication plan related to the mandatory fossil fuel charge (or "Federal Carbon Charge") as of April 1, 2019. Pursuant to the above referenced statutory requirements, Centra sought written concurrence from the Board to implement the Federal Carbon Charge, as outlined in its submission, on natural gas customers' bills as of April 1, 2019.

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T 204-945-2638 / 1-866-854-3698
F 204-945-2643
Email: publicutilities@gov.mb.ca
Website: www.pubmanitoba.ca

330, avenue Portage, pièce 400
Winnipeg (Manitoba) Canada R3C 0C4
Tél. 945-2638 / 1-866-854-3698
Télé. 945-2643
Courriel : publicutilities@gov.mb.ca
Site Web: www.pubmanitoba.ca

On January 23, 2019, Centra filed an updated customer communication plan that clarified that a formal decision on whether the Provincial Sales Tax and the City of Winnipeg Tax will be applied to the Federal Carbon Charge is still pending.

Following the review of Centra's written submissions of January 16 and 23, 2019 (included as Attachments to this letter), the Board notes that:

- The Government of Canada has listed Manitoba as a jurisdiction where the *GGPPA* federal backstop will apply.
- Pursuant to the *GGPPA*, and as a fuel distributor in Manitoba, Centra is legally required to collect and remit monthly the Federal Carbon Charge (and associated GST) applicable to the volume of natural gas delivered.
- The *GGPPA* federal backstop consists of two components for implementation:
 - An Output-Based Pricing System ("OBPS") for emissions-intensive trade-exposed industries that took effect January 1, 2019.
 - A Fossil Fuel Charge equivalent to \$20 per tonne of CO₂ emitted in 2019, increasing annually by \$10 to a maximum of \$50 per tonne of CO₂ emitted in 2022.
- The *GGPPA* federal backstop exempts certain persons from the application of the carbon charge. Centra's implementation plan will exempt certain customers of the Federal Carbon Charge upon receipt of an exemption certificate from the Canada Revenue Agency.
- Pursuant to the *GGPPA*, the Federal Carbon Charge assessed to Centra's non-exempt customers will be \$0.0391/cubic metre of natural gas for the period of April 1, 2019 to March 31, 2020. GST will apply to the Federal Carbon Tax (a decision as to the applicability of PST and the City of Winnipeg Tax is pending).
- For a typical residential customer with an annual consumption of 2,250 cubic metres of natural gas, the anticipated annual bill impact of the Federal Carbon Charge is \$88 per year.
- Centra's customer communication plan regarding the implementation of the Federal Carbon Charge includes customer education materials on its website (currently available), as well as the inclusion of bill inserts to customer bills both before and after the April 1, 2019 implementation date.

Pursuant to the requirements of the *GGPPA* and section 82(1)(b) of *The Public Utilities Board Act*, the Board approves the addition of the Federal Carbon Charge (and applicable taxes) to Centra's customers' bills.

The Board further directs Centra to:

1. Provide the Board with confirmation as to whether either PST or the City of Winnipeg Tax is applicable to the Federal Carbon Charge. And if so;

Page 3 of 3

- a. File Centra's updated Federal Carbon Charge customer education materials with the Board (including a sample natural gas bill); and
 - b. Update Centra's customer education materials relating to the Federal Carbon Charge (e.g. website materials and bill inserts).
2. At least two months prior to any changes, revisions, or amendments to the Federal Carbon Charge, Centra is to seek the Board's written authorization for further changes to the customers' bills (inclusive of the expected customer communication plan).

Should you have any additional questions, please do not hesitate to contact our office.

Sincerely,

"Original Signed By:"

Rachel McMillin
Assistant Associate Secretary

RM/kl

Attachments:

- Centra to PUB re The Greenhouse Gas Pollution Pricing Act Request for Concurrence to Implement the Anticipated Federal Fossil Fuel Charge (January 16, 2019)
- Centra to PUB re The Greenhouse Gas Pollution Pricing Act Request for Concurrence to Implement the Anticipated Federal Fossil Fuel Charge –Update to Attachment 2 (January 23, 2019)

cc: Liz Carriere, Manitoba Hydro
Shannon Gregorashuk, Manitoba Hydro
Bob Peters, Board Counsel
Brady Ryall, Board Advisor
David Bonin, Board Advisor
Parties to the Centra Gas Pre-Hearing Conference on January 24, 2019



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March 22, 2019

Mr. D. Christle
Secretary and Executive Director
Public Utilities Board
400-330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

Dear Mr. Christle:

RE: CENTRA GAS MANITOBA INC. ("Centra") THE GREENHOUSE GAS POLLUTION PRICING ACT REQUEST FOR CONCURRENCE TO IMPLEMENT THE ANTICIPATED FEDERAL FOSSIL FUEL CHARGE- UPDATE TO ATTACHMENT 2

On January 16, 2019, Centra filed a submission with the Public Utilities Board of Manitoba ("PUB") related to its legal obligations as a distributor of natural gas in the Province of Manitoba pursuant to *The Greenhouse Gas Pollution Pricing Act*, S.C. 2018, c. 12 ("GGPPA") and the draft regulations enacted thereto, and to request the PUB's written concurrence for Centra to implement the anticipated mandatory fossil fuel charge to its customers commencing as of April 1, 2019. As Attachment 2 of this submission, Centra provided a customer communication plan to educate customers with respect to the implementation of the pending carbon charges, including potential Questions and Answers (Appendix A).

On January 23, 2019 Centra filed an updated customer communication plan that clarified that a formal decision on whether the Provincial Sales Tax (PST) and the City of Winnipeg Tax will be applied to the Federal Carbon Charge is still pending.

On January 28, 2019, the PUB approved the addition of the Federal Carbon Charge (and applicable taxes) to Centra's customers' bills. The PUB further directed Centra to provide confirmation as to whether either PST or the City of Winnipeg Tax is applicable to the Federal Carbon Charge, and to file updated customer education materials with the PUB.

Centra has since confirmed that PST or City of Winnipeg Tax will not be applied to the Federal Carbon Charge. An updated version of the Potential Questions & Answers provided as part of

Public Utilities Board of Manitoba
The Greenhouse Gas Pollution Pricing Act

March 22, 2019
Page 2 of 2

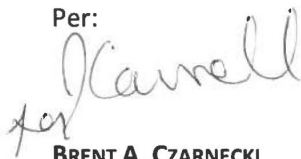
Centra's Communication Plan (Appendix A of Attachment 2) is enclosed, which has been updated to reflect the decision related to PST and City of Winnipeg tax, as well as other minor changes throughout for clarity. Centra notes that the sample natural gas bill filed with the PUB as Attachment 1 of its January 16, 2019 correspondence had assumed that PST and City of Winnipeg tax would not apply to the Federal Carbon Charge, and as such no updates are required.

If you have any questions with respect to this matter, please contact Liz Carriere at 204-360-3591 or the writer at 204-360-3257.

Yours truly,

MANITOBA HYDRO LEGAL SERVICES DIVISION

Per:

A handwritten signature in dark ink, appearing to read "B. Czarnecki", with a small "for" written to the left of the signature.

BRENT A. CZARNECKI
Barrister and Solicitor

cc: Bob Peters, Board Counsel

Appendix A – Question & Answer

1. What is the carbon charge?

Federal legislation creating the carbon pollution pricing system became law on June 21, 2018. This legislation and associated regulations introduce carbon pricing on fossil fuels starting at \$20 per tonne in 2019 and rising to \$50 per tonne of carbon dioxide equivalent by 2022, along with an output-based pricing system for large industrial emitters.

The output-based pricing system uses various incentives and limits to encourage continuous improvement in industrial facilities competing in emissions-intensive, trade-exposed sectors of the economy.

2. Why a charge on fossil fuels?

Burning fossil fuels results in greenhouse gas emissions like carbon dioxide being emitted to the atmosphere. These emissions are causing climate change. Refer to the federal government's website for more information on the issue at:

<https://pm.gc.ca/eng/news/2018/10/23/government-canada-fighting-climate-change-price-pollution>

3. Why is Manitoba Hydro applying a carbon charge to my bill?

The federal government created a charge on fossil fuels that produce carbon dioxide emissions or other greenhouse gases with an equivalent global warming potential. Since burning natural gas produces greenhouse gases, the carbon charge applies to the natural gas sold to our customers.

4. When will the carbon levy be implemented?

The carbon charge is effective April 1.

5. How much is the carbon levy going to cost me?

In the first year, the carbon levy will result in an average 13% increase in natural gas bills for the typical residential customer or approximately \$88 per year. Commercial customers will see increases in the range of 15% to 30%.

The carbon charge will increase by \$10 per year until the year 2022 resulting in an overall average 32% increase for the typical residential customers compared to today or approximately \$219 per year. Commercial customers will see increases in the range of 40 to 70% over that period.

6. Why are some customers seeing a higher percentage increase relative to others?

The carbon charge is a flat fee on consumption, however our large service and high volume customers will see a higher percentage change to their bills compared to residential customers. This is because gas consumption is a larger percentage of their bill relative to other costs such as the basic charge or demand charges.

Very large consumers may also qualify for reduced rates of carbon pricing by participating in the federal government's Output Based Pricing System. For more information visit:

<https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system.html>

7. How can I calculate what the carbon levy will actually cost me?

Customers who know their previous natural gas consumption can use a calculator on our website to estimate the cost impact of the carbon charge. The calculation is 3.91 cents per cubic metre of natural gas purchased. That rate is based on the \$20 per tonne charge rate established by the federal government and an established measure of the amount of carbon produced by burning a cubic metre of natural gas.

You can also use the calculator to estimate the impact of the carbon charge when it increases to \$30, \$40 and then \$50 per tonne.

8. Why didn't Manitoba Hydro tell me about this increase sooner so I could have planned for this expense?

We required confirmation that Manitoba would be a listed province, along with finalization of other details relevant to our customers. Once everything was clarified, we began providing information for customers on our website and communicating via social media in January and reaching out to our customers via bills in February informing them of the carbon levy and the potential impacts on their bills.

9. Will the carbon charge increase?

Yes. Federal legislation indicates that the carbon levy will rise by \$10 per tonne of emissions each year until reaching \$50 per tonne in 2022.

10. Will the carbon increase always increase on April 1?

Yes. The amount of the carbon charge will increase by \$10 per tonne on April 1 for the next four years.

11. I want to speak to someone at the Federal Government. Who should I contact?

I suggest visiting the contact us webpage for Environment and Climate Change Canada at <https://www.canada.ca/en/environment-climate-change/corporate/contact.html>

12. How can I lower my bill and avoid paying more?

We have a number of programs available to help customers who are looking to reduce natural gas consumption, including rebates for improving their home's insulation or financing for natural gas upgrades. More information is available at hydro.mb.ca.

Example: Under our Affordable Energy Program, low income customers may qualify for financing a new high-efficiency natural gas furnace at a cost of just \$9.50 a month for five years.

13. Does Manitoba Hydro receive any of the carbon charge revenue?

No. All money collected by Manitoba Hydro for the carbon levy is passed on to the federal government.

14. Will I be getting a rebate for the cost of the carbon charge on my natural gas bill?

The federal government committed to returning most direct proceeds from the carbon levy collected in Manitoba through payments to individuals or families and investments in energy efficiency. For more information, please visit the federal government's website: <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/manitoba.html>.

15. I'm on the Equal Payment Plan, how will the carbon charge be applied to my bill?

Equal Payment Plan (EPP) calculations for our natural gas customers this year anticipated a provincial carbon charge would be introduced in December 2018 so your monthly instalments already reflect this change. Even though the federal carbon charge is not coming into effect until April 2019, we expect most customers will not see a bill credit because of below average temperatures this winter.

EPP instalments are calculated using a customer's historical consumption, anticipated rate fluctuations, and weather factors. Any difference (whether an amount further owing by customers or owed back to customers) is reconciled once annually in August.

16. Why don't I see a carbon charge on the electricity portion of my bill?

The carbon charge only applies to the consumption of fossil fuels and does not apply to the consumption of electricity.

However, there are some additional costs to Manitoba Hydro's electricity operations arising from the carbon levy's application to diesel fuel for our fleet vehicles, building heating and the infrequent use of the Brandon and Selkirk generating stations that are fuelled by natural gas. (Those two stations are only used in emergency situations, such as extreme droughts.) These costs will be added to electric operating costs and broadly recovered from customers through rates.

17. Does it make sense to switch from natural gas to electricity for my space heating?

Even with the addition of the carbon charge, heating with natural gas is still more cost effective than using electricity. This remains true even after the carbon charge escalates to \$50 per tonne. A space heating comparison chart is available at hydro.mb.ca. **Note:** This is based on the current cost of natural gas.

18. I'm an agricultural producer - am I exempt?

Based on the provisions in the federal legislation, all natural gas use is subject to the carbon charge. There is not a natural gas exemption for agricultural use, although some greenhouse operations may qualify for a lower carbon charge on natural gas consumption. Other fuels used for eligible farming activities, such as diesel and gasoline, will be eligible for exemption.

19. Will GST be applied to the carbon charge?

Yes, GST will be applied to the carbon charge.

20. Isn't that a tax on a tax?

Canada Revenue Agency (CRA) sets the rules on the application of tax. Your question in this regard would be best directed to CRA.

21. What about the PST and City of Winnipeg Tax?

The PST and City Tax will not be applied to the carbon charge.

22. Are customers on Indigenous reserves exempt from the carbon levy?

No.

23. Does Manitoba Hydro have to pay the charge on natural gas burned at the Selkirk and Brandon Generating Stations for electricity generation?

Yes. However, the Selkirk and Brandon generating stations are typically used only in times of high demand or in emergencies, such as a drought. In a normal year, the carbon charge costs associated with the infrequent use of those thermal stations will be very low compared to overall revenue.

Should Brandon or Selkirk be used for a prolonged period during droughts or other emergencies, the significant additional costs of such an event including fuel purchases, carbon charges and imports of electricity may necessitate an increase in rates.

24. When Selkirk or Brandon are used, do export customers pay a carbon charge for the electricity they purchase from Manitoba Hydro?

No. There is no direct added charge to either US or Canadian electricity customers.

25. Does Manitoba Hydro have to pay a levy on diesel fuel used in northern off-grid communities?

No. Diesel used for electricity generation in northern off-grid communities is exempted from the carbon charge.

Centra Gas Manitoba Inc.
2019/20 General rate Application
Bill Impact Schedule including both the 2019/20 GRA Proposed Rates change and the 2019 Federal Carbon Charge

BILLED VS. BILLED							NOV 1/19 PROPOSED BILLED RATES				PROPOSED BILL IMPACTS	
							INCLUDING CARBON TAX \$0.0351/M ³				INCLUDING CARBON TAX	
							FEB 1/19 APPROVED BILLED RATES					
	Load	Annual Use									\$	%
	Factor	10 ³ m ³	Mcf	Basic Chg	Demand	Commodity	Annual	Basic Chg	Demand	Commodity	Annual	
8	Small General Service	1.00	35	\$168	\$0	\$236	\$404	\$168	\$0	\$258	\$426	\$22 5.4%
9		1.98	70	\$168	\$0	\$468	\$636	\$168	\$0	\$511	\$679	\$43 6.8%
10	(Typical Residential Customer)	2.22	78	\$168	\$0	\$523	\$681	\$168	\$0	\$572	\$740	\$48 7.0%
11		2.80	99	\$168	\$0	\$662	\$830	\$168	\$0	\$723	\$891	\$61 7.4%
12		3.20	113	\$168	\$0	\$755	\$923	\$168	\$0	\$825	\$993	\$70 7.6%
13		3.68	130	\$168	\$0	\$869	\$1,037	\$168	\$0	\$949	\$1,117	\$80 7.8%
14		11.33	400	\$168	\$0	\$2,673	\$2,841	\$168	\$0	\$2,921	\$3,089	\$248 8.7%
15												
16	Large General Service	11.33	400	\$924	\$0	\$2,072	\$2,996	\$924	\$0	\$2,512	\$3,436	\$440 14.7%
17		59.49	2,100	\$924	\$0	\$10,879	\$11,803	\$924	\$0	\$13,190	\$14,114	\$2,310 19.6%
18		679.87	24,000	\$924	\$0	\$124,335	\$125,259	\$924	\$0	\$150,739	\$151,663	\$26,404 21.1%
19												
20	HVF (Sales Service)	25%	850	\$13,420	\$51,159	\$103,976	\$168,555	\$12,097	\$77,395	\$112,026	\$201,518	\$32,963 19.6%
21		40%	850	\$13,420	\$31,974	\$103,976	\$149,370	\$12,097	\$48,372	\$112,026	\$172,495	\$23,125 15.5%
22		40%	1,416	\$13,420	\$53,291	\$173,293	\$240,004	\$12,097	\$80,619	\$186,711	\$279,427	\$39,423 16.4%
23		40%	2,833	\$13,420	\$106,581	\$346,586	\$466,588	\$12,097	\$161,239	\$373,421	\$546,757	\$80,169 17.2%
24		40%	6,200	\$13,420	\$233,271	\$758,560	\$1,005,250	\$12,097	\$352,897	\$817,292	\$1,182,285	\$177,036 17.6%
25		40%	12,600	\$13,420	\$474,066	\$1,541,589	\$2,029,075	\$12,097	\$717,177	\$1,660,947	\$2,390,222	\$361,147 17.8%
26		75%	685	\$13,420	\$13,745	\$83,809	\$110,974	\$12,097	\$20,794	\$90,298	\$123,189	\$12,215 11.0%
27		75%	850	\$13,420	\$17,053	\$103,976	\$134,449	\$12,097	\$25,798	\$112,026	\$149,922	\$15,473 11.5%
28		75%	1,416	\$13,420	\$28,422	\$173,293	\$215,135	\$12,097	\$42,997	\$186,711	\$241,805	\$26,670 12.4%
29		75%	2,833	\$13,420	\$56,843	\$346,586	\$416,850	\$12,097	\$85,994	\$373,421	\$471,512	\$54,663 13.1%
30		75%	6,200	\$13,420	\$124,411	\$758,560	\$886,390	\$12,097	\$188,212	\$817,292	\$1,017,600	\$121,210 13.5%
31		75%	12,600	\$13,420	\$252,835	\$1,541,589	\$1,807,844	\$12,097	\$382,495	\$1,660,947	\$2,055,539	\$247,695 13.7%
32												
33	HVF (T-Service)	40%	2,600	\$13,420	\$32,128	\$18,923	\$64,470	\$12,097	\$39,374	\$25,765	\$77,236	\$12,766 19.8%
34		40%	11,000	\$13,420	\$135,925	\$80,057	\$229,402	\$12,097	\$166,584	\$109,005	\$287,686	\$58,284 25.4%
35		40%	17,600	\$13,420	\$217,481	\$128,091	\$358,991	\$12,097	\$266,535	\$174,408	\$453,040	\$94,048 26.2%
36		75%	2,600	\$13,420	\$17,135	\$18,923	\$49,477	\$12,097	\$21,000	\$25,765	\$58,862	\$9,385 19.0%
37		75%	11,000	\$13,420	\$72,494	\$80,057	\$165,970	\$12,097	\$88,845	\$109,005	\$209,947	\$43,977 26.5%
38		75%	17,600	\$13,420	\$115,990	\$128,091	\$257,500	\$12,097	\$142,152	\$174,408	\$328,657	\$71,156 27.6%
39												
40	Cooperative	35%	250	\$3,289	\$14,042	\$25,312	\$42,643	\$3,169	\$14,982	\$33,875	\$52,026	\$9,383 22.0%
41		35%	350	\$3,289	\$19,659	\$35,437	\$58,385	\$3,169	\$20,975	\$47,425	\$71,569	\$13,184 22.6%
42		35%	500	\$3,289	\$28,084	\$50,625	\$81,998	\$3,169	\$29,965	\$67,750	\$100,883	\$18,885 23.0%
43												
44	MLC (Sales Service)	40%	2,833	\$28,240	\$163,725	\$290,867	\$482,832	\$12,969	\$96,885	\$387,477	\$497,330	\$14,498 3.0%
45		40%	14,164	\$28,240	\$818,626	\$1,454,334	\$2,301,200	\$12,969	\$484,423	\$1,937,383	\$2,434,775	\$133,575 5.8%
46		40%	28,328	\$28,240	\$1,637,252	\$2,908,668	\$4,574,160	\$12,969	\$968,846	\$3,874,765	\$4,856,580	\$282,421 6.2%
47		75%	2,833	\$28,240	\$87,320	\$290,867	\$406,427	\$12,969	\$51,672	\$387,477	\$452,117	\$45,690 11.2%
48		75%	14,164	\$28,240	\$436,601	\$1,454,334	\$1,919,174	\$12,969	\$258,359	\$1,937,383	\$2,208,711	\$289,536 15.1%
49		75%	28,328	\$28,240	\$873,201	\$2,908,668	\$3,810,109	\$12,969	\$516,718	\$3,874,765	\$4,404,452	\$594,343 15.6%
50		75%	41,000	\$28,240	\$1,263,818	\$4,209,829	\$5,501,888	\$12,969	\$747,866	\$5,608,101	\$6,368,936	\$867,048 15.8%
51												
52	MLC (T-Service)	40%	14,000	\$28,240	\$181,393	\$17,293	\$226,926	\$12,969	\$269,492	\$9,891	\$292,352	\$65,427 28.8%
53		40%	18,000	\$28,240	\$233,219	\$22,234	\$283,693	\$12,969	\$346,490	\$12,717	\$372,176	\$88,483 31.2%
54		40%	44,000	\$28,240	\$570,091	\$54,349	\$652,680	\$12,969	\$846,975	\$31,086	\$891,030	\$238,350 36.5%
55		75%	14,000	\$28,240	\$96,743	\$17,293	\$142,276	\$12,969	\$143,729	\$9,891	\$166,589	\$24,313 17.1%
56		75%	18,000	\$28,240	\$124,384	\$22,234	\$174,857	\$12,969	\$184,795	\$12,717	\$210,481	\$35,623 20.4%
57		75%	44,000	\$28,240	\$304,049	\$54,349	\$386,638	\$12,969	\$451,720	\$31,086	\$495,775	\$109,137 28.2%
58												
59	Power Stations											
60												
61	Interruptible Sales	25%	850	\$12,513	\$24,602	\$100,479	\$137,593	\$12,423	\$40,283	\$112,989	\$165,696	\$28,103 20.4%
62		40%	2,833	\$12,513	\$51,254	\$334,929	\$398,696	\$12,423	\$83,924	\$376,632	\$472,979	\$74,283 18.6%
63		40%	14,164	\$12,513	\$256,268	\$1,674,647	\$1,943,427	\$12,423	\$419,620	\$1,883,158	\$2,315,201	\$371,774 19.1%
64		75%	850	\$12,513	\$8,201	\$100,479	\$121,192	\$12,423	\$13,428	\$112,989	\$138,841	\$17,649 14.6%
65		75%	2,833	\$12,513	\$27,335	\$334,929	\$374,777	\$12,423	\$44,759	\$376,632	\$433,815	\$59,037 15.8%
66		75%	14,164	\$12,513	\$136,676	\$1,674,647	\$1,823,836	\$12,423	\$223,797	\$1,883,158	\$2,119,379	\$295,543 16.2%

Centra Gas Manitoba Inc.
2019/20 General rate Application
Bill Impact Schedule including both the 2019/20 GRA Proposed Rates change and the 2019 Federal Carbon Charge

PUB/Centra I -141 b)
Attachment 2

BASE VS. BASE														NOV 1/19 PROPOSED BASE RATES				PROPOSED BILL IMPACTS					
														FEB 1/19 APPROVED BASE RATES				INCLUDING CARBON TAX \$0.0391/M ³				INCLUDING CARBON TAX	
	Load Factor	Annual Use 10 ³ m ³	Mcf	Basic Chg	Demand	Commodity	Annual	Basic Chg	Demand	Commodity	Annual	\$	%										
8	Small General Service	1.00	35	\$168	\$0	\$227	\$395	\$168	\$0	\$253	\$421	\$26	6.7%										
9		1.98	70	\$168	\$0	\$450	\$618	\$168	\$0	\$502	\$670	\$52	8.4%										
10	(Typical Residential Customer)	2.22	78	\$168	\$0	\$504	\$672	\$168	\$0	\$562	\$730	\$58	8.7%										
11		2.80	99	\$168	\$0	\$637	\$805	\$168	\$0	\$711	\$879	\$74	9.2%										
12		3.20	113	\$168	\$0	\$727	\$895	\$168	\$0	\$811	\$979	\$84	9.4%										
13		3.68	130	\$168	\$0	\$837	\$1,005	\$168	\$0	\$934	\$1,102	\$97	9.6%										
14		11.33	400	\$168	\$0	\$2,575	\$2,743	\$168	\$0	\$2,872	\$3,040	\$298	10.9%										
15																							
16	Large General Service	11.33	400	\$924	\$0	\$1,974	\$2,898	\$924	\$0	\$2,449	\$3,373	\$475	16.4%										
17		59.49	2,100	\$924	\$0	\$10,362	\$11,286	\$924	\$0	\$12,855	\$13,779	\$2,494	22.1%										
18		679.87	24,000	\$924	\$0	\$118,420	\$119,344	\$924	\$0	\$146,920	\$147,844	\$28,500	23.9%										
19																							
20	HVF (Sales Service)	25%	850	30,000	\$13,420	\$51,159	\$96,626	\$161,205	\$12,097	\$53,466	\$127,220	\$192,783	\$31,578	19.6%									
21		40%	850	30,001	\$13,420	\$31,976	\$96,629	\$142,024	\$12,097	\$33,417	\$127,225	\$172,739	\$30,715	21.6%									
22		40%	1,416	50,000	\$13,420	\$53,291	\$161,043	\$227,753	\$12,097	\$55,693	\$212,034	\$279,824	\$52,071	22.9%									
23		40%	2,833	100,000	\$13,420	\$106,581	\$322,086	\$442,087	\$12,097	\$111,387	\$424,068	\$547,551	\$105,465	23.9%									
24		40%	6,200	218,866	\$13,420	\$233,271	\$704,936	\$951,626	\$12,097	\$243,787	\$928,140	\$1,184,024	\$232,398	24.4%									
25		40%	12,600	444,792	\$13,420	\$474,066	\$1,432,611	\$1,920,097	\$12,097	\$495,439	\$1,886,220	\$2,393,756	\$473,659	24.7%									
26		75%	685	24,181	\$13,420	\$13,745	\$77,884	\$105,049	\$12,097	\$14,365	\$102,545	\$129,007	\$23,958	22.8%									
27		75%	850	30,000	\$13,420	\$17,053	\$96,626	\$127,098	\$12,097	\$17,822	\$127,220	\$157,139	\$30,041	23.6%									
28		75%	1,416	50,000	\$13,420	\$28,422	\$161,043	\$202,884	\$12,097	\$29,703	\$212,034	\$253,834	\$50,950	25.1%									
29		75%	2,833	100,000	\$13,420	\$56,843	\$322,086	\$392,349	\$12,097	\$59,406	\$424,068	\$495,571	\$103,222	26.3%									
30		75%	6,200	218,866	\$13,420	\$124,411	\$704,936	\$842,767	\$12,097	\$130,020	\$928,140	\$1,070,257	\$227,491	27.0%									
31		75%	12,600	444,792	\$13,420	\$252,835	\$1,432,611	\$1,698,666	\$12,097	\$264,234	\$1,886,220	\$2,162,551	\$463,685	27.3%									
32																							
33	HVF (T-Service)	40%	2,600	91,783	\$13,420	\$32,128	\$18,923	\$64,470	\$12,097	\$39,192	\$26,000	\$77,289	\$12,819	19.9%									
34		40%	11,000	388,311	\$13,420	\$135,925	\$80,057	\$229,402	\$12,097	\$165,814	\$110,000	\$287,911	\$58,509	25.5%									
35		40%	17,600	621,297	\$13,420	\$217,481	\$128,091	\$358,991	\$12,097	\$265,302	\$176,000	\$453,399	\$94,408	26.3%									
36		75%	2,600	91,783	\$13,420	\$17,135	\$18,923	\$49,477	\$12,097	\$20,903	\$26,000	\$59,000	\$9,523	19.2%									
37		75%	11,000	388,311	\$13,420	\$72,494	\$80,057	\$165,970	\$12,097	\$88,434	\$110,000	\$210,531	\$44,561	26.8%									
38		75%	17,600	621,297	\$13,420	\$115,990	\$128,091	\$257,500	\$12,097	\$141,494	\$176,000	\$329,591	\$72,091	28.0%									
39																							
40	Cooperative	35%	250	8,825	\$3,289	\$14,042	\$23,150	\$40,481	\$3,169	\$14,982	\$31,725	\$49,876	\$9,395	23.2%									
41		35%	350	12,355	\$3,289	\$19,659	\$32,410	\$55,358	\$3,169	\$20,975	\$44,415	\$68,559	\$13,201	23.8%									
42		35%	500	17,650	\$3,289	\$28,084	\$46,300	\$77,673	\$3,169	\$29,965	\$63,450	\$96,583	\$18,910	24.3%									
43																							
44	MLC (Sales Service)	40%	2,833	100,000	\$28,240	\$163,725	\$266,366	\$458,331	\$12,969	\$152,761	\$364,013	\$529,743	\$71,411	15.6%									
45		40%	14,164	500,000	\$28,240	\$818,626	\$1,331,830	\$2,178,696	\$12,969	\$763,804	\$1,820,064	\$2,596,837	\$418,141	19.2%									
46		40%	28,328	1,000,000	\$28,240	\$1,637,252	\$2,663,660	\$4,329,152	\$12,969	\$1,527,608	\$3,640,127	\$5,180,704	\$851,552	19.7%									
47		75%	2,833	100,000	\$28,240	\$87,320	\$266,366	\$381,926	\$12,969	\$81,472	\$364,013	\$458,454	\$76,528	20.0%									
48		75%	14,164	500,000	\$28,240	\$436,601	\$1,331,830	\$1,796,671	\$12,969	\$407,362	\$1,820,064	\$2,240,395	\$443,724	24.7%									
49		75%	28,328	1,000,000	\$28,240	\$873,201	\$2,663,660	\$3,565,101	\$12,969	\$814,724	\$3,640,127	\$4,467,821	\$902,719	25.3%									
50		75%	41,000	1,447,339	\$28,240	\$1,263,818	\$3,855,220	\$5,147,279	\$12,969	\$1,179,182	\$5,268,500	\$6,460,651	\$1,313,373	25.5%									
51																							
52	MLC (T-Service)	40%	14,000	494,213	\$28,240	\$181,393	\$17,293	\$226,926	\$12,969	\$269,030	\$21,000	\$302,999	\$76,074	33.5%									
53		40%	18,000	635,417	\$28,240	\$233,219	\$22,234	\$283,693	\$12,969	\$345,896	\$27,000	\$385,865	\$102,172	36.0%									
54		40%	44,000	1,553,242	\$28,240	\$570,091	\$54,349	\$652,680	\$12,969	\$845,523	\$66,000	\$924,492	\$271,812	41.6%									
55		75%	14,000	494,213	\$28,240	\$96,743	\$17,293	\$142,276	\$12,969	\$143,483	\$21,000	\$177,452	\$35,176	24.7%									
56		75%	18,000	635,417	\$28,240	\$124,384	\$22,234	\$174,857	\$12,969	\$184,478	\$27,000	\$224,447	\$49,590	28.4%									
57		75%	44,000	1,553,242	\$28,240	\$304,049	\$54,349	\$386,638	\$12,969	\$450,946	\$66,000	\$529,915	\$143,277	37.1%									
58																							
59	Power Stations																						
60																							
61	Interruptible Sales	25%	850	30,000	\$12,513	\$24,602	\$93,682	\$130,796	\$12,423	\$26,610	\$121,102	\$160,135	\$29,339	22.4%									
62		40%	2,833	100,000	\$12,513	\$51,254	\$312,273	\$376,039	\$12,423	\$55,437	\$403,672	\$471,532	\$95,493	25.4%									
63		40%	14,164	500,000	\$12,513	\$256,268	\$1,561,364	\$1,830,144	\$12,423	\$277,186	\$2,018,359	\$2,307,968	\$477,824	26.1%									
64		75%	850	30,000	\$12,513	\$8,201	\$93,682	\$114,395	\$12,423	\$8,870	\$121,102	\$142,395	\$28,000	24.5%									
65		75%	2,833	100,000	\$12,513	\$27,335	\$312,273	\$352,121	\$12,423	\$29,567	\$403,672	\$445,662	\$93,541	26.6%									
66		75%	14,164	500,000	\$12,513	\$136,676	\$1,561,364	\$1,710,553	\$12,423	\$147,833	\$2,018,359	\$2,178,615	\$468,062	27.4%									

REFERENCE:

Tab 11 pgs. 2-6 of 14 and Schedule 11.1.0

PREAMBLE TO IR (IF ANY):

In accordance with the Greenhouse Gas Pollution Pricing Act, S.C. 2018, c. 12, s. 186 (GGPPA) and the associated regulations, a Fossil Fuel Charge equivalent to \$20 per tonne of CO₂ emitted in 2019, increasing by \$10 annually to a maximum of \$50 per tonne emitted in 2022, is expected to take effect in Manitoba on April 1, 2019. An Output Based Pricing System for emissions-intensive trade-exposed industries also took effect January 1, 2019. On January 16, 2019, Centra filed a letter with the Board seeking written concurrence to implement the Federal Carbon Charge on its customers' bills. On January 23, 2019, Centra provided an updated submission regarding its Federal Carbon Charge customer communication plan.

On January 28, 2019, pursuant to the requirements of the GGPPA and section 82(1)(b) of The Public Utilities Board Act, the Board approved the addition of the \$0.0391/cubic metre of natural gas Federal Carbon Charge (plus applicable taxes) to Centra's customers' bills starting April 1, 2019. The Board further directed Centra to provide the Board with confirmation as to whether either PST or the City of Winnipeg Tax is applicable to the Federal Carbon Charge and to seek the Board's written authorization for further changes, revisions, or amendments to the Federal Carbon Charge.

QUESTION:

- c) Confirm whether Centra will be liable for any Federal carbon charges related to fugitive emissions from its system. If so, explain how these charges will be determined and how these costs will be recovered from ratepayers.

RESPONSE:

It is not expected that Centra will be liable to remit a Federal carbon charge on any fugitive emissions from its system. Through discussion with the Canada Revenue Agency, it is

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Centra's understanding that the Federal carbon charge will be based on volumes distributed to customers who do not have an exemption certificate.

REFERENCE:

Tab 11 p. 2 of 14

PREAMBLE TO IR (IF ANY):

QUESTION:

Similar to PUB/Centra I-116 from the 2013/14 Centra GRA, file the most current Home and Water Heating Cost Comparisons as well as a pro formas of the Home and Water Heating Cost Comparisons that incorporate any proposed electricity and gas rate changes with versions that are inclusive and exclusive of the Federal Carbon Charge.

RESPONSE:

Please see below for the current Space and Water Heating Cost Comparison Chart based on energy prices in effect April 1, 2019 following the implementation of the Federal Carbon Charge. The impact of the Federal Carbon Charge is explicitly outlined in this document and separated from other rate components.

Wondering about your energy options for **space heating**?

1

The chart below shows an example of space heating costs that are based on an average single family residence, at rates in effect February 1, 2019.

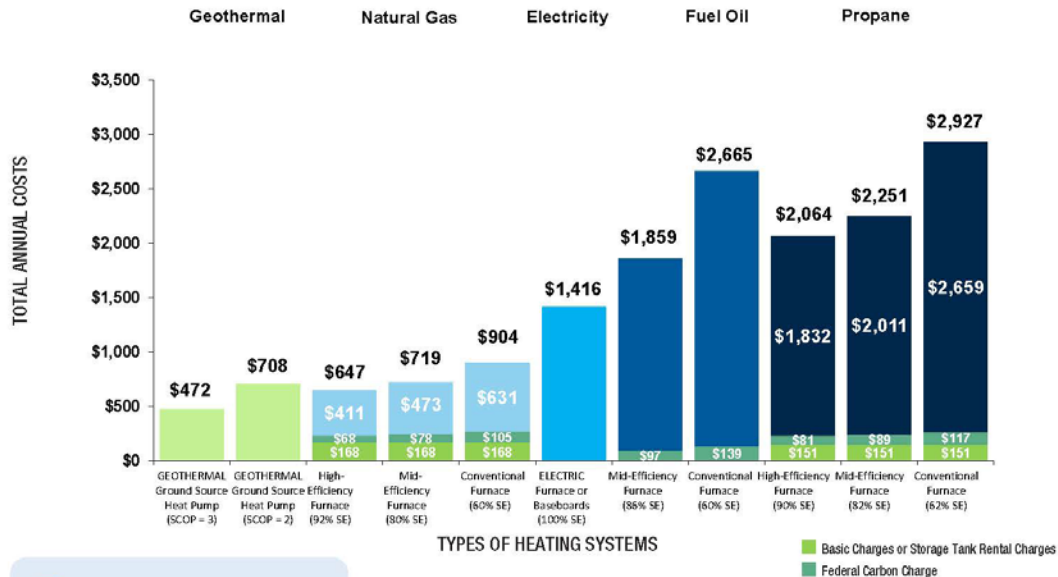
1. Consult the charts to identify the costs of your current space heating system.

2. Review the annual energy costs of other systems to see how your costs compare.

3. Consult the accompanying notes on pages 2, 3 and 4 for guidance if you are thinking of switching space heating systems or building a new home.

4. Visit hydro.mb.ca/heating and use the online calculator to get a customized estimate for your specific home's annual and total lifetime space heating costs based on different heating systems and energy sources.

Annual Space Heating Costs (Average single family residence)



Energy rates

as of February 1, 2019.

Natural gas: **\$0.2359/cubic metre**

Electricity: **\$0.08527/kilowatt-hour**

Fuel oil: **\$0.976/litre**

Propane: **\$0.704/litre**

Annual basic natural gas charge: **\$168**

Annual propane tank rental: **\$151**

Federal carbon charge: **\$20/per tonne** of greenhouse gas produced

Space heating annual costs shown in the chart above are based on "point-in-time" prices as noted.

The annual space heating costs presented in the chart exclude the cost of converting to a different heating system, which may be significant.

See page 3 if you are thinking of changing your heating system.

Depending on your supplier, propane and fuel oil prices can fluctuate on a daily basis.



Annual cost estimates

2

The space heating costs shown in the charts are based on the amount of energy required to heat the average single-detached home that is served by Manitoba Hydro. The average single-detached home on Manitoba Hydro's system requires approximately 60 Gigajoules (output) of energy for space heating. Your space heating costs may differ due to a variety of factors, such as weather, heating equipment, insulation levels, air tightness, lifestyle, and energy rates paid. If you think your space heating usage is higher or lower than the average shown here, please factor up or down the operating costs of the various heating systems shown in the chart. The costs shown are relative,

illustrative and for general comparison purposes only.

The charts on the first page present annual costs as if all energy rates remained fixed for the coming year at the rates in effect on February 1, 2019.

Your actual annual energy costs will vary. Natural gas rates change four times per year, electricity rates typically change on an annual basis and depending on your supplier, propane and oil rates can change daily. With Manitoba Hydro's Quarterly Rate Service, the price you pay for Primary Gas is the same price we pay for the gas in

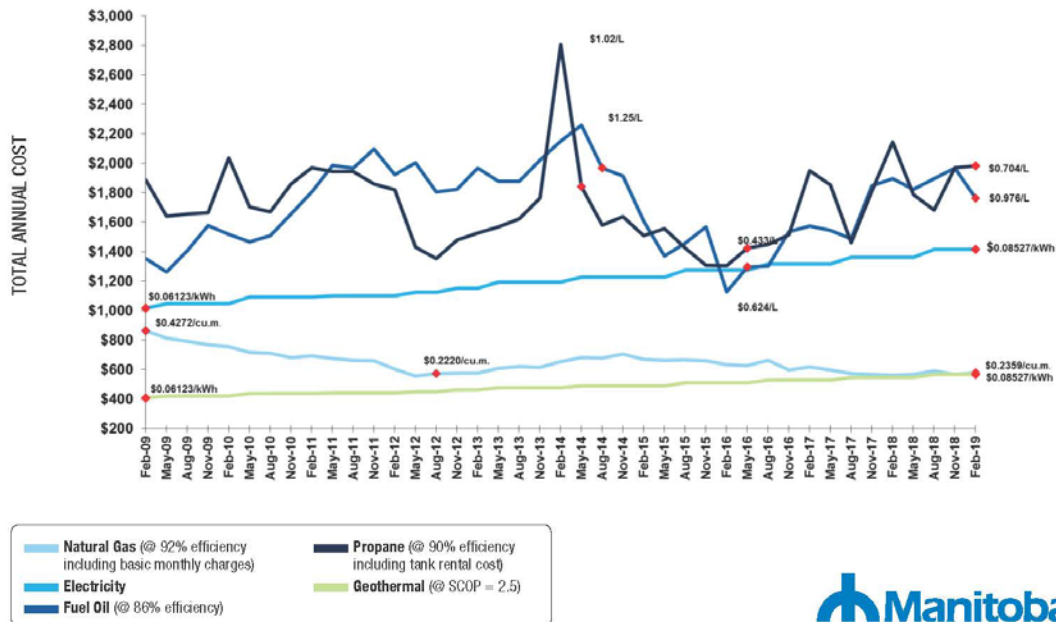
the marketplace. This rate changes every 3 months and is currently \$0.0909 per cubic metre. If you buy Primary Gas on a Fixed Rate Service contract from Manitoba Hydro or a Gas Broker, you will continue to pay Manitoba Hydro for Supplemental Gas as well as transportation and distribution charges. The figure of \$0.2359 per cubic metre of natural gas that we've used in the charts is known as a "re-bundled" effective rate. It includes charges for Primary and Supplemental gas, as well as for transportation and distribution of the gas on Manitoba Hydro's Quarterly Rate Service.

The chart below shows a 10 year history of annual operating costs of various energy sources and space heating systems. The chart also shows the

minimum and maximum energy prices for a given point in time by energy source over the 10 year period. The energy prices shown are provided as reference points to show the

relationship between the energy price at a given time and the annual operating costs of a specific heating system.

Example Space Heating 10-year Cost History



3

Key points if you are thinking of changing heating systems

Is it economically feasible?

Note that the costs of switching to another system to heat your home may be economically feasible only if your current system is at or near the end of its useful life, or if you are building a new home. Be sure to obtain quotations from at least three reputable heating contractors before you make your decision.

Size of existing electrical service

Your electrical system may need to be upgraded if you want it to carry a space heating load.

Depending on the capacity of the electrical appliances and equipment currently installed, and the size of your home, the Manitoba Electrical Code will allow a maximum of 8 to 10 kilowatts of electric heating on a standard 100-amp service. Most homes will need more than this.

Increasing the size of an electrical service usually involves changing your electrical panel or installing an additional one. An electrician should perform an electrical code load calculation to advise whether your existing service is adequate to serve the heating equipment required to heat your home.

Other gas appliances

If you have other appliances in your home like a range, clothes dryer, fireplace, or swimming pool heater, switching to an all-electric system may be quite costly.

Flue gas venting

When gas is burned, flue gases are produced which primarily contain carbon dioxide and water vapour which are not harmful to people. However, flue gases can also contain trace amounts of carbon monoxide and other gases that can present a health hazard. High-efficiency gas furnaces will not use the existing chimney to vent (remove) flue gases from the home. Instead they will be vented via approved plastic piping through the home's side wall or roof.

Chimney ventilation

With a conventional gas furnace, warm moist air continuously exits the house through the chimney. This draws cold

and dry replacement air into the house through cracks in walls and around windows and doors. This uncontrolled ventilation dehumidifies your home in winter, but consumes heating energy.

Reducing or eliminating this chimney ventilation can save energy but may also increase unwanted humidity levels and change the way that air leaks into and out of your home. Homes usually become slightly more positively pressurized.

Converting to a high efficiency gas furnace or to electric heat will reduce the uncontrolled ventilation through the chimney. Along with upgrading to a high efficiency gas furnace, if you remove your existing conventional gas water heater at the same time and install a power-vent gas or electric water heater you will completely eliminate the uncontrolled chimney ventilation.

When upgrading your space heating system to a high efficiency gas furnace you don't have to change your water heater. In many cases the existing chimney will be sufficient to continue to operate your conventional gas water heater, in some cases you may need to install a chimney liner. If you are unable to upgrade the chimney then a power-vent gas water heater may be an option for you. Speak with a licensed and reputable heating contractor about your water heating options for your specific home.

Increase in humidity and change in air leakage patterns may cause increased condensation/icing: on interior surfaces of well-sealed windows, and anywhere warm moist air leaks out of the home such as electrical outlets, between the panes of poorly sealed windows, on door seals, in door lock mechanisms and around chimney and plumbing stacks. A very small percentage of homeowners have reported experiencing some of these issues.

There is not one solution that works in every home and for every issue. Here are some of the measures that individually or in combination can minimize or eliminate the effects of reduced chimney ventilation:

- improved weatherstripping and caulking on doors and windows and other areas of air leakage (but not on storm doors)
- seasonal window insulator kits (clear heat shrink poly over inside windows and frames)
- improved windows (preferably triple pane)

- a ventilation system which may consist of:
 - exhaust fan(s)
 - exhaust fan(s) combined with a fresh air intake
 - heat recovery ventilator (HRV)

Carbon monoxide safety

If you are burning heating oil, diesel, propane, kerosene, natural gas, wood, or coal in your home, or if you have an attached garage, we recommend that you install at least one carbon monoxide detector in your home.

The building code now requires permanently mounted carbon monoxide detectors in all new homes with fuel burning appliances or attached garages.

For further details, contact us for a copy of our brochure on "Carbon monoxide safety – Because your family comes first!".

Calculate your payback

Determining how many years it will take for a new heating system to pay for itself may help you reach a decision.

Determine the potential savings

Subtract the annual cost of the new heating system you are considering from the annual cost of your current heating system (check the charts).

The difference is approximately what you can expect to save each year, at current energy rates.

Determine the costs of the new system

Determine how much it will cost to buy and install the new system, along with any other adjustments required. Get quotations from three reputable contractors.

Factor in the cost of financing, if necessary.

Determine the payback

Divide the estimated cost of switching your system, by the estimated savings.

The result is the number of years it will take for the new heating system to pay for itself.



Explanation of technical information in the charts 4

- The cost of heating with propane includes a propane tank rental or lease charge of \$151 per year for a typical 500 US gallon tank. This charge may not apply to all customers and may vary by propane supplier.

- The federal carbon charge was introduced April 1, 2019 and is applied to natural gas, fuel oil and propane consumption since these commodities produce greenhouse gases. This charge puts a price of \$20 on each tonne of greenhouse gas created by burning fossil fuels. The federal government plans to increase the carbon charge by \$10 a year until it reaches \$50 per tonne in 2022.

Heating with natural gas is still expected to be more cost-effective than heating with electricity, even after the federal carbon charge reaches \$50 per tonne in 2022.

- The cost of space heating with natural gas includes a basic monthly charge of \$14 (\$168 per year).
- SE (seasonal efficiency) is defined as the total heat output delivered by the furnace during one heating season as a percentage of the total energy input to the system. SE takes into consideration not only normal operating losses but also the fact that most furnaces rarely run long enough to reach their steady-state efficiency temperature, particularly during milder weather at the beginning and end of the heating season.

ENERGY RATES — in effect February 1, 2019

Commodity charge		Heating value
Natural gas	\$0.2359/cubic metre	35,310 Btu/cubic metre
Electricity	\$0.08527/kilowatt-hour	3,413 Btu/kilowatt-hour
Fuel oil	\$0.976/litre	36,500 Btu/litre
Propane	\$0.704/litre	24,200 Btu/litre

- SCOP (Seasonal Coefficient of Performance) = 2 and = 3 appears in the home heating chart under geothermal closed loop heat pump. It refers to the Seasonal Coefficient of Performance of the heat pump over an entire heating season.

SCOP is defined as the total heat output of the system during the heating season, divided by the total energy input to the system.

The SCOP of a geothermal heat pump system typically ranges from 2.0 to 3.0. For reference, the SCOP of an electric baseboard heater is 1.0. The SCOP rating accounts for cycling losses, circulating fan and pump energy and auxiliary electric heating loads which are not included in the manufacturer's COP rating of the heat pump "unit". The overall system SCOP will therefore always be significantly lower than the unit COP.

The SCOP of a geothermal system can vary significantly and is highly dependent on the quality of the system design, installation, commissioning, and ongoing maintenance practices.

- Note that the natural gas energy price reflected in the charts is a bundled price that includes primary and supplemental gas, and transportation and distribution charges. For reference, one of the major components of the bundled price is the price of Primary Gas, at \$0.0909 per cubic metre. Primary Gas currently comprises 72 per cent of the gas supplied (supplemental gas is 28 per cent.)
- Taxes are not included in the examples.

Available in accessible formats upon request.



Wondering about your energy options for water heating?

1

The chart below shows an example of water heating costs that are based on an average single family residence, at rates in effect February 1, 2019.

1. Consult the charts to identify the costs of your current water heating system.

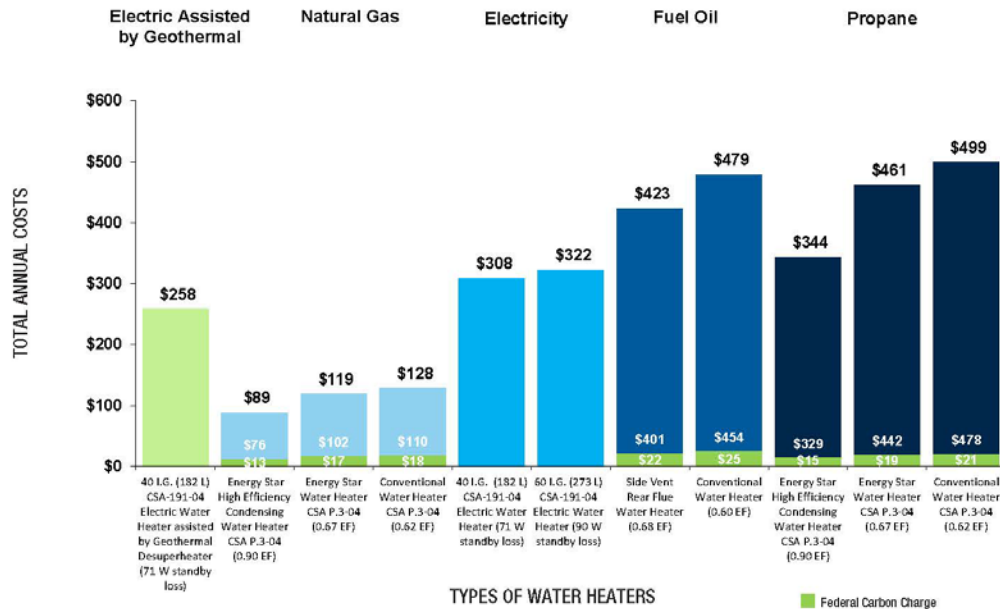
2. Review the annual energy costs of other systems to see how your costs compare.

3. Consult the accompanying notes on pages 2 and 3 for guidance if you are thinking of switching water heating systems or building a new home.

4. Visit hydro.mb.ca/water and use the online calculator to get a customized estimate for your specific home's annual and total lifetime water heating costs based on different water heating systems and energy sources.

Annual Water Heating Costs

(Based on average annual hot water usage of 2.4 people per household)



Energy rates

as of February 1, 2019.

Natural gas: **\$0.2359/cubic metre**

Electricity: **\$0.08527/kilowatt-hour**

Fuel oil: **\$0.976/litre**

Propane: **\$0.704/litre**

Federal carbon charge: **\$20/tonne of greenhouse gas produced**

Water heating annual costs shown in the chart above are based on "point-in-time" prices as noted.

The annual water heating costs presented in the chart exclude the cost of converting to a different heating system, which may be significant.

See page 3 if you are thinking of changing your water heating system.

Depending on your supplier, propane and fuel oil prices can fluctuate on a daily basis.



Annual cost estimates

2

The water heating costs shown in the chart are based on Manitoba Hydro's average electric and natural gas water heating household of 2.4 people consuming about 140 litres per day. Your water heating costs may differ due to varying shower, bathing, clothing and dish washing usage patterns related to your lifestyle. If you think your hot water usage is higher or lower than this average, please factor up or down the operating costs of the various water heaters shown in the chart. The costs shown are relative, illustrative and for general comparison purposes only.

The chart on the first page presents annual costs as if all energy rates remained fixed for the coming year at the rates in effect on February 1, 2019.

Your actual annual energy costs will vary. Natural gas rates change four times per year, electricity rates typically change on an annual basis and depending on your supplier, propane and oil rates can change daily. With Manitoba Hydro's Quarterly Rate Service, the price you pay for Primary Gas is the same price we pay for the gas in the marketplace.

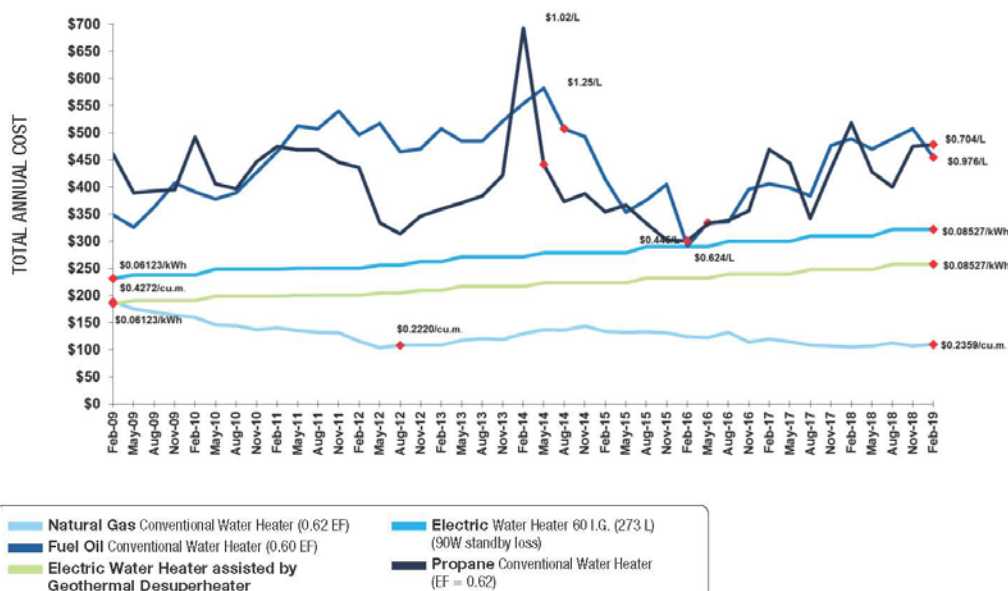
This rate changes every 3 months and is currently \$0.0909 per cubic metre. If you buy Primary Gas on a Fixed Rate Service contract from Manitoba Hydro or a Gas Broker, you will continue to pay Manitoba Hydro for Supplemental Gas as well as transportation and distribution charges. The figure of \$0.2359 per cubic metre of natural gas that we've used in the charts is known as a "re-bundled" effective rate. It includes charges for Primary and Supplemental gas, as well as for transportation and distribution of the gas on Manitoba Hydro's Quarterly Rate Service.

The chart below shows a 10 year annual operating cost history trend of various energy sources and water heating

systems. The chart also shows the minimum and maximum energy prices for a given point in time by energy source over the 10 year period. The energy prices shown are provided

as reference points to show the relationship between the energy price at a given point in time and the annual operating costs of a specific heating system.

Example Water Heating 10 year Cost History



3

Key points if you are thinking of changing heating systems

Is it economically feasible?

The cost of switching to another water heating system may be economically feasible only if your current system is at or near the end of its useful life, or if you are building a new home. Be sure to obtain quotations from at least three reputable heating contractors before you make your decision.

Size of existing electrical service

Your electrical system may need to be upgraded if you want it to carry an electrical water heating load.

Depending on the capacity of the electrical appliances and equipment currently installed, and the size of your home, the Manitoba Electrical Code will allow a maximum of 8 to 10 kilowatts of electric heating on a standard 100-amp service. An electrician should perform an electrical code load calculation to advise whether your existing service is adequate to serve the water heating equipment required for your home. If you don't have space in your

existing electrical panel for the new circuit breaker you will require an electrician to install an electrical sub panel.

Flue gas venting

When gas is burned, flue gases are produced which primarily contain carbon dioxide and water vapour which are not harmful to people. However, flue gases can also contain trace amounts of carbon monoxide and other gases that can present a health hazard.

If you replace your old conventional or mid-efficiency gas furnace with a high efficiency model you may need to modify the existing chimney to ensure proper venting of flue gases from your existing conventional gas water heater. Consult with a licensed and reputable contractor to determine if upgrades to your chimney are required. If costly chimney upgrades are required, consider installing a power-vented gas water heater or an electric water heater. To ensure you are getting best value when looking at a new water heater, consider the total lifetime cost, which is the cost to buy, install and operate the water heater over its useful life.

Calculate your payback

Determining how many years it will take for a new water heating system to pay for itself may help you reach a decision.

Determine the potential savings

Subtract the annual water heating cost of the new water heating system you are considering from the annual water heating cost of your current system (check the charts).

The difference is approximately what you can expect to save each year, at current energy rates.

Determine the costs of the new system

Determine how much it will cost to buy and install the new system, along with any other adjustments required. Get quotations from three reputable contractors.

Factor in the cost of financing, if necessary.

Determine the payback

Divide the estimated cost of switching your system, by the estimated annual savings.

The result is the number of years it will take for the new heating system to pay for itself.

Explanation of technical information in the charts

- Water heating usage is based on Manitoba Hydro's average electric and natural gas water heating household of 2.4 people consuming about 140 litres per day that are heated up an average temperature rise of 50°C.
- The federal carbon charge was introduced April 1, 2019 and is applied to natural gas, fuel oil and propane consumption since these commodities produce greenhouse gases. This charge puts a price of \$20 on each tonne of greenhouse gas created by burning fossil fuels. The federal government plans to increase the carbon charge by \$10 a year until it reaches \$50 per tonne in 2022. Heating with natural gas is still expected to be more cost-effective than heating with electricity, even after

ENERGY RATES — in effect February 1, 2019

Commodity charge	Heating value
Natural gas \$0.2359/cubic metre	35,310 Btu/cubic metre
Electricity \$0.08527/kilowatt-hour	3,413 Btu/kilowatt-hour
Fuel oil \$0.976/litre	36,500 Btu/litre
Propane \$0.704/litre	24,200 Btu/litre

the federal carbon charge reaches \$50 per tonne.

- The Electric water heating assisted by geothermal desuperheater option is based on Manitoba Hydro's field monitoring of nine homes with geothermal heating and desuperheaters

where 80 per cent of the average water heating load was provided by the electric heating elements of the water tank and 20 per cent by the desuperheater.

- Energy Factor (EF) is an overall efficiency rating of the water heater. The higher the EF, the more efficient the model.

4

- Note that the natural gas energy price reflected in the charts is a bundled price that includes primary and supplemental gas, and transportation and distribution charges. One of the major components of the bundled price is the price of Primary Gas, at \$0.0909 per cubic metre. Primary Gas currently comprises 72 per cent of the gas supplied (supplemental gas is 28 per cent.)
- Taxes are not included in the examples.

Available in accessible formats upon request.



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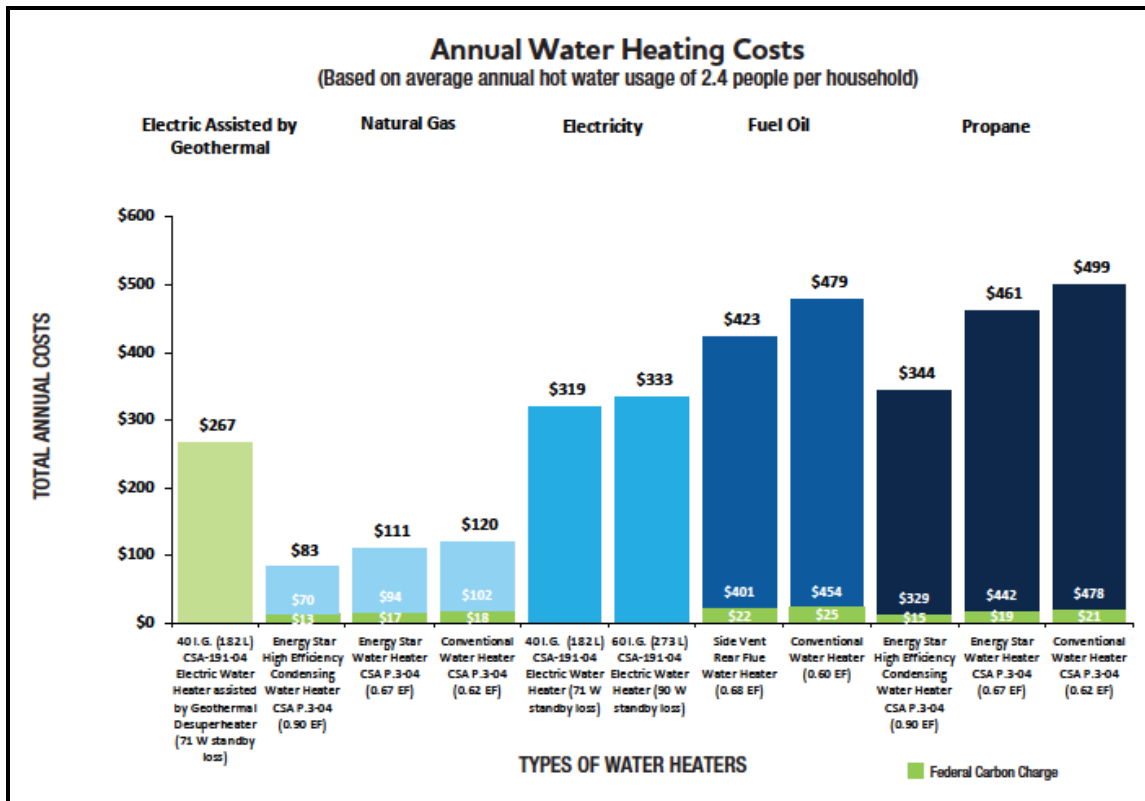
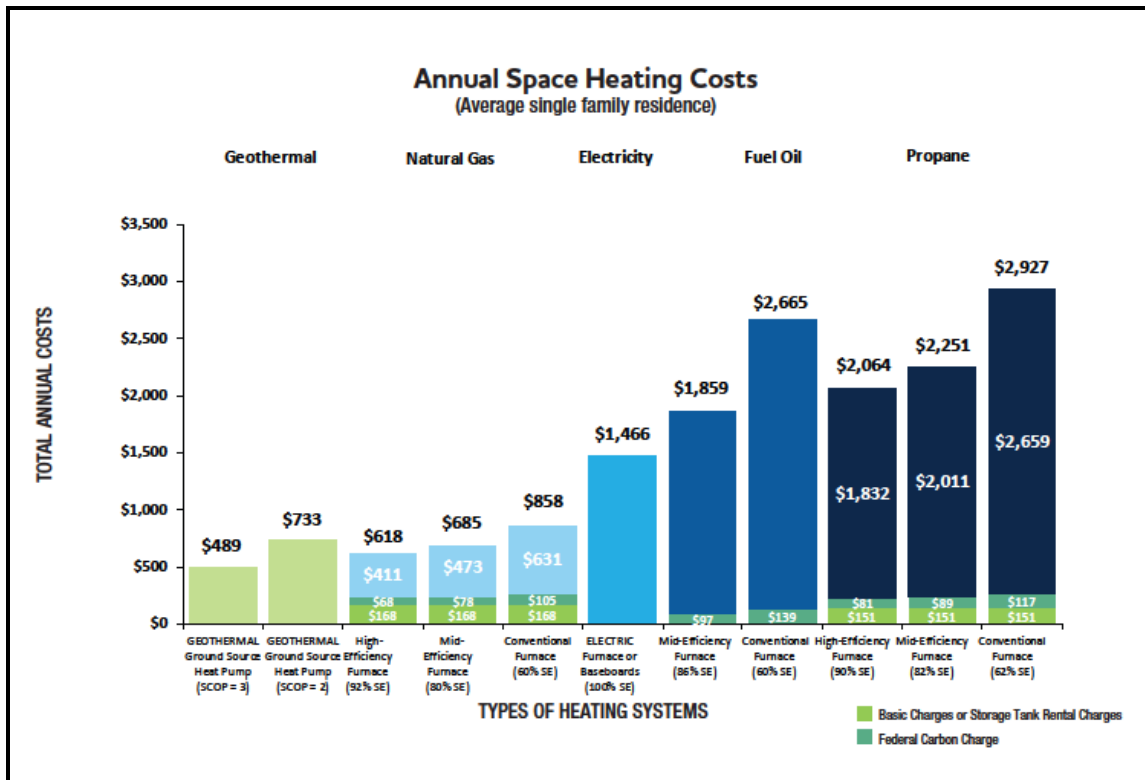
The two charts on the following page reflect the average cost of space and water heating under the proposed natural gas and electricity rate changes currently being considered by the Public Utilities Board.

- The natural gas rate assumes the February 1, 2019 primary gas rate and billing percentages. Rates for Transportation to Centra, Supplemental Gas Supply and Distribution to Customer reflect the rates proposed in this Application effective November 1, 2019.
- The electricity rates include a 3.5% increase, currently under review by the PUB, which is proposed to be effective June 1, 2019.
- Fuel Oil and Propane rates are current as of February 1, 2019.

Energy Rates used in pro forma analysis:

	Date Rate was in effect	Commodity Charge (\$/unit)
Natural Gas	PROPOSED	\$ 0.21868
Electricity	PROPOSED	\$ 0.08827
Fuel Oil	Feb 1/19	\$ 0.976
Propane	Feb 1/19	\$ 0.704

Centra Gas Manitoba Inc. 2019/20 General Rate Application
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REFERENCE:

Tab 11 p. 4 of 14

PREAMBLE TO IR (IF ANY):

Centra states that “The bill impact for T-Service customers in the HVF and Mainline customer classes is primarily due to the effect of reversing the bill decrease that these classes experienced as a result of Directive 5 in Order 108/15 that directed the non-gas rate components revert back to levels approved in 2010 effective August 1, 2017.” The Board approved the reversion of the non-gas rate components per Order 79/17.

QUESTION:

- a) Provide the bill impact schedule filed as Attachment 3 of Centra’s July 14, 2017 Primary Gas Quarterly Rate Application for August 1, 2017 rates.
- b) Provide a bill impact schedule that isolates the rate reversion of August 1, 2017 for the non-gas rate changes only, including the change in the Primary Gas overhead rate.
- c) Provide a bill impact schedule that isolates the non-gas rate changes proposed in the current application, including the proposed change in the Primary Gas overhead rate.
- d) Provide a simplified table in a similar format to Figure 11.1 comparing the bill impacts from the August 1, 2017 non-gas rate reversion (as in (b) above) with the bill impacts from the proposed November 1, 2019 rates (as in (c) above). Include the impacts for Sales Service and T-Service customers.

RESPONSE:

- a) Please see Attachment 1 to this response that provides the bill impact schedule filed as Attachment 3 of Centra’s August 1, 2017 Primary Gas Rate Application.
- b) Please see Attachment 2 to this response that provides the bill impact that isolates the August 1, 2017 non-gas rate changes and the Primary Gas overhead rate change. To isolate the impact of the August 1, 2017 non-gas rates changes, Centra has subtracted the “Primary Gas Rate change impact” (column 1) from the combined “Primary Gas Rate

change and Rate Reversion impact" (column 2). Both columns are from Attachment 1 provided in response to part a). Additionally, column (3) isolates the bill impact of the August 1, 2017 change in Primary Gas overhead rate.

As the Primary Gas rate is handled separately through Quarterly Rate Application, the reversal effect of the August 1, 2017 change to Primary Gas Overhead rate (shown in column 3, Attachment 2) will be included in November 1, 2019 Primary Gas Application.

- c) Please see Attachment 3 to this response which isolates the bill impact of the reversal of the August 1, 2017 non-gas rate changes from the bill impact proposed in the current 2019/20 GRA. To demonstrate this effect Centra has prepared the following:
- The bill impact of the proposed November 1, 2019 rates relative to the adjusted current rates to reflect the non-gas rates effective May 1, 2017 (before reversion). This bill impact is provided in Attachment 3 to this response (column 2).
 - Centra subtracted the bill impact calculated in the first step (column 2) from the bill impact proposed in the current application filed with Supplement filed on March 22, 2019 (column 1).

The bill impact schedule attached to this response does not include the change in the Primary Gas overhead rate. Please see the response b) for the explanation.

- d) The Figures below compare the bill impact from the August 1, 2017 non-gas rate changes (provided in response to part (b)) with the isolated bill impact from the reversal of August 1, 2017 non-gas rates changes included in the bill impact from the proposed November 1, 2019 rates (provided in response to part (c)). Figure 1 provides summary for Sales Service customers and Figure 2 for T-Service customers.

Figure 1: Summary of annual bill impacts for Sales Service Customers comparing the effect of Aug 1, 2017 non-gas rate change (response to part b)) to the reversal effect of Aug 1, 2017 non-gas rates changes included in the 2019/20 GRA (response to part c)).

2019/20 Test Year/Aug 1, 2017 PG Application			Annual Impacts Billed Rates <i>Effect of reversing the Aug 1, 2017 non-gas rates changes included in 2019/20 GRA (response c))</i>		Annual Impacts Billed Rates <i>Effect of the Aug 1, 2017 non-gas rate changes only (response b))</i>	
Customer Class	Consumption (10 ³ M ³)	Load Factor	\$ Impact	% Change	\$ Impact	% Change
SGS	1.0		\$4	1.0%	(\$4)	-1.0%
	2.2		\$9	1.2%	(\$9)	-1.3%
	11.3		\$46	1.5%	(\$46)	-1.5%
LGS	11.3		\$25	0.8%	(\$25)	-0.8%
	679.9		\$1,509	1.2%	(\$1,509)	-1.1%
HVF**	12,600	75%	\$7,113	0.4%	(\$6,732)	-0.3%
	850	25%	\$2,992	1.8%	(\$2,967)	-1.7%
Mainline*	2833 / 2500	75%/40%	(\$7,121)	-1.5%	(\$21,217)	-1.1%
	28328 / 2500	40%/75%	\$76,408	1.3%	\$7,920	2.1%
Interruptible**	14,164	75%	\$8,199	0.5%	\$8,209	-0.4%
	850	25%	\$3,534	2.6%	(\$3,534)	-2.4%

* Mainline class has different consumption level in Bill Impacts provided in responses to b) & c) as they are coming from two applications Aug 1, 2017 Primary Gas Application & 2019/20 GRA .

** The slight differences in \$ Impact are caused by the rounding in the consumption levels used for Bill Impacts calculation.

Figure 2: Summary of annual bill impacts for T-Service Customers comparing the effect of Aug 1, 2017 non-gas rate change (response to part b)) to the reversal effect of Aug 1, 2017 non-gas rates changes included in the 2019/20 GRA (response to part c)).

2019/20 Test Year/Aug 1, 2017 PG Application			Annual Impacts Billed Rates <i>Effect of reversing the Aug 1, 2017 non-gas rates changes included in 2019/20 GRA (response c))</i>		Annual Impacts Billed Rates <i>Effect of the Aug 1, 2017 non-gas rate changes only (response b))</i>	
Customer Class	Consumption (10 ³ M ³)	Load Factor	\$ Impact	% Change	\$ Impact	% Change
HVF (T-Service)	2,600	40%	\$9,449	15.3%	(\$9,449)	-12.8%
	17,600	75%	\$45,850	19.3%	(\$45,850)	-15.1%
Mainline (T-Service)	14,000	40%	\$60,004	27.9%	(\$60,004)	-20.9%
	44,000	75%	\$176,592	43.0%	(\$176,592)	-31.4%
Special Contract						
Power Stations						

2d

Centra Gas Manitoba Inc.
2019/20 General Rate Application
Bill Impact Schedule Isolating the Impact of the August 1, 2017 non gas rate changes
(based on the bill impact filed as Attachment 1 PUB/Centra I-143 a))

	Load Factor	Annual Consumption m ³	(1)			(2)			(3)		
			Primary Gas Rate Change (includes PG overhead)			Primary Gas Rate Change and Rate Reversion Combined			Non-Gas Rate changes only (excludes the PG overhead)		
			1-Aug-17 Annual Bill	% Change	\$ Change	1-Aug-17 Annual Bill	% Change	\$ Change	% Change	\$ Change	% Change
1											
2											
3											
4											
5											
6											
7	SGS	1,000	\$417	-2.2%	(\$9)	\$417	-3.1%	(\$13)	-1.0%	(\$4)	0.2%
8		1,983	\$645	-2.7%	(\$18)	\$652	-3.9%	(\$26)	-1.2%	(\$9)	0.2%
9	(Typical Residential Customer)	2,243	\$707	-2.8%	(\$20)	\$727	-4.0%	(\$29)	-1.3%	(\$9)	0.2%
10		2,804	\$842	-2.8%	(\$25)	\$867	-4.2%	(\$37)	-1.3%	(\$11)	0.2%
11		3,201	\$937	-3.0%	(\$29)	\$966	-4.3%	(\$42)	-1.4%	(\$13)	0.2%
12		3,683	\$1,053	-3.1%	(\$33)	\$1,086	-4.4%	(\$46)	-1.4%	(\$15)	0.2%
13		11,331	\$2,891	-3.4%	(\$102)	\$2,993	-5.0%	(\$148)	-1.5%	(\$46)	0.3%
14											
15	LGS	11,331	\$3,025	-3.3%	(\$102)	\$3,127	-4.1%	(\$127)	-0.8%	(\$25)	0.3%
16		59,488	\$11,953	-4.3%	(\$535)	\$12,489	-5.3%	(\$667)	-1.1%	(\$132)	0.3%
17		679,868	\$126,972	-4.6%	(\$6,119)	\$133,090	-5.7%	(\$7,628)	-1.1%	(\$1,509)	0.4%
18											
19	HVF (Sales Service)	850,000	\$171,820	-4.3%	(\$7,650)	\$179,470	-5.9%	(\$10,617)	-1.7%	(\$2,967)	0.3%
20		850,000	\$151,867	-4.8%	(\$7,650)	\$159,517	-6.2%	(\$9,853)	-1.4%	(\$2,203)	0.4%
21		1,416,392	\$243,296	-5.0%	(\$12,748)	\$256,043	-6.1%	(\$15,593)	-1.1%	(\$3,846)	0.4%
22		2,832,784	\$471,934	-5.1%	(\$25,495)	\$497,429	-6.0%	(\$29,949)	-0.9%	(\$4,454)	0.4%
23		6,200,000	\$1,015,481	-5.2%	(\$55,800)	\$1,071,281	-6.0%	(\$64,078)	-0.8%	(\$8,272)	0.4%
24		12,600,000	\$2,048,590	-5.2%	(\$113,400)	\$2,161,990	-6.0%	(\$128,946)	-0.7%	(\$15,546)	0.4%
25		685,000	\$112,726	-5.2%	(\$6,165)	\$118,891	-6.5%	(\$7,701)	-1.3%	(\$1,536)	0.4%
26		849,835	\$136,324	-5.3%	(\$7,649)	\$143,973	-6.4%	(\$9,256)	-1.1%	(\$1,608)	0.4%
27		1,416,392	\$230,183	-5.5%	(\$12,748)	\$242,931	-6.3%	(\$14,603)	-0.8%	(\$1,855)	0.4%
28		2,832,784	\$420,215	-5.7%	(\$25,495)	\$445,710	-6.3%	(\$27,968)	-0.6%	(\$2,473)	0.4%
29		6,200,000	\$802,285	-5.8%	(\$55,800)	\$858,085	-6.2%	(\$59,741)	-0.4%	(\$3,941)	0.5%
30		12,600,000	\$1,816,346	-5.9%	(\$113,400)	\$1,931,346	-6.2%	(\$120,132)	-0.3%	(\$6,732)	0.5%
31											
32	HVF (T-Service)	2,600,000	\$73,919	0.0%	\$0	\$73,919	-12.8%	(\$9,448)	-12.8%	(\$9,448)	0.0%
33		11,000,000	\$265,382	0.0%	\$0	\$265,382	-13.6%	(\$35,980)	-13.6%	(\$35,980)	0.0%
34		17,000,000	\$458,816	0.0%	\$0	\$458,816	-13.7%	(\$61,625)	-13.7%	(\$61,625)	0.0%
35		2,600,000	\$87,305	0.0%	\$0	\$87,305	-13.7%	(\$11,628)	-13.7%	(\$11,628)	0.0%
36		11,000,000	\$195,080	0.0%	\$0	\$195,080	-14.9%	(\$26,120)	-14.9%	(\$26,120)	0.0%
37		17,000,000	\$303,350	0.0%	\$0	\$303,350	-15.1%	(\$40,850)	-15.1%	(\$40,850)	0.0%
38											
39											
40											
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42											
43	Mainline Firm	2,500,000	\$427,281	-5.0%	(\$22,500)	\$447,281	-3.8%	(\$17,065)	1.2%	\$5,435	0.4%
44		11,000,000	\$1,816,152	-5.2%	(\$99,000)	\$1,917,152	-6.3%	(\$120,217)	-1.1%	(\$21,217)	0.4%
45		2,500,000	\$354,867	-6.0%	(\$22,500)	\$377,367	-3.9%	(\$14,580)	2.1%	\$7,920	0.5%
46		11,000,000	\$1,510,532	-6.2%	(\$99,000)	\$1,609,532	-6.8%	(\$109,286)	-0.6%	(\$10,286)	0.5%
47											
48	MLF (T-Service)	14,000,000	\$286,930	0.0%	\$0	\$286,930	-20.9%	(\$60,004)	-20.9%	(\$60,004)	0.0%
49		18,000,000	\$364,634	0.0%	\$0	\$364,634	-22.2%	(\$80,941)	-22.2%	(\$80,941)	0.0%
50		44,000,000	\$869,711	0.0%	\$0	\$869,711	-25.0%	(\$217,030)	-25.0%	(\$217,030)	0.0%
51		14,000,000	\$189,413	0.0%	\$0	\$189,413	-24.9%	(\$47,138)	-24.9%	(\$47,138)	0.0%
52		18,000,000	\$239,255	0.0%	\$0	\$239,255	-26.9%	(\$64,398)	-26.9%	(\$64,398)	0.0%
53		44,000,000	\$563,230	0.0%	\$0	\$563,230	-31.4%	(\$176,592)	-31.4%	(\$176,592)	0.0%
54											
55	Interruptible (Sales Service)	849,835	\$139,641	-5.0%	(\$7,309)	\$146,949	-7.4%	(\$10,843)	-2.4%	(\$3,534)	0.4%
56		2,832,784	\$398,368	-5.8%	(\$24,362)	\$422,730	-6.9%	(\$28,989)	-1.1%	(\$4,627)	0.5%
57		14,163,920	\$2,053,436	-5.9%	(\$121,810)	\$2,175,246	-6.6%	(\$134,782)	-0.6%	(\$12,881)	0.5%
58		849,835	\$122,586	-6.1%	(\$7,309)	\$129,895	-7.8%	(\$10,189)	-2.2%	(\$2,881)	0.5%
59		2,832,784	\$373,497	-6.3%	(\$24,362)	\$397,859	-7.0%	(\$28,036)	-0.9%	(\$3,674)	0.5%
60		14,163,920	\$1,807,270	-6.3%	(\$121,810)	\$1,929,080	-6.7%	(\$130,018)	-0.4%	(\$8,209)	0.5%
61											
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66											
67	Special Contract										
68											
69	Power Stations										
70											
71	Notes:										
72	Firm Billing percentages: 94% Primary Gas, 6% Supplemental Gas										
73	Interruptible Billing percentages: 90% Primary Gas, 10% Supplemental Gas										

Bill Impact Schedule isolating the impact of the reversion of Aug 1, 2017 non-gas rates change

1 BILLED VS. BILLED

		(1) BILL IMPACTS Compares Proposed Rates to Current Rates reflecting the non-gas component reversed (Filed on March 22, 2019)				(2) BILL IMPACTS Compares Proposed Rates to Adjusted Current Rates reflecting the non-gas component before Aug 1, 2017 reversion (no reversion of non-gas rates)				(1) - (2) BILL IMPACTS Effect of reversing the Aug 1, 2017 non-gas rates change (included in a bill impact proposed in the current application)			
	Load Factor	Annual Use 10 ⁶ m ³	Mcf	\$	%	\$	%	\$	%	\$	%	\$	%
14 Small General Service		1.00	35	(\$17)	-4.3%	(\$21)	-5.2%			\$4	1.0%		
15		1.98	70	(\$34)	-5.4%	(\$42)	-6.6%			\$8	1.2%		
16 (Typical Residential Customer)		2.22	78	(\$38)	-5.5%	(\$47)	-6.8%			\$9	1.2%		
17		2.80	99	(\$48)	-5.8%	(\$60)	-7.1%			\$11	1.3%		
18		3.20	113	(\$55)	-6.0%	(\$68)	-7.3%			\$13	1.3%		
19		3.68	130	(\$64)	-6.1%	(\$79)	-7.5%			\$15	1.3%		
20		11.33	400	(\$195)	-6.9%	(\$242)	-8.4%			\$46	1.5%		
22 Large General Service		11.33	400	(\$3)	-0.1%	(\$28)	-0.9%			\$25	0.8%		
23		59.49	2,100	(\$16)	-0.1%	(\$148)	-1.2%			\$132	1.1%		
24		679.87	24,000	(\$179)	-0.1%	(\$1,688)	-1.3%			\$1,509	1.2%		
25													
26 HVF (Sales Service)	25%	850	30,000	(\$265)	-0.2%	(\$3,258)	-1.9%			\$2,992	1.7%		
27	40%	850	30,000	(\$10,104)	-6.8%	(\$12,332)	-8.1%			\$2,228	1.4%		
28	40%	1,416	50,000	(\$15,958)	-6.6%	(\$18,846)	-7.8%			\$2,889	1.1%		
29	40%	2,833	100,000	(\$30,593)	-6.6%	(\$35,133)	-7.5%			\$4,540	0.9%		
30	40%	6,200	218,866	(\$65,384)	-6.5%	(\$73,850)	-7.3%			\$8,466	0.8%		
31	40%	12,600	444,792	(\$131,513)	-6.5%	(\$147,440)	-7.2%			\$15,927	0.7%		
32	75%	685	24,181	(\$14,568)	-13.1%	(\$16,125)	-14.3%			\$1,557	1.2%		
33	75%	850	30,000	(\$17,756)	-13.2%	(\$19,389)	-14.2%			\$1,634	1.0%		
34	75%	1,416	50,000	(\$28,711)	-13.3%	(\$30,609)	-14.1%			\$1,898	0.8%		
35	75%	2,833	100,000	(\$56,099)	-13.5%	(\$58,658)	-14.0%			\$2,558	0.5%		
36	75%	6,200	218,866	(\$121,210)	-13.5%	(\$125,339)	-13.9%			\$4,129	0.4%		
37	75%	12,600	444,792	(\$244,965)	-13.6%	(\$252,078)	-13.9%			\$7,113	0.3%		
38													
39 HVF (T-Service)	40%	2,600	91,783	\$12,766	19.8%	\$3,317	4.5%			\$9,449	15.3%		
40	40%	11,000	388,311	\$58,284	25.4%	\$22,305	8.4%			\$35,980	17.0%		
41	40%	17,600	621,297	\$94,048	26.2%	\$37,223	9.0%			\$56,825	17.2%		
42	75%	2,600	91,783	\$9,385	19.0%	\$1,557	2.7%			\$7,828	16.3%		
43	75%	11,000	388,311	\$43,977	26.5%	\$14,857	7.6%			\$29,120	18.9%		
44	75%	17,600	621,297	\$71,156	27.6%	\$25,307	8.3%			\$45,850	19.3%		
45													
46 Cooperative	35%	250	8,825	(\$392)	-0.9%	(\$456)	-1.1%			\$64	0.1%		
47	35%	350	12,355	(\$501)	-0.9%	(\$378)	-0.6%			(\$123)	-0.2%		
48	35%	500	17,650	(\$665)	-0.8%	(\$262)	-0.3%			(\$403)	-0.5%		
49													
50 MLC (Sales Service)	40%	2,833	100,000	(\$96,264)	-19.9%	(\$91,958)	-19.2%			(\$4,306)	-0.7%		
51	40%	14,164	500,000	(\$420,234)	-18.3%	(\$451,801)	-19.4%			\$31,567	1.1%		
52	40%	28,328	1,000,000	(\$825,198)	-18.0%	(\$901,606)	-19.4%			\$76,408	1.3%		
53	75%	2,833	100,000	(\$65,071)	-16.0%	(\$57,950)	-14.5%			(\$7,121)	-1.5%		
54	75%	14,164	500,000	(\$264,273)	-13.8%	(\$281,765)	-14.5%			\$17,492	0.8%		
55	75%	28,328	1,000,000	(\$513,275)	-13.5%	(\$561,533)	-14.6%			\$48,258	1.1%		
56	75%	41,000	1,447,339	(\$736,052)	-13.4%	(\$811,835)	-14.6%			\$75,783	1.2%		
57													
58 MLC (T-Service)	40%	14,000	494,213	\$65,427	28.8%	\$5,422	1.9%			\$60,004	26.9%		
59	40%	18,000	635,417	\$88,483	31.2%	\$7,542	2.1%			\$80,941	29.1%		
60	40%	44,000	1,553,242	\$238,350	36.5%	\$21,319	2.5%			\$217,030	34.1%		
61	75%	14,000	494,213	\$24,313	17.1%	(\$22,824)	-12.0%			\$47,138	29.1%		
62	75%	18,000	635,417	\$35,623	20.4%	(\$28,775)	-12.0%			\$64,398	32.4%		
63	75%	44,000	1,553,242	\$109,137	28.2%	(\$67,455)	-12.0%			\$176,592	40.2%		
64													
65 Special Contract													
66													
67 Power Stations													
68													
69 Interruptible Sales	25%	850	30,000	(\$5,125)	-3.7%	(\$8,659)	-6.1%			\$3,534	2.4%		
70	40%	2,833	100,000	(\$36,478)	-9.1%	(\$41,104)	-10.2%			\$4,625	1.0%		
71	40%	14,164	500,000	(\$182,035)	-9.4%	(\$194,998)	-10.0%			\$12,963	0.6%		
72	75%	850	30,000	(\$15,580)	-12.9%	(\$18,460)	-14.9%			\$2,880	2.0%		
73	75%	2,833	100,000	(\$51,725)	-13.8%	(\$55,397)	-14.6%			\$3,672	0.8%		
74	75%	14,164	500,000	(\$258,266)	-14.2%	(\$266,465)	-14.5%			\$8,199	0.4%		

Note:

The Bill Impacts exclude the change in the Primary Gas overhead rate

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BASE IMPACTS
Compares Proposed Rates to Current Rates
reflecting the non-gas component reversed

(Filed on March 22, 2019)

BASE IMPACTS
Compares Proposed Rates to Adjusted
Current Rates reflecting the non-gas
component before Aug 1, 2017 reversion

(no reversion of non-gas rates)

BASE IMPACTS
Effect of reversing the Aug 1, 2017
non-gas rates change

(included in a bill impact proposed
in the current application)

	Load Factor	Annual Use 10'm ³	Mcf	\$	%	\$	%	\$	%
14 Small General Service		1.00	35	(\$13)	-3.3%	(\$17)	-4.3%	\$4	1.0%
15		1.98	70	(\$26)	-4.1%	(\$34)	-5.4%	\$8	1.2%
16 (Typical Residential Customer)		2.22	78	(\$29)	-4.3%	(\$38)	-5.5%	\$9	1.3%
17		2.80	99	(\$36)	-4.5%	(\$48)	-5.8%	\$11	1.3%
18		3.20	113	(\$41)	-4.6%	(\$54)	-6.0%	\$13	1.4%
19		3.68	130	(\$48)	-4.7%	(\$63)	-6.1%	\$15	1.4%
20		11.33	400	(\$146)	-5.3%	(\$193)	-6.9%	\$46	1.6%
22 Large General Service		11.33	400	\$31	1.1%	\$6	0.2%	\$25	0.9%
23		59.49	2,100	\$162	1.4%	\$30	0.3%	\$132	1.2%
24		679.87	24,000	\$1,849	1.5%	\$340	0.3%	\$1,509	1.3%
26 HVF (Sales Service) 25%		850	30,000	(\$1,735)	-1.1%	(\$4,728)	-2.9%	\$2,992	1.8%
27	40%	850	30,001	(\$2,600)	-1.8%	(\$4,828)	-3.3%	\$2,228	1.5%
28	40%	1,416	50,000	(\$3,452)	-1.5%	(\$6,340)	-2.7%	\$2,889	1.2%
29	40%	2,833	100,000	(\$5,580)	-1.3%	(\$10,120)	-2.3%	\$4,540	1.0%
30	40%	6,200	218,866	(\$10,842)	-1.1%	(\$19,107)	-2.0%	\$8,466	0.9%
31	40%	12,600	444,792	(\$20,261)	-1.1%	(\$36,189)	-1.9%	\$15,927	0.8%
32	75%	685	24,181	(\$2,894)	-2.8%	(\$4,451)	-4.2%	\$1,557	1.4%
33	75%	850	30,000	(\$3,273)	-2.6%	(\$4,906)	-3.8%	\$1,634	1.2%
34	75%	1,416	50,000	(\$4,573)	-2.3%	(\$6,471)	-3.2%	\$1,898	0.9%
35	75%	2,833	100,000	(\$7,823)	-2.0%	(\$10,381)	-2.6%	\$2,558	0.6%
36	75%	6,200	218,866	(\$15,549)	-1.8%	(\$19,678)	-2.3%	\$4,129	0.5%
37	75%	12,600	444,792	(\$30,235)	-1.8%	(\$37,348)	-2.2%	\$7,113	0.4%
39 HVF (T-Service) 40%		2,600	91,783	\$12,819	19.9%	\$3,370	4.6%	\$9,449	15.3%
40	40%	11,000	388,311	\$58,509	25.5%	\$22,529	8.5%	\$35,980	17.0%
41	40%	17,600	621,297	\$94,408	26.3%	\$37,583	9.0%	\$56,825	17.3%
42	75%	2,600	91,783	\$9,523	19.2%	\$1,695	3.0%	\$7,828	16.3%
43	75%	11,000	388,311	\$44,561	26.8%	\$15,441	7.9%	\$29,120	18.9%
44	75%	17,600	621,297	\$72,091	28.0%	\$26,241	8.7%	\$45,850	19.3%
46 Cooperative 35%		250	8,825	(\$405)	-1.0%	(\$469)	-1.2%	\$64	0.2%
47	35%	350	12,355	(\$519)	-0.9%	(\$396)	-0.7%	(\$123)	-0.2%
48	35%	500	17,650	(\$690)	-0.9%	(\$287)	-0.4%	(\$403)	-0.5%
50 MLC (Sales Service) 40%		2,833	100,000	(\$39,634)	-8.6%	(\$35,328)	-7.8%	(\$4,306)	-0.9%
51	40%	14,164	500,000	(\$137,085)	-6.3%	(\$168,652)	-7.6%	\$31,567	1.3%
52	40%	28,328	1,000,000	(\$258,899)	-6.0%	(\$335,308)	-7.6%	\$76,408	1.6%
53	75%	2,833	100,000	(\$34,517)	-9.0%	(\$27,396)	-7.3%	(\$7,121)	-1.7%
54	75%	14,164	500,000	(\$111,501)	-6.2%	(\$128,993)	-7.1%	\$17,492	0.9%
55	75%	28,328	1,000,000	(\$207,732)	-5.8%	(\$255,990)	-7.1%	\$48,258	1.3%
56	75%	41,000	1,447,339	(\$293,827)	-5.7%	(\$369,611)	-7.1%	\$75,783	1.4%
58 MLC (T-Service) 40%		14,000	494,213	\$76,074	33.5%	\$16,069	5.6%	\$60,004	27.9%
59	40%	18,000	635,417	\$102,172	36.0%	\$21,231	5.8%	\$80,941	30.2%
60	40%	44,000	1,553,242	\$271,812	41.6%	\$54,782	6.3%	\$217,030	35.3%
61	75%	14,000	494,213	\$35,176	24.7%	(\$11,961)	-6.3%	\$47,138	31.0%
62	75%	18,000	635,417	\$49,590	28.4%	(\$14,809)	-6.2%	\$64,398	34.5%
63	75%	44,000	1,553,242	\$143,277	37.1%	(\$33,315)	-5.9%	\$176,592	43.0%
65 Special Contract									
67 Power Stations									
69 Interruptible Sales 25%		850	30,000	(\$3,890)	-3.0%	(\$7,423)	-5.5%	\$3,534	2.6%
70	40%	2,833	100,000	(\$15,268)	-4.1%	(\$19,894)	-5.2%	\$4,625	1.2%
71	40%	14,164	500,000	(\$75,986)	-4.2%	(\$88,948)	-4.8%	\$12,963	0.7%
72	75%	850	30,000	(\$5,229)	-4.6%	(\$8,109)	-6.9%	\$2,880	2.3%
73	75%	2,833	100,000	(\$17,221)	-4.9%	(\$20,893)	-5.9%	\$3,672	1.0%
74	75%	14,164	500,000	(\$85,748)	-5.0%	(\$93,946)	-5.5%	\$8,199	0.5%

Note:

The Bill Impacts exclude the change in the Primary Gas overhead rate

REFERENCE:

Tab 11 p. 10 of 14 (Figure 11.6); 2015/16 COG PUB/Centra I-70

PREAMBLE TO IR (IF ANY):

In Order 156/08, the Board stated: “Retrospectively, the Board will review Centra’s actions and pricing to ensure that the policies and procedures were followed – not just for hedging, but also for its entire fixed price offering program.”

QUESTION:

For each Fixed Rate Primary Gas Service (FRPGS) offering beginning with the November 1, 2015 flow offering, and in a format similar to that of PUB/CENTRA I-70c from the 2015/16 Cost of Gas proceeding, provide Excel schedules showing the detailed calculations of the FRPGS weighted average cost of gas including compressor fuel costs as well as the FRPGS billed rates (including Self-insurance Risk Premiums).

RESPONSE:

Please see the attachment to this response for the requested information.

1 (based on forward market strip as at July 28, 2015)

		Forecast Average Western Cdn. Supply Price at Emprss (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
2	Month	AECO Futures Price (\$/GJ)								
3	Nov-16	\$2.9252								
4	Dec-16	\$2.9947								
5	Jan-16	\$3.0574								
6	Feb-16	\$3.0511								
7	Mar-16	\$3.0507								
8	Apr-16	\$2.8244								
9	May-16	\$2.7775								
10	Jun-16	\$2.7852								
11	Jul-16	\$2.7966								
12	Aug-16	\$2.8288								
13	Sep-16	\$2.8380								
14	Oct-16	\$2.9280								
15	Nov-16	\$3.0712								
16	Dec-16	\$3.2401								
17	Jan-17	\$3.3036								
18	Feb-17	\$3.2905								
19	Mar-17	\$3.2340								
20	Apr-17	\$2.8717								
21	May-17	\$2.8332								
22	Jun-17	\$2.8586								
23	Jul-17	\$2.8657								
24	Aug-17	\$2.8745								
25	Sep-17	\$2.8985								
26	Oct-17	\$2.9170								
27	Nov-17	\$3.1800								
28	Dec-17	\$3.3272								
29	Jan-18	\$3.4578								
30	Feb-18	\$3.4293								
31	Mar-18	\$3.3513								
32	Apr-18	\$3.0480								
33	May-18	\$2.9780								
34	Jun-18	\$2.9843								
35	Jul-18	\$3.0063								
36	Aug-18	\$3.0136								
37	Sep-18	\$3.0415								
38	Oct-18	\$3.0568								
39	Nov-18	\$3.3448								
40	Dec-18	\$3.5080								
41	Jan-19	\$3.6588								
42	Feb-19	\$3.6319								
43	Mar-19	\$3.5544								
44	Apr-19	\$3.2673								
45	May-19	\$3.2093								
46	Jun-19	\$3.2063								
47	Jul-19	\$3.1995								
48	Aug-19	\$3.2199								
49	Sep-19	\$3.2416								
50	Oct-19	\$3.2528								
51	Nov-19	\$3.4588								
52	Dec-19	\$3.6807								
53	Jan-20	\$3.7936								
54	Feb-20	\$3.7798								
55	Mar-20	\$3.7297								
56	Apr-20	\$3.4253								
57	May-20	\$3.3527								
58	Jun-20	\$3.3627								
59	Jul-20	\$3.3708								
60	Aug-20	\$3.4915								
61	Sep-20	\$3.4915								
62	Oct-20	\$3.4915								
63										
64	Sub-Total									
65										
66										
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CENTRA GAS MANITOBA INC.

Fixed Rate Primary Gas Service

**Billed Rates for Offer to Commence Marketing on August 10, 2015
For Gas Flow Effective November 1, 2015**

**PUB/Centra I - 144
Attachment - Page 4 of 60**

		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$3.08	\$3.20
4				\$3.36
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.1164	\$0.1210
6				\$0.1270
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0093	\$0.0097
8				\$0.0102
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1571	\$0.1621
				\$0.1686

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
3-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective February 1, 2016

PUB/Centra I - 144
Attachment - Page 6 of 60

		1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e	
1	(based on forward market strip as at October 28, 2015)										
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	Feb-16	\$2 5445									
4	Mar-16	\$2 5197									
5	Apr-16	\$2 4497									
6	May-16	\$2 4348									
7	Jun-16	\$2 4386									
8	Jul-16	\$2 4592									
9	Aug-16	\$2 4792									
10	Sep-16	\$2 4927									
11	Oct-16	\$2 5293									
12	Nov-16	\$2 6794									
13	Dec-16	\$2 8397									
14	Jan-17	\$2 9543									
15	Feb-17	\$2 9600									
16	Mar-17	\$2 9312									
17	Apr-17	\$2 6952									
18	May-17	\$2 6689									
19	Jun-17	\$2 7122									
20	Jul-17	\$2 7378									
21	Aug-17	\$2 7503									
22	Sep-17	\$2 7657									
23	Oct-17	\$2 7992									
24	Nov-17	\$2 9907									
25	Dec-17	\$3 1244									
26	Jan-18	\$3 2205									
27	Feb-18	\$3 1944									
28	Mar-18	\$3 1126									
29	Apr-18	\$2 8433									
30	May-18	\$2 7730									
31	Jun-18	\$2 7777									
32	Jul-18	\$2 7985									
33	Aug-18	\$2 8043									
34	Sep-18	\$2 8350									
35	Oct-18	\$2 8537									
36	Nov-18	\$3 0597									
37	Dec-18	\$3 2176									
38	Jan-19	\$3 3480									
39											
40	Sub-Total										
41				36-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$3.01		36-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.81		36-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.04
42											
43				36-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)			\$3.02				

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
1-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective February 1, 2016

PUB/Centra I - 144
Attachment - Page 7 of 60

		1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e	
1	(based on forward market strip as at October 28, 2015)										
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	Feb-16										
4	Mar-16										
5	Apr-16										
6	May-16										
7	Jun-16										
8	Jul-16										
9	Aug-16										
10	Sep-16										
11	Oct-16										
12	Nov-16										
13	Dec-16										
14	Jan-17										
15											
16	Sub-Total										

CENTRA GAS MANITOBA INC.

Fixed Rate Primary Gas Service

**Billed Rates for Offer to Commence Marketing on November 9, 2015
For Gas Flow Effective February 1, 2016**

**PUB/Centra I - 144
Attachment - Page 8 of 60**

		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.80	\$3.02
4				\$3.17
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.1058	\$0.1142
6				\$0.1198
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0085	\$0.0091
8				\$0.0096
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1457	\$0.1547
				\$0.1608

1 (based on forward market strip as at January 26, 2016)

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
3-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective May 1, 2016

PUB/Centra I - 144
Attachment - Page 10 of 60

		1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e	
1	(based on forward market strip as at January 26, 2016)										
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	May-16	\$2.1291									
4	Jun-16	\$2.1393									
5	Jul-16	\$2.1568									
6	Aug-16	\$2.1756									
7	Sep-16	\$2.2077									
8	Oct-16	\$2.2703									
9	Nov-16	\$2.4609									
10	Dec-16	\$2.6613									
11	Jan-17	\$2.7564									
12	Feb-17	\$2.7516									
13	Mar-17	\$2.6879									
14	Apr-17	\$2.5086									
15	May-17	\$2.5009									
16	Jun-17	\$2.5337									
17	Jul-17	\$2.5625									
18	Aug-17	\$2.5741									
19	Sep-17	\$2.5944									
20	Oct-17	\$2.6285									
21	Nov-17	\$2.8238									
22	Dec-17	\$2.9539									
23	Jan-18	\$3.0527									
24	Feb-18	\$3.0362									
25	Mar-18	\$2.9626									
26	Apr-18	\$2.7429									
27	May-18	\$2.6708									
28	Jun-18	\$2.6784									
29	Jul-18	\$2.7089									
30	Aug-18	\$2.7177									
31	Sep-18	\$2.7527									
32	Oct-18	\$2.7739									
33	Nov-18	\$3.0497									
34	Dec-18	\$3.2000									
35	Jan-19	\$3.3371									
36	Feb-19	\$3.3239									
37	Mar-19	\$3.2547									
38	Apr-19	\$2.9835									
39											
40	Sub-Total										
41				36-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.95		36-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.64		36-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.04
42											
43	36-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)							\$2.94			

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CENTRA GAS MANITOBA INC.

Fixed Rate Primary Gas Service

**Billed Rates for Offer to Commence Marketing on February 8, 2016
For Gas Flow Effective May 1, 2016**

PUB/Centra I - 144

Attachment - Page 12 of 60

		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.66	\$2.94
4				\$3.16
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.1005	\$0.1111
6				\$0.1194
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0080	\$0.0089
8				\$0.0096
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1399	\$0.1514
				\$0.1604

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
3-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective August 1, 2016

PUB/Centra I - 144
Attachment - Page 14 of 60

1 (based on forward market strip as at May 3, 2016)											
			1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	Aug-16	\$1.6489									
4	Sep-16	\$1.7778									
5	Oct-16	\$1.9459									
6	Nov-16	\$2.2406									
7	Dec-16	\$2.5546									
8	Jan-17	\$2.6208									
9	Feb-17	\$2.6200									
10	Mar-17	\$2.5782									
11	Apr-17	\$2.4038									
12	May-17	\$2.3844									
13	Jun-17	\$2.3787									
14	Jul-17	\$2.3623									
15	Aug-17	\$2.4374									
16	Sep-17	\$2.4607									
17	Oct-17	\$2.6333									
18	Nov-17	\$2.7867									
19	Dec-17	\$2.9105									
20	Jan-18	\$3.0102									
21	Feb-18	\$2.9906									
22	Mar-18	\$2.9132									
23	Apr-18	\$2.6179									
24	May-18	\$2.5297									
25	Jun-18	\$2.5347									
26	Jul-18	\$2.5703									
27	Aug-18	\$2.5717									
28	Sep-18	\$2.6097									
29	Oct-18	\$2.6448									
30	Nov-18	\$2.8999									
31	Dec-18	\$3.0071									
32	Jan-19	\$3.1330									
33	Feb-19	\$3.1193									
34	Mar-19	\$3.0479									
35	Apr-19	\$2.7440									
36	May-19	\$2.6775									
37	Jun-19	\$2.6717									
38	Jul-19	\$2.6726									
39											
40	Sub-Total										
41											
42											
43	36-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)										
				36-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.84		36-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.41		36-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.04

36-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.84
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36-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.41
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36-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.04
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\$2.80

CENTRA GAS MANITOBA INC.

Fixed Rate Primary Gas Service

Billed Rates for Offer to Commence Marketing on May 16, 2016

For Gas Flow Effective August 1, 2016

PUB/Centra I - 144

Attachment - Page 16 of 60

		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.49	\$2.80
4				\$2.98
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.0941	\$0.1058
6				\$0.1126
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0075	\$0.0085
8				\$0.0090
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1330	\$0.1457
				\$0.1530

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
5-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective November 1, 2016

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1 (based on forward market strip as at July 25, 2016)											
		1a+2a	1d	1a+1c	1a	1d	1a+1c	1d	1d	1a+1c	
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Emphasis (\$/GJ)	Primary Gas Direct to Load (GJ/s)	Primary Gas Direct to Load (\$/s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ/s)	Primary Gas Storage Requirement to Load (\$/s)	Primary Gas Direct to Load (GJ/s)	TCPL Compressor Fuel Volumes (GJ/s)	TCPL Compressor Fuel Costs (\$/s)
3	Nov-16	\$2.6111									
4	Dec-16	\$2.9289									
5	Jan-17	\$3.0324									
6	Feb-17	\$3.0183									
7	Mar-17	\$2.9851									
8	Apr-17	\$2.8911									
9	May-17	\$2.6955									
10	Jun-17	\$2.6461									
11	Jul-17	\$2.6332									
12	Aug-17	\$2.6652									
13	Sep-17	\$2.7039									
14	Oct-17	\$2.8139									
15	Nov-17	\$3.0362									
16	Dec-17	\$3.1842									
17	Jan-18	\$3.2746									
18	Feb-18	\$3.2408									
19	Mar-18	\$3.1447									
20	Apr-18	\$2.7134									
21	May-18	\$2.5886									
22	Jun-18	\$2.5663									
23	Jul-18	\$2.6176									
24	Aug-18	\$2.6189									
25	Sep-18	\$2.6521									
26	Oct-18	\$2.6716									
27	Nov-18	\$2.9516									
28	Dec-18	\$3.0663									
29	Jan-19	\$3.2091									
30	Feb-19	\$3.1788									
31	Mar-19	\$3.1008									
32	Apr-19	\$2.7834									
33	May-19	\$2.7007									
34	Jun-19	\$2.6809									
35	Jul-19	\$2.6823									
36	Aug-19	\$2.6918									
37	Sep-19	\$2.7330									
38	Oct-19	\$2.7361									
39	Nov-19	\$2.9805									
40	Dec-19	\$3.1365									
41	Jan-20	\$3.2135									
42	Feb-20	\$3.1950									
43	Mar-20	\$3.1446									
44	Apr-20	\$2.8153									
45	May-20	\$2.7222									
46	Jun-20	\$2.7335									
47	Jul-20	\$2.7449									
48	Aug-20	\$2.7328									
49	Sep-20	\$2.8389									
50	Oct-20	\$2.8446									
51	Nov-20	\$3.0699									
52	Dec-20	\$3.2185									
53	Jan-21	\$3.3238									
54	Feb-21	\$3.3016									
55	Mar-21	\$3.2575									
56	Apr-21	\$2.9804									
57	May-21	\$2.9023									
58	Jun-21	\$2.8680									
59	Jul-21	\$2.9309									
60	Aug-21	\$2.9178									
61	Sep-21	\$3.0313									
62	Oct-21	\$3.0374									
63											
64	Sub-Total										
65				60-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$3.13					60-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.05
66											
67	60-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)							\$3.10			

	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
2	Month									
3	Nov-16	\$2.6111								
4	Dec-16	\$2.9288								
5	Jan-17	\$3.0324								
6	Feb-17	\$3.0183								
7	Mar-17	\$2.9651								
8	Apr-17	\$2.6911								
9	May-17	\$2.6555								
10	Jun-17	\$2.6481								
11	Jul-17	\$2.6332								
12	Aug-17	\$2.6952								
13	Sep-17	\$2.7039								
14	Oct-17	\$2.8139								
15										
16	Sub-Total									
17			12-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.99		12-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.20		12-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.04
18										
19			12-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)				\$2.89			

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
Billed Rates for Offer to Commence Marketing on August 8, 2016
For Gas Flow Effective November 1, 2016

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		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.89	\$3.03
4				\$3.10
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.1092	\$0.1145
6				\$0.1172
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0087	\$0.0092
8				\$0.0094
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1493	\$0.1551
				\$0.1580

[illegible]

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
Billed Rates for Offer to Commence Marketing on November 7, 2016
For Gas Flow Effective February 1, 2017

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		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.98	\$2.98
4				\$3.00
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.1126	\$0.1126
6				\$0.1134
7	Self-Insurance Risk Premium - 8% (As approved in Order 85/13)	\$/m ³	\$0.0090	\$0.0090
8				\$0.0091
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1530	\$0.1530
			\$0.1530	\$0.1539

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
5-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective May 1, 2017

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1	(based on forward market strip as at February 1, 2017)										
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empresa (\$/GJ)	Primary Gas Direct to Load (GJ/s)	Primary Gas Direct to Load (\$/s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ/s)	Primary Gas Storage Requirement to Load (\$/s)	Primary Gas Direct to Load (GJ/s)	TCPL Compressor Fuel Volumes (GJ/s)	TCPL Compressor Fuel Costs (\$/s)
3	May-17	\$2.5308									
4	Jun-17	\$2.5347									
5	Jul-17	\$2.5410									
6	Aug-17	\$2.5726									
7	Sep-17	\$2.5788									
8	Oct-17	\$2.6341									
9	Nov-17	\$2.9151									
10	Dec-17	\$3.0458									
11	Jan-18	\$3.1351									
12	Feb-18	\$3.1038									
13	Mar-18	\$3.0067									
14	Apr-18	\$2.4252									
15	May-18	\$2.3421									
16	Jun-18	\$2.3407									
17	Jul-18	\$2.3521									
18	Aug-18	\$2.3470									
19	Sep-18	\$2.3579									
20	Oct-18	\$2.3613									
21	Nov-18	\$2.5571									
22	Dec-18	\$2.6841									
23	Jan-19	\$2.8128									
24	Feb-19	\$2.7820									
25	Mar-19	\$2.7073									
26	Apr-19	\$2.3006									
27	May-19	\$2.1833									
28	Jun-19	\$2.1910									
29	Jul-19	\$2.1679									
30	Aug-19	\$2.1863									
31	Sep-19	\$2.2370									
32	Oct-19	\$2.2480									
33	Nov-19	\$2.3971									
34	Dec-19	\$2.5577									
35	Jan-20	\$2.6676									
36	Feb-20	\$2.6548									
37	Mar-20	\$2.6074									
38	Apr-20	\$2.2511									
39	May-20	\$2.1644									
40	Jun-20	\$2.1882									
41	Jul-20	\$2.1901									
42	Aug-20	\$2.1864									
43	Sep-20	\$2.2957									
44	Oct-20	\$2.2975									
45	Nov-20	\$2.4718									
46	Dec-20	\$2.5693									
47	Jan-21	\$2.7085									
48	Feb-21	\$2.6681									
49	Mar-21	\$2.6321									
50	Apr-21	\$2.2883									
51	May-21	\$2.1797									
52	Jun-21	\$2.1943									
53	Jul-21	\$2.1967									
54	Aug-21	\$2.1837									
55	Sep-21	\$2.2759									
56	Oct-21	\$2.2879									
57	Nov-21	\$2.4190									
58	Dec-21	\$2.5680									
59	Jan-22	\$2.6772									
60	Feb-22	\$2.6477									
61	Mar-22	\$2.5829									
62	Apr-22	\$2.2256									
63											
64	Sub-Total										
65				60-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.78					60-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.04
66											
67	60-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)							\$2.78			

1 (based on forward market strip as at February 1, 2017)

1 (based on forward market strip as at February 1, 2017)

	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
2	Month									
3	May-17	\$2.5309								
4	Jun-17	\$2.5347								
5	Jul-17	\$2.5410								
6	Aug-17	\$2.5726								
7	Sep-17	\$2.5768								
8	Oct-17	\$2.6341								
9	Nov-17	\$2.9151								
10	Dec-17	\$3.0458								
11	Jan-18	\$3.1351								
12	Feb-18	\$3.1038								
13	Mar-18	\$3.0097								
14	Apr-18	\$2.4252								
15										
16	Sub-Total									
17			12-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$3.09		12-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.74		12-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.04
18										
19			12-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)				\$3.06			

CENTRA GAS MANITOBA INC.

Fixed Rate Primary Gas Service

**Billed Rates for Offer to Commence Marketing on February 13, 2017
For Gas Flow Effective May 1, 2017**

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		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$3.06	\$2.85
4				\$2.78
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.1157	\$0.1077
6				\$0.1051
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0093	\$0.0086
8				\$0.0084
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1564	\$0.1477
				\$0.1449

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
5-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective August 1, 2017

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1 (based on forward market strip as at April 26, 2017)												
		1a+2b	1d	1a+1b	1d	1a+1b	1d	1a+1b	1d	1a+1b		
	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Entrance (\$/GJ)	Primary Gas Direct to Load (\$/GJ)	Primary Gas Direct to Load (\$/GJ)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (\$/GJ)	Primary Gas Storage Requirement to Load (\$/GJ)	Primary Gas Direct to Load (\$/GJ)	TCPL Compressor Fuel Volume (\$/GJ)	TCPL Compressor Fuel Cost (\$/GJ)	
2	Aug-17	\$2.7702										
3	Sep-17	\$2.7758										
4	Oct-17	\$2.8395										
5	Nov-17	\$2.9568										
6	Dec-17	\$3.1033										
7	Jan-18	\$3.1739										
8	Feb-18	\$3.2085										
9	Mar-18	\$3.1045										
10	Apr-18	\$2.4819										
11	May-18	\$2.3889										
12	Jun-18	\$2.4136										
13	Jul-18	\$2.4339										
14	Aug-18	\$2.4389										
15	Sep-18	\$2.4228										
16	Oct-18	\$2.4551										
17	Nov-18	\$2.6034										
18	Dec-18	\$2.7781										
19	Jan-19	\$2.8432										
20	Feb-19	\$2.8041										
21	Mar-19	\$2.6833										
22	Apr-19	\$2.2231										
23	May-19	\$2.1553										
24	Jun-19	\$2.1834										
25	Jul-19	\$2.2115										
26	Aug-19	\$2.2307										
27	Sep-19	\$2.2587										
28	Oct-19	\$2.3019										
29	Nov-19	\$2.4882										
30	Dec-19	\$2.7147										
31	Jan-20	\$2.7772										
32	Feb-20	\$2.7570										
33	Mar-20	\$2.7025										
34	Apr-20	\$2.2750										
35	May-20	\$2.2505										
36	Jun-20	\$2.2847										
37	Jul-20	\$2.3151										
38	Aug-20	\$2.3454										
39	Sep-20	\$2.3758										
40	Oct-20	\$2.4187										
41	Nov-20	\$2.6031										
42	Dec-20	\$2.7402										
43	Jan-21	\$2.8739										
44	Feb-21	\$2.8745										
45	Mar-21	\$2.7945										
46	Apr-21	\$2.3685										
47	May-21	\$2.3513										
48	Jun-21	\$2.3702										
49	Jul-21	\$2.4003										
50	Aug-21	\$2.4304										
51	Sep-21	\$2.4605										
52	Oct-21	\$2.5083										
53	Nov-21	\$2.6113										
54	Dec-21	\$2.7725										
55	Jan-22	\$2.8823										
56	Feb-22	\$2.8580										
57	Mar-22	\$2.8083										
58	Apr-22	\$2.4201										
59	May-22	\$2.4015										
60	Jun-22	\$2.4208										
61	Jul-22	\$2.4516										
62												
63												
64	Sub-Total											
				60-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.88			60-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.67		60-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.04
65												
66												
67	60-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)								\$2.88			

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
3-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective August 1, 2017

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		1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e	
1	(based on forward market strip as at April 26, 2017)										
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Emprss (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	Aug-17	\$2.7702									
4	Sep-17	\$2.7758									
5	Oct-17	\$2.8365									
6	Nov-17	\$2.9568									
7	Dec-17	\$3.1033									
8	Jan-18	\$3.1739									
9	Feb-18	\$3.2095									
10	Mar-18	\$3.1045									
11	Apr-18	\$2.4619									
12	May-18	\$2.3869									
13	Jun-18	\$2.4136									
14	Jul-18	\$2.4339									
15	Aug-18	\$2.4369									
16	Sep-18	\$2.4228									
17	Oct-18	\$2.4551									
18	Nov-18	\$2.6034									
19	Dec-18	\$2.7781									
20	Jan-19	\$2.8432									
21	Feb-19	\$2.8041									
22	Mar-19	\$2.6933									
23	Apr-19	\$2.2231									
24	May-19	\$2.1553									
25	Jun-19	\$2.1834									
26	Jul-19	\$2.2115									
27	Aug-19	\$2.2307									
28	Sep-19	\$2.2587									
29	Oct-19	\$2.3019									
30	Nov-19	\$2.4882									
31	Dec-19	\$2.7147									
32	Jan-20	\$2.7772									
33	Feb-20	\$2.7570									
34	Mar-20	\$2.7025									
35	Apr-20	\$2.2750									
36	May-20	\$2.2505									
37	Jun-20	\$2.2847									
38	Jul-20	\$2.3151									
39											
40	Sub-Total										
41											
42											
43	36-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)										

36-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.89
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36-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.71
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36-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.04
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\$2.90

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
Billed Rates for Offer to Commence Marketing on May 9, 2017
For Gas Flow Effective August 1, 2017

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		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$3.13	\$2.90
4				\$2.88
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.1183	\$0.1096
6				\$0.1089
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0095	\$0.0088
8				\$0.0087
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1592	\$0.1498
				\$0.1490

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
5-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective November 1, 2017

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1	(based on forward market strip as at July 26, 2017)										
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Emphas (\$/GJ)	Primary Gas Direct to Load (GJ/s)	Primary Gas Direct to Load (\$/s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ/s)	Primary Gas Storage Requirement to Load (\$/s)	Primary Gas Direct to Load (GJ/s)	TCPL Compressor Fuel Volumes (GJ/s)	TCPL Compressor Fuel Costs (\$/s)
3	Nov-17	\$2.3811									
4	Dec-17	\$2.5240									
5	Jan-18	\$2.5821									
6	Feb-18	\$2.5840									
7	Mar-18	\$2.5338									
8	Apr-18	\$2.2025									
9	May-18	\$2.2051									
10	Jun-18	\$2.2037									
11	Jul-18	\$2.2242									
12	Aug-18	\$2.2210									
13	Sep-18	\$2.2105									
14	Oct-18	\$2.2488									
15	Nov-18	\$2.3878									
16	Dec-18	\$2.5157									
17	Jan-19	\$2.5664									
18	Feb-19	\$2.5759									
19	Mar-19	\$2.4821									
20	Apr-19	\$2.0480									
21	May-19	\$1.9988									
22	Jun-19	\$2.0174									
23	Jul-19	\$2.0337									
24	Aug-19	\$2.0478									
25	Sep-19	\$2.0572									
26	Oct-19	\$2.1174									
27	Nov-19	\$2.2585									
28	Dec-19	\$2.4639									
29	Jan-20	\$2.4786									
30	Feb-20	\$2.4637									
31	Mar-20	\$2.4099									
32	Apr-20	\$2.0168									
33	May-20	\$1.9805									
34	Jun-20	\$2.0159									
35	Jul-20	\$2.0359									
36	Aug-20	\$2.0808									
37	Sep-20	\$2.0847									
38	Oct-20	\$2.1285									
39	Nov-20	\$2.2622									
40	Dec-20	\$2.3974									
41	Jan-21	\$2.4841									
42	Feb-21	\$2.5084									
43	Mar-21	\$2.4278									
44	Apr-21	\$2.0122									
45	May-21	\$1.9820									
46	Jun-21	\$2.0080									
47	Jul-21	\$2.0315									
48	Aug-21	\$2.0575									
49	Sep-21	\$2.0863									
50	Oct-21	\$2.1270									
51	Nov-21	\$2.2373									
52	Dec-21	\$2.3837									
53	Jan-22	\$2.5229									
54	Feb-22	\$2.5051									
55	Mar-22	\$2.4814									
56	Apr-22	\$2.0308									
57	May-22	\$2.0223									
58	Jun-22	\$2.0334									
59	Jul-22	\$2.0717									
60	Aug-22	\$2.0882									
61	Sep-22	\$2.1308									
62	Oct-22	\$2.1891									
63											
64	Sub-Total										
65											
66											
67	60-Month FRPOS Weighted Average Cost of Gas Including Fuel (\$/GJ)										
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69											
70											
71											
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98											
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100											

60-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.54
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60-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.41
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60-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.03
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\$2.56

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
3-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective November 1, 2017

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		1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e	
1	(based on forward market strip as at July 26, 2017)										
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	Nov-17	\$2.3811									
4	Dec-17	\$2.5240									
5	Jan-18	\$2.5821									
6	Feb-18	\$2.5840									
7	Mar-18	\$2.5338									
8	Apr-18	\$2.2025									
9	May-18	\$2.2051									
10	Jun-18	\$2.2037									
11	Jul-18	\$2.2242									
12	Aug-18	\$2.2210									
13	Sep-18	\$2.2105									
14	Oct-18	\$2.2486									
15	Nov-18	\$2.3878									
16	Dec-18	\$2.5157									
17	Jan-19	\$2.5964									
18	Feb-19	\$2.5759									
19	Mar-19	\$2.4921									
20	Apr-19	\$2.0480									
21	May-19	\$1.9998									
22	Jun-19	\$2.0174									
23	Jul-19	\$2.0337									
24	Aug-19	\$2.0478									
25	Sep-19	\$2.0572									
26	Oct-19	\$2.1174									
27	Nov-19	\$2.2585									
28	Dec-19	\$2.4639									
29	Jan-20	\$2.4786									
30	Feb-20	\$2.4637									
31	Mar-20	\$2.4099									
32	Apr-20	\$2.0166									
33	May-20	\$1.9805									
34	Jun-20	\$2.0159									
35	Jul-20	\$2.0359									
36	Aug-20	\$2.0606									
37	Sep-20	\$2.0947									
38	Oct-20	\$2.1265									
39											
40	Sub-Total										
41				36-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.56		36-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.47		36-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.03
42											
43	36-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)						\$2.58				

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
1-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective November 1, 2017

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			1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e
1	(based on forward market strip as at July 26, 2017)										
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	Nov-17	\$2.3811									
4	Dec-17	\$2.5240									
5	Jan-18	\$2.5821									
6	Feb-18	\$2.5840									
7	Mar-18	\$2.5338									
8	Apr-18	\$2.2025									
9	May-18	\$2.2051									
10	Jun-18	\$2.2037									
11	Jul-18	\$2.2242									
12	Aug-18	\$2.2210									
13	Sep-18	\$2.2105									
14	Oct-18	\$2.2486									
15											
16	Sub-Total										
17				12-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.62		12-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.59		12-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.03
18											
19	12-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)							\$2.65			

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
Billed Rates for Offer to Commence Marketing on August 8, 2017
For Gas Flow Effective November 1, 2017

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		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.65	\$2.58
4				\$2.55
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.1002	\$0.0975
6				\$0.0964
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0080	\$0.0078
8				\$0.0077
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1396	\$0.1367
				\$0.1355

	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas In Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
Month										
Feb-18	\$2 3526									
Mar-18	\$2 2669									
Apr-18	\$2 0197									
May-18	\$1 9330									
Jun-18	\$1 8937									
Jul-18	\$1 9103									
Aug-18	\$1 9099									
Sep-18	\$1 9071									
Oct-18	\$2 0512									
Nov-18	\$2 3790									
Dec-18	\$2 5350									
Jan-19	\$2 5908									
Feb-19	\$2 5533									
Mar-19	\$2 4661									
Apr-19	\$2 1231									
May-19	\$2 0045									
Jun-19	\$2 0247									
Jul-19	\$2 0176									
Aug-19	\$2 0160									
Sep-19	\$2 0254									
Oct-19	\$2 0966									
Nov-19	\$2 3022									
Dec-19	\$2 5248									
Jan-20	\$2 6227									
Feb-20	\$2 6055									
Mar-20	\$2 5690									
Apr-20	\$2 0792									
May-20	\$2 0295									
Jun-20	\$2 0614									
Jul-20	\$2 0728									
Aug-20	\$2 0871									
Sep-20	\$2 1263									
Oct-20	\$2 1546									
Nov-20	\$2 4152									
Dec-20	\$2 5571									
Jan-21	\$2 6597									
Sub-Total										
			36-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.57		36-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$2.31		36-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.03
36-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)							\$2.55			

CENTRA GAS MANITOBA INC.

Fixed Rate Primary Gas Service

**Billed Rates for Offer to Commence Marketing on November 13, 2017
For Gas Flow Effective February 1, 2018**

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		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.51	\$2.55
4				\$2.60
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.0949	\$0.0964
6				\$0.0983
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0076	\$0.0077
8				\$0.0079
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1339	\$0.1355
				\$0.1376

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
3-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective May 1, 2018

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For Gas Flow Effective May 1, 2018											
		1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e	
1	(based on forward market strip as at January 31, 2018)										
2	Month	AECO Futures Price (\$/GJ)	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	May-18	\$1.0277									
4	Jun-18	\$1.1315									
5	Jul-18	\$1.1578									
6	Aug-18	\$1.2132									
7	Sep-18	\$1.2605									
8	Oct-18	\$1.3513									
9	Nov-18	\$1.8284									
10	Dec-18	\$1.9648									
11	Jan-19	\$2.0437									
12	Feb-19	\$1.9863									
13	Mar-19	\$1.8316									
14	Apr-19	\$1.2748									
15	May-19	\$1.2722									
16	Jun-19	\$1.2313									
17	Jul-19	\$1.3028									
18	Aug-19	\$1.2411									
19	Sep-19	\$1.2836									
20	Oct-19	\$1.2329									
21	Nov-19	\$1.6502									
22	Dec-19	\$1.7851									
23	Jan-20	\$1.8460									
24	Feb-20	\$1.8370									
25	Mar-20	\$1.7863									
26	Apr-20	\$1.3220									
27	May-20	\$1.2894									
28	Jun-20	\$1.3245									
29	Jul-20	\$1.3375									
30	Aug-20	\$1.3419									
31	Sep-20	\$1.3746									
32	Oct-20	\$1.4073									
33	Nov-20	\$1.8572									
34	Dec-20	\$1.9954									
35	Jan-21	\$2.0931									
36	Feb-21	\$2.1100									
37	Mar-21	\$2.0486									
38	Apr-21	\$1.5731									
39											
40	Sub-Total										
41				36-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$1.99		36-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$1.58		36-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.03
42											
43	36-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)							\$1.94			

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
Billed Rates for Offer to Commence Marketing on February 12, 2018
For Gas Flow Effective May 1, 2018

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Attachment - Page 44 of 60

		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.00	\$1.94
4				
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.0756	\$0.0733
6				
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0060	\$0.0059
8				
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1130	\$0.1106
				\$0.1147

1 (based on forward market strip as at May 1, 2018)

	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
2	Month								
3	Aug-18								
4	Sep-18								
5	Oct-18								
6	Nov-18								
7	Dec-18								
8	Jan-19								
9	Feb-19								
10	Mar-19								
11	Apr-19								
12	May-19								
13	Jun-19								
14	Jul-19								
15	Aug-19								
16	Sep-19								
17	Oct-19								
18	Nov-19								
19	Dec-19								
20	Jan-20								
21	Feb-20								
22	Mar-20								
23	Apr-20								
24	May-20								
25	Jun-20								
26	Jul-20								
27	Aug-20								
28	Sep-20								
29	Oct-20								
30	Nov-20								
31	Dec-20								
32	Jan-21								
33	Feb-21								
34	Mar-21								
35	Apr-21								
36	May-21								
37	Jun-21								
38	Jul-21								
39									
40	Sub-Total								
41									
42									
43									
44									
45									
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	1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e	
1	(based on forward market strip as at May 1, 2018)									
2	Month	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	Aug-18									
4	Sep-18									
5	Oct-18									
6	Nov-18									
7	Dec-18									
8	Jan-19									
9	Feb-19									
10	Mar-19									
11	Apr-19									
12	May-19									
13	Jun-19									
14	Jul-19									
15										
16	Sub-Total									
17										
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CENTRA GAS MANITOBA INC.

Fixed Rate Primary Gas Service

Billed Rates for Offer to Commence Marketing on May 14, 2018

For Gas Flow Effective August 1, 2018

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		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$1.95	\$1.94
4				\$2.11
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.0737	\$0.0733
6				\$0.0798
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0059	\$0.0059
8				\$0.0064
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1110	\$0.1106
				\$0.1176

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
5-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective November 1, 2018

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		1a*2b	1d	1a*1e	1b	1d	1a*1e	1d	1d	1a*1e
1	(based on forward market strip as at August 1, 2018)									
2	Month	Forecast Average Western Can. Supply Price at Emgress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	Nov-18									
4	Dec-18									
5	Jan-19									
6	Feb-19									
7	Mar-19									
8	Apr-19									
9	May-19									
10	Jun-19									
11	Jul-19									
12	Aug-19									
13	Sep-19									
14	Oct-19									
15	Nov-19									
16	Dec-19									
17	Jan-20									
18	Feb-20									
19	Mar-20									
20	Apr-20									
21	May-20									
22	Jun-20									
23	Jul-20									
24	Aug-20									
25	Sep-20									
26	Oct-20									
27	Nov-20									
28	Dec-20									
29	Jan-21									
30	Feb-21									
31	Mar-21									
32	Apr-21									
33	May-21									
34	Jun-21									
35	Jul-21									
36	Aug-21									
37	Sep-21									
38	Oct-21									
39	Nov-21									
40	Dec-21									
41	Jan-22									
42	Feb-22									
43	Mar-22									
44	Apr-22									
45	May-22									
46	Jun-22									
47	Jul-22									
48	Aug-22									
49	Sep-22									
50	Oct-22									
51	Nov-22									
52	Dec-22									
53	Jan-23									
54	Feb-23									
55	Mar-23									
56	Apr-23									
57	May-23									
58	Jun-23									
59	Jul-23									
60	Aug-23									
61	Sep-23									
62	Oct-23									
63										
64	Sub-Total									
65			60-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.03		60-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$1.89		60-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.03
66										
67			60-Month FRPOS Weighted Average Cost of Gas Including Fuel (\$/GJ)							
							\$1.99			

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
3-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective November 1, 2018

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	1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e
1	(based on forward market strip as at August 1, 2018)								
	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
2	Month								
3	Nov-18								
4	Dec-18								
5	Jan-19								
6	Feb-19								
7	Mar-19								
8	Apr-19								
9	May-19								
10	Jun-19								
11	Jul-19								
12	Aug-19								
13	Sep-19								
14	Oct-19								
15	Nov-19								
16	Dec-19								
17	Jan-20								
18	Feb-20								
19	Mar-20								
20	Apr-20								
21	May-20								
22	Jun-20								
23	Jul-20								
24	Aug-20								
25	Sep-20								
26	Oct-20								
27	Nov-20								
28	Dec-20								
29	Jan-21								
30	Feb-21								
31	Mar-21								
32	Apr-21								
33	May-21								
34	Jun-21								
35	Jul-21								
36	Aug-21								
37	Sep-21								
38	Oct-21								
39									
40	Sub-Total								
41		36-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.00		36-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$1.64		36-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.03
42									
43		36-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)				\$1.96			

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
1-Year Fixed Rate
Primary Gas Weighted Average Costs & TCPL Compressor Fuel Costs
For Gas Flow Effective November 1, 2018

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		1a+2b	1d	1a+1e	1a	1d	1a+1e	1d	1d	1a+1e
1	(based on forward market strip as at August 1, 2018)									
2	Month	Forecast Average Western Cdn. Supply Price at Empress (\$/GJ)	Primary Gas Direct to Load (GJ's)	Primary Gas Direct to Load (\$'s)	Forecast Primary Gas in Storage Unit Cost (\$/GJ)	Primary Gas Storage Requirement to Load (GJ's)	Primary Gas Storage Requirement to Load (\$'s)	Primary Gas Direct to Load (GJ's)	TCPL Compressor Fuel Volumes (GJ's)	TCPL Compressor Fuel Costs (\$'s)
3	Nov-18									
4	Dec-18									
5	Jan-19									
6	Feb-19									
7	Mar-19									
8	Apr-19									
9	May-19									
10	Jun-19									
11	Jul-19									
12	Aug-19									
13	Sep-19									
14	Oct-19									
15										
16	Sub-Total									
17			12-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.05		12-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$1.59		12-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.03
18										
19	12-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)					\$1.99				

CENTRA GAS MANITOBA INC.

Fixed Rate Primary Gas Service

**Billed Rates for Offer to Commence Marketing on August 15, 2018
For Gas Flow Effective November 1, 2018**

PUB/Centra I - 144

Attachment - Page 52 of 60

		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$1.99	\$1.96
4				\$1.99
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.0752	\$0.0741
6				\$0.0752
7	Self-Insurance Risk Premium - 8% (As approved In Order 85/13)	\$/m ³	\$0.0060	\$0.0059
8				\$0.0060
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1126	\$0.1114
				\$0.1126

64	Sub-Total						
		60-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.28	60-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$1.88	60-Month Weighted Average TCPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.93
65							
66							
67	60-Month FRPGS Weighted Average Cost of Gas Including Fuel (\$/GJ)			\$2.23			

[illegible]

CENTRA GAS MANITOBA INC.

Fixed Rate Primary Gas Service

**Billed Rates for Offer to Commence Marketing on November 12, 2018
For Gas Flow Effective February 1, 2019**

**PUB/Centra I - 144
Attachment - Page 56 of 60**

		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.34	\$2.22
4				\$2.23
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.0885	\$0.0839
6				\$0.0843
7	Self-Insurance Risk Premium - 8% (As approved in Order 85/13)	\$/m ³	\$0.0071	\$0.0067
8				\$0.0067
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1270	\$0.1220
				\$0.1224

64	Sub-Total								
		60-Month Weighted Average Primary Gas Direct to Load Cost (\$/GJ)	\$2.24	60-Month Weighted Average Primary Gas Storage Requirement to Load (\$/GJ)	\$1.94			60-Month Weighted Average TOPL Compressor Fuel Cost per Unit of Primary Gas Direct to Load Supply (\$/GJ)	\$0.93
65									
66									
67	60-Month FRPOS Weighted Average Cost of Gas Including Fuel (\$/GJ)			\$2.21					

[illegible]

CENTRA GAS MANITOBA INC.
Fixed Rate Primary Gas Service
Billed Rates for Offer to Commence Marketing on February 11, 2019
For Gas Flow Effective May 1, 2019

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Attachment - Page 60 of 60

		<u>1-Year Fixed</u>	<u>3-Year Fixed</u>	<u>5-Year Fixed</u>
1				
2				
3	Weighted Average Cost of Gas Including Fuel	\$/GJ	\$2.46	\$2.25
4				\$2.21
5	Weighted Average Cost of Gas Including Fuel (units converted at 37.8 GJ/10 ³ m ³)	\$/m ³	\$0.0930	\$0.0851
6				\$0.0835
7	Self-Insurance Risk Premium - 8% (As approved in Order 85/13)	\$/m ³	\$0.0074	\$0.0068
8				\$0.0067
9	Program Cost Rate (As approved in Order 89/13)	\$/m ³	\$0.0314	\$0.0314
10				\$0.0314
11	Fixed Rate Primary Gas Service Billed Rate	\$/m³	\$0.1318	\$0.1233
				\$0.1216

REFERENCE:

Tab 12 pgs. 1-2 pf 13

PREAMBLE TO IR (IF ANY):

TransCanada Pipelines Limited ("TCPL") Mainline charges Centra as the downstream operator for any imbalances, whether caused by Centra or T-service customers in Centra's delivery areas. Centra is requesting approval to charge T-service customers for imbalances to incent these customers to balance their load with daily gas nominations.

QUESTION:

- a) Provide a schedule and description of the TCPL Mainline balancing fees imposed on Centra if the deliveries to the MDA or SSDA are not in balance within a specific tolerance.
- b) Explain whether the TCPL Mainline balancing fees or balancing tolerances have been materially revised or amended since 2007. If so, clarify what revisions or amendments were implemented, together with when these changes came into effect.
- c) Provide Centra's proposed balancing fee schedule for T-Service customers.
- d) Explain how Centra determines that its T-Service customers have deliveries that are in an imbalance position on a daily and intradaily basis and how Centra communicates these imbalances to its customers.
- e) Explain how Centra currently attributes the TCPL Mainline balancing charges, which are the result of combined imbalances from all of Centra's customer groups, to imbalances caused by individual customers (or customer groups) and how these charges are currently recovered from T-Service customers.

RATIONALE FOR QUESTION:

RESPONSE:

- a) Please see pages 13 and 14 of Centra's October 2016 presentation filed in response to PUB/Centra I-149 a) for a schedule and description of the TCPL Mainline balancing fees

imposed on Centra for delivery area imbalances, reproduced for ease of reference as an attachment to this response. The benchmark toll referenced in the formulae in this attachment is the prevailing Empress to Kingston Public Utilities Commission Eastern Delivery Area ("KPUC EDA") toll. At the time the presentation was prepared, the Empress to KPUC EDA toll was \$59.66807/GJ/month (daily equivalent of \$1.9617/GJ). The KPUC EDA toll is now \$44.93333/GJ/month (daily equivalent of \$1.4773/GJ), effective February 1, 2019 as approved by the National Energy Board ("NEB"). The term "billed excess" noted in the description of TCPL Mainline balancing fees means any imbalance greater than the tolerance afforded in the applicable Tier, and less than the tolerance afforded in next highest Tier.

- b) Other than routine changes to the benchmark toll as a result of system-wide toll changes on the TCPL Mainline, the only change to balancing fees since 2007 of which Centra is aware came about as a result of TCPL's 2011 Application for Business and Services Restructuring Proposal (the RH-003-2011 proceeding before the NEB). TCPL proposed in that proceeding to eliminate toll zones on the Mainline, which was ultimately approved by the NEB. This had the associated effect of transitioning the benchmark toll for balancing fees in the Mainline Tariff from the Eastern Zone toll to the FT toll from Empress to the KPUC EDA, as that distance of haul does not fluctuate and it closely matched the Eastern Zone load centre.¹ This change came into effect July 1, 2013.
- c) Centra's proposed balancing fee structure is modeled on the TCPL Mainline balancing fee schedule outlined in the response to part a) above with two exceptions, both of which were designed to mitigate the financial impact of imbalances on T-Service customers once the new fee structure comes into effect:
 - i. Centra is proposing to implement its fee structure at 50%² of TCPL's; and
 - ii. Centra has afforded T-Service customers more generous absolute daily and cumulative tolerances than that which TCPL affords Centra. On a simplified basis,

¹ RH-003-2011 Reasons for Decision, PDF page 100 of 276, NEB ID: A51040-1

² The approved KPUC EDA daily equivalent FT toll is currently \$1.4773/GJ, thus Centra's calculation of balancing fees is based on \$0.73865/GJ (i.e., \$1.4773/GJ multiplied by 0.5).

Centra's daily tolerance is 2% while T-Service customers have been afforded daily tolerances of approximately 7%.³

The mechanics and calculation of the proposed balancing fees are provided in an example of the pro-forma monthly reporting that Centra has been providing to T-Service customers and nominating agents for more than two and a half years now, and can be reviewed at Attachment 1 to PUB/Centra I-149 b).

- d) To determine T-Service customer imbalances on a daily and intraday basis, Centra compares T-Service notifications against T-Service customer consumption data. T-Service notifications received from T-Service customers or their nominating agents include the following information:
- Nomination: the total amount of supply being delivered to the MDA;
 - Balancing nomination: the quantity of a previous day's pack that is being used by the customer ("from Centra"); or the quantity of a previous day's draft that is being paid back by the customer ("to Centra"); and
 - Net nomination: the net quantity of supply (i.e. the total of the nomination plus any "from Centra" nomination or minus any "to Centra" nomination) being delivered to the MDA, representing the total customer facility requirement.

Centra tracks the daily position of each customer, calculated as net nomination less actual consumption. If the T-Service notification provided by the T-Service customer or nominating agent does not match or closely track the metered consumption data, or does not adequately address a pack or draft from the previous day, Centra staff reach out to the customer or nominating agent by email or telephone, whereby they seek to clarify intent, answer questions, provide guidance if necessary, and request that nomination adjustments be made at the next available nomination window.

Additionally, the following reports are used to communicate imbalances and provide the information necessary to assess the need for nomination adjustments throughout the day:

³ With two exceptions.

- **Daily Position Report** - Provides month-to-date daily nominations, daily consumption and resulting daily imbalances;
- **Hourly Consumption (previous gas day)** - Provides hourly, metered consumption at each customer facility for the previous gas day; and
- **Hourly Consumption (current gas day)** - Provides hourly, metered consumption for customer facilities for the current gas day.

These reports are sent as frequently as requested by T-Service customers and their nominating agents (currently twice daily but Centra can provide hourly consumption reports to T-Service customers and nominating agents as frequently as 24 times per day). Daily position reports provide aggregate daily information that should be assessed in concert with hourly consumption reporting, as well as forecast consumption requirements. This combination of reporting provides real-time data⁴, such that actual consumption can be compared with known and forecast operating conditions (including weather, scheduled facility testing or maintenance, unscheduled facility shut-downs, etc.). The goal of the reporting – under both the current and proposed balancing fee structures – is to facilitate nomination adjustments by T-Service customers or their nominating agents at the various nomination windows throughout the gas day, such that T-Service account imbalances can be minimized.

e) Currently, if all of the following four conditions are met⁵, T-Service customers are assessed a pro-rata portion of the TCPL Mainline's Limited Balancing Agreement (LBA) fees charged to Centra based on their imbalance as a percentage of the overall delivery area imbalance:

- 1) LBA fees are charged to Centra for the entire delivery area;
- 2) customer imbalance is greater than +\ - 2,000 GJ;
- 3) customer imbalance is greater than +\ - 4% (imbalance as a percentage of net nomination); and
- 4) customer imbalance contributed to the overall delivery area imbalance.

⁴ Subject to a short delay to accommodate report generation and transmission.



This approach was based on the premise that T-Service would be used by high load factor customers, with sufficient natural gas consumption to warrant the additional effort required to manage their own upstream gas arrangements, while capturing the savings afforded by foregoing any contribution towards Centra's upstream gas costs.

Balancing fees, if applicable, are itemized and recovered on the customer's next monthly bill. Any LBA fees beyond those which are recoverable from T-Service customers under this current methodology are recovered from Sales Service customers, as are other costs associated with T-Service imbalances.

Mainline Balancing Fee Structure applicable to Centra

4 tiers of Daily balancing fees

Tier 1 Tolerance calculation = greater of 2,111 GJ, or 2% of Nomination less imbalance makeup OR , 2% of the average of the last 30 days of nominations

Tier 1 Daily Fee = $0.2 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) \times Billed Excess

Tier 2 Tolerance calculation = greater of 4,221 GJ, or 4% of Nomination less imbalance makeup OR , 4% of the average of the last 30 days of nominations

Tier 2 Daily Fee = $0.5 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) \times Billed Excess over and above Tier 1

Tier 3 Tolerance calculation = greater of 8,443 GJ, or 8% of Nomination less imbalance makeup OR , 8% of the average of the last 30 days of nominations

Tier 3 Daily Fee = $0.75 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) \times Billed Excess over and above Tier 2

Tier 4 Tolerance calculation = greater of 10,553 GJ, or 10% of Nomination less imbalance makeup OR , 10% of the average of the last 30 days of nominations

Tier 4 Daily Fee = $1.0 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) \times Billed Excess over and above Tier 3

Mainline Balancing Fee Structure applicable to Centra

2 tiers of Cumulative balancing fees

Tier 1 Tolerance calculation = greater of 4,221 GJ, or 4% of Nomination less imbalance makeup OR , 4% of the average of the last 30 days of nominations

Tier 1 Cumulative Fee = $0.15 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) \times Billed Excess

Tier 2 Tolerance calculation = greater of 6,332 GJ, or 6% of Nomination less imbalance makeup OR , 6% of the average of the last 30 days of nominations

Tier 2 Cumulative Fee = $0.25 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) \times Billed Excess over and above Tier 1

REFERENCE:

Tab 12 pgs. 1-6 of 13; 2007/08 Centra GRA Tab 11, Attachment 1 p. 30 of 50; 2011/12 COG PUB/Centra 39

PREAMBLE TO IR (IF ANY):

In 2007, as part of its 2007/08 & 2008/09 General Rate Application, Centra proposed and obtained Board approval for changes to the T Service terms and conditions of service to address the recovery of TCPL Limited Balancing Agreement fees.

In the response to PUB/Centra 39 in the 2011/12 Cost of Gas proceeding, Centra stated that:

“... only the four largest T-Service customers are able to be monitored for the assessment or pass through of any charges from TCPL. The daily nominations of the remaining 13 T-Service customers are relatively small such that the assessment of load balancing charges on an individual basis is very difficult.”

In this 2019/20 GRA, Centra states:

“Centra’s practice has been to recover only its direct costs from the largest volume T-Service customers who periodically drive the utility to incur balancing fees assessed by the TCPL Mainline. [...] The utility’s approach with the smaller volume T-Service customers has been very accommodating to date.”

QUESTION:

- a) Confirm whether Centra currently charges 100% of the TCPL Mainline delivery balancing charges attributed to the “largest volume T-Service customers” to those T-Service customers.
- b) In light of Centra’s previous request to amend the terms and conditions of service to allow recovery of balancing charges from all T-Service customers, explain why Centra has not sought recovery of balancing charges from smaller T-Service customers.
- c) In light of the inability to monitor smaller T-Service customers for imbalances as stated in the 2011/12 Cost of Gas proceeding, explain how Centra now intends to levy balancing fees against all T-Service customers.

RESPONSE:

- a) Not confirmed. Please see the response to PUB/Centra I-145 e) regarding the conditions that must be met under Centra's current cost recovery methodology. However, if those conditions are met 100% of the TCPL Mainline's unit balancing fee is currently applied by Centra.

- b) Centra's systems, business processes and capabilities have evolved over time. As a result, monitoring smaller T-Service customers for imbalances is no longer a constraint. Additionally, market circumstances changed markedly with the introduction of unlimited pricing discretion on the TCPL Mainline in 2013. Prior to this, T-Service customers could readily address the circumstance where they were drafting the MDA by purchasing Interruptible Transportation ("IT") service on the TCPL Mainline. The price of IT service at that time was effectively capped at a 10% premium over the daily equivalent Firm Transportation ("FT") rate. Pricing discretion eliminated this price cap and correspondingly increased the operating challenges for T-Service customers in Manitoba. Perversely, T-Service customers now have a financial incentive to *not* address imbalances, particularly smaller volume customers or their nominating agents,¹ leaving Centra to use Sales Service assets to bring its delivery areas into balance. Since pricing discretion was implemented, T-Service customers or their nominating agents have ignored and even outright refused Centra's direction to address imbalances, in clear contravention of Section V., part D) of Centra's Special Terms and Conditions of T-Service and the executed contracts between the parties. Pricing discretion has also had the effect of increasing the time and effort expended by Centra's staff in trying to ensure that T-Service accounts are balanced.

Comprehensive change to the service was clearly required, which would financially incent T-Service customers to forecast their consumption and balance their accounts on a daily basis, and recover at least some of the costs (including indirect costs)

¹ Under Centra's current cost recovery methodology, smaller volume customers rarely if ever meet condition 2) as described in the response to PUB/Centra I-145 e).

being borne by Sales Service customers. However, Centra's current T-Service cost recovery methodology has been in place for decades, thus any proposed change to it was viewed by T-Service customers as a change in practice. Accordingly, Centra commenced a consultation process with T-Service customers in October of 2016. As part of the dialogue that ensued, a number of T-Service customers shared the view that the PUB should review and vet any proposed changes to T-Service terms and conditions of service. Centra acted on this preference and delayed implementation until the issue could be heard by the PUB as part of a General Rate Application ("GRA"). The first opportunity to file these changes was with Centra's November 30, 2018 GRA filing (Section 12.1).

- c) Centra has been transparent with T-Service customers about how it intends to levy balancing fees going forward, providing detailed pro-forma reporting of the new approach to all T-Service customers and nominating agents from October 2016 to current (April 2019). Attachment 1 to PUB/CENTRA I-149b is an example of this pro-forma reporting.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-147a-f

REFERENCE:

Tab 12 pgs. 1-6 of 13

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) In a format similar to the table below, provide the total balancing charges levied by TCPL, as well as the charges actually passed on to its customers (both Centra's Sales Service customers and T-Service customers), for TCPL Mainline delivery imbalances incurred at the MDA and SSDA since 2015/16. Provide data by fiscal year or gas year, whichever is more readily available.

Year		2015/16	2016/17	2017/18	2018/19 *
Total TCPL Mainline Balancing Charges Incurred by Centra for MDA and SSDA [\$]					
Portion of Total TCPL Mainline Balancing Charges Incurred by Centra that were Passed on to Centra's Customers	Sales Service Customers [\$]				
	T-Service Customer 1 [\$]				
	T-Service Customer 2 [\$]				
	T-Service Customer 3 [\$]				
	Etc..				

* If available

- b) In a format similar to the table above, provide the total balancing charges that would have been passed on to Sales Service customers and each T Service customer if Centra had charged balancing fees based on 50% of the TCPL balance fee structure, as Centra now proposes.
- c) Similar to b) above, provide the total balancing charges that would have been passed on to Sales Service customers and each T-Service customer if Centra had passed on 100% of the balance fees actually levied by TCPL in proportion to the imbalance caused by each T-service customer or Sales Service customer group.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
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- d) Confirm whether T-Service customer delivery imbalances have, at times, offset imbalances caused by Centra's Sales Service customers, resulting in the Centra avoiding incurring balancing fees. If so, estimate the total avoided balancing charges over the past three months.
- e) Confirm whether Centra intends to charge balancing fees to its T-Service customers for daily imbalances even in situations where the MDA and SSDA are in balance and thus TCPL does not levy balancing charges to Centra.
- f) Clarify Centra's rationale for its proposal to apply 50% of the TCPL balancing fee formula to all T-Service customers. For example, why 50% and not some other value? Does this mean that large T-Service customers that are currently charged 100% of the balancing fees will incur lower balancing charges from Centra?

RESPONSE:

- a) The table below provides the total balancing fees levied by TCPL on Centra, as well as the charges Centra passed on to its customers (both Sales Service and T-Service customers) for TCPL Mainline delivery imbalances incurred at the MDA and SSDA since 2015/16.

		Gas Year			
		2015/16	2016/17	2017/18	2018/19 YTD*
TCPL Balancing Charges Incurred by Centra for MDA & SSDA		\$214,739	\$243,856	\$273,504	\$51,708
TCPL Balancing Charges Recovered from T-Service Customers	T-Service Customer A	(\$12,121)	(\$86,816)	(\$73,292)	(\$25,088)
	T-Service Customer B	\$0	(\$705)	(\$446)	(\$262)
	T-Service Customer C	(\$776)	(\$172)	(\$1,471)	(\$1,026)
Net TCPL Balancing Charges Applicable to Sales Service Customers		(\$201,843)	(\$156,163)	(\$198,294)	(\$25,332)

* Year-to-Date ("YTD") for the period of November 2018 thru March 2019.

However, balancing fees are but a small portion of the costs that Centra incurs as a result of T-Service imbalances. Centra is obligated to balance its delivery areas as the designated downstream operator. As a result, Centra is effectively forced to counteract T-Service imbalances and does this by using the assets at its disposal (e.g., storage and related transportation in winter, and Western Canadian supply contract flexibility

throughout the year), the costs of which are recovered solely from Sales Service customers. Centra also must reserve a buffer on a daily basis to contend with the uncertainty of T-Service imbalances (both their direction and magnitude).

These actions by Centra (i.e., counteracting T-Service imbalances and maintaining a buffer to contend with the uncertainty of their positions) result in costs well in excess of the balancing fees charged by TCPL, both:

- i. opportunity costs in the form of foregone Capacity Management revenue; and
 - ii. further direct costs (in addition to the balancing fees charged by TCPL) in the form of higher commodity costs associated with the delay of transactions from day-ahead to intra-day (i.e., a higher purchase price or a lower sales price, the later in the gas day the transaction takes place).
- b) Centra does not know the total balancing charges that would have been passed on to Sales Service customers and each T Service customer if Centra had charged balancing fees based on 50% of the TCPL Mainline's balance fee structure because this has not yet happened. Centra cannot know how T-Service customers will, ultimately, react to the financial incentive to balance their accounts.

Centra's preferred outcome is to collect no balancing fees. Centra's objective is to incent improved T-Service account balancing that better aligns with the terms and condition of T-Service and customers' contractual commitments. Ideally, T-Service customers will respond to the introduction of the new balancing fee structure by pro-actively managing their positions and mitigating balancing fees to the extent possible.

The table below provides the pro-forma balancing fee outcomes that would have been experienced if Centra's proposed balancing fee structure had been in place since 2016/17 and *T-Service customers made no attempt to improve their balancing performance*. The fees below were not charged because the proposed balancing fee structure is not yet in place – they reflect what could happen if T-Service customers and their nominating agents take no action in response to the financial incentive associated with the new balancing fee structure.

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		Gas Year		
		2016/17	2017/18	2018/19 YTD*
Pro-Forma Balancing Charges Recovered from T-Service Customers at 50% of Prevailing TCPL Toll	T-Service Customer 1	(\$101,596)	(\$116,228)	(\$47,474)
	T-Service Customer 2	(\$77,007)	(\$51,075)	(\$24,781)
	T-Service Customer 3	(\$53,131)	(\$35,168)	(\$17,690)
	T-Service Customer 4	(\$55,074)	(\$51,246)	(\$19,210)
	T-Service Customer 5	(\$35,241)	n/a	n/a
	T-Service Customer 6	(\$30,998)	(\$15,355)	(\$25,890)
	T-Service Customer 7	(\$132,256)	(\$136,625)	(\$119,001)
	T-Service Customer 8	(\$15,608)	(\$24,092)	(\$1,819)
	T-Service Customer 9	(\$88,966)	(\$76,899)	(\$36,271)
	T-Service Customer 10	(\$44,180)	(\$39,984)	(\$19,404)
	T-Service Customer 11	(\$22,526)	(\$16,067)	(\$9,234)
	T-Service Customer 12	(\$16,058)	(\$12,250)	(\$7,348)
	T-Service Customer 13	(\$64,034)	(\$46,912)	(\$19,556)
	T-Service Customer 14	(\$9,199)	(\$8,781)	(\$2,207)
	T-Service Customer 15	(\$44,248)	n/a	n/a
	T-Service Customer 16	(\$72,365)	(\$72,947)	(\$26,897)
	T-Service Customer 17	(\$58,117)	(\$56,562)	(\$22,588)
Total		(\$920,602)	(\$760,191)	(\$399,372)
* For the period of November 2018 thru March 2019.				

- c) Centra does not have the requested information. Please also see the responses to parts a) and d) of this Information Request.
- d) Confirmed, but Centra cannot estimate total avoided balancing charges over the past three months in this manner because this request implies that T-Service customers are part of a pool when they are not. The premise on which T-Service was originally introduced, and how it is designed and functions, is that a customer who elects T-Service is contractually committing to manage its own upstream gas arrangements, including the need to forecast and balance its account on a daily basis.¹ If a T-Service customer wishes to be part of a pool of customers, Centra provides other service options (System Supply and WTS) with this service attribute.

¹ Either individually or with the assistance of a nominating agent on their behalf.

- e) Confirmed, recognizing however that Centra has afforded T-Service customers more generous daily and cumulative absolute tolerances than that which TCPL affords Centra,² up to which T-Service customers will not be charged any balancing fees. Please see an example of this at IGU/Centra I-26.

Under the TCPL Mainline's balancing fee structure, shippers are subject to balancing fees regardless of:

- i. a shipper's position relative to the pipeline's position (i.e., there is no exemption from paying fees for an imbalance because the shipper's position [pack or draft] is contrary to the pipeline's position);
- ii. extreme weather; and
- iii. whether a shipper is experiencing operational problems (e.g., unplanned maintenance or an outage at a facility).

The TCPL Mainline's balancing fees work in this manner because it must incent the consistent behaviour needed to protect the integrity and reliability of the pipeline and ensure that customers' needs downstream of Centra's delivery areas can be met. These are critical objectives in the successful operation of the pipeline as a "system", which consists of many shippers in many markets. In summary, the system would not work without strong financial penalties for imbalances. These penalties are not waived because an out of balance shipper's position happens to be, by virtue of chance, contrary to that of another shipper. In that circumstance, shippers would not know whether to respond to the price signal of balancing fees, which would lead to inconsistent behavior and defeat the purpose of the financial incentive.

- f) The spectrum of potential change to T-Service terms and conditions is wide, ranging from doing nothing (i.e., status quo), recognizing the harm to Sales Service customers, to providing notice to existing T-Service customers of the need for them to adhere to the terms and conditions of T-Service by a certain date or their participation in the service will be terminated as a consequence.

² On a simplified basis, Centra's daily tolerance is 2% while T-Service customers have been afforded daily tolerances of approximately 7%.

The balancing fee structure that Centra seeks to implement is a middle ground approach. The 50% of TCPL Mainline balancing fees proposed by Centra represents the midpoint of TCPL's balancing fee structure and was chosen to reasonably balance the competing objectives of providing a sufficient financial consequence so as to incent daily forecasting/balancing and mitigating the financial impacts on T-Service customers.

It is possible that large T-Service customers that are currently charged TCPL balancing fees at the 100% level³ could pay less to Centra once the new fee structure is in place if their balancing performance improves relative to their historical performance. This would be a desired outcome from Centra's perspective, signifying the efficacy of the financial incentive. Conversely however, it is also possible that large T-Service customers will pay more to Centra once the new fee structure is in place, thereby appropriately offsetting the direct and indirect costs of their imbalances to the account of Sales Service customers.

³ Recognizing that Centra's current practice involves the assessment of four conditions as described in the response to PUB/Centra I-145 e).

REFERENCE:

Tab 12 p. 3, 4 of 13

PREAMBLE TO IR (IF ANY):

Centra states that it foregoes Capacity Management revenue to the credit of Sales Service customers when T-service customers are out of balance, because it uses its upstream supply, transportation and storage assets to balance their accounts by virtue of Centra balancing its delivery areas.

QUESTION:

- a) Explain how Centra uses its upstream supply, transportation and storage assets to balance T-Service accounts. Does this mean that when T-Service customers are out of balance, Centra nominates additional gas supplies on T-Service customers' behalf, or reduces its Sales Service nominations? Does Centra then sell or purchase the additional or reduced volumes to or from the T-Service customers?
- b) Is Centra able to earn additional Capacity Management revenue when T Service customers are in an offsetting position from Centra's Sales Service customers as Centra need not use its own upstream assets to achieve balance?

RESPONSE:

- a) Please see the response to PUB/Centra I-147 a) for a description of how Centra's uses its asset portfolio to balance T-Service accounts.

Centra does not sell or purchase additional or reduced nominated volumes, made necessary as a result of T-Service customer imbalances, to or from T-Service customers. The T-Service terms and conditions of service do not contemplate this other than in the event of delivery default, wherein Centra would endeavor to provide Backstop Gas on a best efforts basis. T-Service does not function with Centra as a clearing house for sales and purchases of commodity to and from T-Service customers. Centra is neither set up, nor compensated, to do so.

- b) Conceptually, there could be occurrences where Centra is able to earn additional Capacity Management revenue as a result of T-Service customers offsetting the Sales Service pool but given how late in the day the net T-Service position becomes known to Centra, intra-day portfolio optimization value is almost certainly lower¹ than if Centra had more certainty of the net T-Service position on a day-ahead basis. This uncertainty represents the “buffer” referenced in Centra’s response to PUB/CENTRA I-147a, which Centra must currently retain as a risk management tool to contend with the uncertainty of T-Service imbalances (both direction and magnitude).

¹ Or may not exist.

REFERENCE:

Tab 12 p. 5 of 13

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Provide Centra's October 2016 presentation advising T-Service customers and nominating agents of Centra's intent to introduce a balancing fee structure for T-Service.
- b) Further explain and provide representative samples of the "extensive information and ongoing reporting to help customers understand how the balancing fee structure will work and how to mitigate their exposure to balancing fees." For example, what information is currently available (or will be made available) to T-Service customers and how often will this information be provided and refreshed?
- c) If Centra is aware of additional tools or services that are offered to customers by other TCPL Mainline downstream operators to help manage their delivery balances, identify these tools or services and explain whether they could be incorporated into Centra's operations.
- d) Summarize TCPL's Parking and Loan Service (PALS) and confirm whether Centra utilizes this service (or other similar services) as part of its natural gas supply operations. Is this service available to T-Service customers?

RESPONSE:

- a) Please see the Attachment 1 to this response.
- b) Following the October 2016 kick-off meeting with T-Service customers on the need for changes to the service, T-Service customers requested reporting to help them understand the potential impact of the proposed fee structure given their current imbalances. Centra developed pro-forma reporting in response to this request. Thirty-one (31) months of this pro-forma reporting has now been provided to T-Service

customers and their nominating agents (from October 2016 through April 2019). An example of the reporting is filed as Attachment 2 to this response.

Centra also provided to all T-Service customers a written description of each of the three supply service options available to existing T-Service customers (i.e., System Supply, WTS, and T-Service), filed as Attachment 3 to this response.

Centra also held multiple conference calls with each T-Service customer and their nominating agent (where applicable) to review and address questions about the proposed balancing fee structure and Centra's service options, and to discuss potential actions that can be taken going forward to address imbalances and mitigate fees.

Finally, the extensive information currently available to T-Service customers is detailed in the response to PUB/CENTRA I-145d.

- c) Centra is aware that other TCPL Mainline downstream operators are situated differently than Centra, and each LDC faces different operating conditions. For example, TransGas and Enbridge Gas Inc.¹ have local storage directly connected to their distribution systems and are not captive to the TCPL Mainline. By comparison, Centra does not have the benefit of local storage and is captive to the TCPL Mainline. Given these constraints, Centra sought to address T-Service balancing with a solution suited to its circumstances that:
- i. Incentivizes consistent balancing
Centra views it as important to implement a solution that directly promotes the management of imbalances. Centra's proposal matches fees with imbalances (beyond the absolute tolerances afforded), with the ultimate objective of incentivizing consistent balancing which should result in moderate fee levels.
 - ii. Requires minimal costs to implement
Centra's proposal requires little to no system set-up and does not require additional staffing, making it highly cost effective. It also does not require modifications to rate design.
 - iii. Is consistent with TCPL Mainline balancing fees

¹ Including the former Union Gas Limited.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-149a-d

Centra's proposal is consistent with the balancing realities faced by Centra as a shipper on the TCPL Mainline because this pipeline physically transports all natural gas supplies that are consumed in Centra's service territory.²

- d) The TCPL Mainline's Park and Loan Service ("PALS") provides the opportunity for all shippers, including T-Service customers, to park or loan gas for any term on the Mainline (subject to availability). The toll and term for the service are negotiable. The service is interruptible (i.e., discretionary on the part of TCPL).³

Centra uses PALS when available and if it provides a benefit in particular operating circumstances. For example, Centra used PALS as recently as April 2019.

PALS is available to any TCPL Mainline shipper. If T-Service customers have assigned their TCPL Mainline capacity to their nominating agent, then PALS would be available to the nominating agent (subject to availability).

² With the exception of the Swan Valley service area which encompasses approximately 300 customers.

³ This information was sourced in TCPL's "Summary of the TransCanada Mainline's Services", page 3 of 4, dated November 2017 on TransCanada's Customer Express website:
<http://www.tccustomerexpress.com/2773.html>.

TRANSPORTATION SERVICE – BALANCING FEE STRUCTURE

Presentation for Transportation Service customers

October 7, 2016 – 11:00 am Central Time

Meeting Room 08-401, 360 Portage
Avenue, Winnipeg, Manitoba

OUTLINE

- Explanation of Transportation Service (“T-Service”)
- Terms and Conditions of Service applicable to T-Service
- What does “balancing” mean?
- Centra’s balancing obligations on TCPL’s Mainline
- Why is balancing important to pipelines and Centra?
- Requirements of T-Service customers
- Why is a new Balancing Fee Structure needed? What has changed?
- How Centra balances its Delivery Areas
- Options available to T-Service customers to assist in balancing
- Mainline Balancing Fee Structure applicable to Centra
- Centra’s current Balancing Fee Structure
- Centra’s new Balancing Fee Structure
- Next Steps

Explanation of Transportation Service ("T-Service")

- A large industrial customer who contracts for its own upstream transportation and gas supply
- Customer delivers its gas to Centra's City Gate
- Centra charges for distribution services only to the customer's facility (demand component)
- May contract with a Nominating Agent to provide nominating and balancing services

Terms and Conditions of Service applicable to T-Service

- Centra's Schedule of Sales and Transportation Services and Rates
 - Last approved by the PUB on August 2, 2013
- Section V. – Special Terms and Conditions: Transportation Service (T-Service)
 - Starting on Page 29

Terms and Conditions of Service applicable to T-Service

D) The volume of gas delivered by the T-Service Customer and received and transported by the Company shall, on each day, equal the quantity of gas consumed by the Customer at its facility on such day as determined by the Company's measuring stations located at or near the Delivery Point, less the volume of Backstop Gas (if any) sold to the Customer by the Company on such day pursuant to subsection G) hereof.

J) The T-Service Customer shall notify the Company by e-mail or fax, no later than 2:00 p.m. Winnipeg time on the day prior to delivery (except during periods when the Customer has advised the Company that no transportation service is required) of:

- 1) The Customer's nomination for the following day with TCPL; and,
- 2) The Customer's forecasted gas consumption and Nominated Volume for the following day.

Such Nominated Volume and forecasted consumption shall be deemed to remain in effect from day to day unless changed by the Customer and notice of such change is given to the Company in the manner aforesaid. If on any day in the event that the T-Service Customer's actual gas consumption for that day is to deviate from the forecasted gas consumption and Nominated Volume identified in J) 2. above the Customer shall notify the Company at the earliest opportunity of any such deviation, and the T-Service Customer shall make reasonable efforts to make the necessary forecast and nomination adjustments required with TCPL and the Company.

O) If the T- Service Customer or its authorized agent causes delivery imbalances relating to the delivery of gas to the Company's distribution system, the Company may impose any imbalancing costs or charges on the Customer.

What does “balancing” mean?

- Three (3) main components:
 - *Nomination* – The amount of gas scheduled by a customer to a Delivery Area on a particular Gas Day
 - *Consumption* – The amount of gas that the customer consumes on a particular Gas Day
 - *Daily Imbalance* – The difference between Nomination and Consumption on a particular Gas Day
- Imbalances occur daily due to imperfect forecasts
 - Pack: when the customer consumes less gas than what it has nominated
 - Draft: when the customer consumes more gas than what it has nominated
- Packs or drafts are imbalances that must be cleaned up with the pipeline/Centra the next Gas Day
- Failure to clean up a pack or draft will result in daily and/or cumulative imbalances and fees

Centra's balancing obligations on TCPL's Mainline

- Centra is known as a Down Stream Operator ("DSO") on the Mainline
 - The DSO (typically the Local Distribution Company) is held financially responsible by TCPL for balancing its Delivery Areas
- Centra's Delivery Areas are the Manitoba Delivery Area ("MDA") and the South Saskatchewan Delivery Area ("SSDA")
- Imbalances in excess of tolerances at Delivery Areas result in the incurrence of balancing fees
 - DSOs are subject to penalties regardless of whether they draft or pack the system
 - TCPL does not waive balancing fees if DSOs experience operational problems resulting in large imbalances
- DSOs must address imbalances in excess of tolerances on a daily basis

Why is balancing important to pipelines and Centra?

- Pipelines insist on daily balancing to protect the integrity and reliability of their systems and to ensure that downstream customers' needs can be met
- T-Service customers do not contribute towards the cost of Centra's asset portfolio and therefore, are not entitled to utilize those assets to help them balance
- T-Service customer imbalances typically compound pipeline imbalances at Centra's Delivery Areas
- For Centra and its system customers, T-Service imbalances result in:
 - Real costs (the balancing fees charged by TCPL); and
 - Opportunity costs (foregone Capacity Management Program revenue, which serve to reduce system customers' transportation rates)

Requirements of T-Service customers

- Nominations and imbalance makeup (to/from DSO) to be provided in writing, every day
- Clean up of imbalances to be nominated at an Intra-day nomination window (ID2 or ID3 most likely)
- Nominating agents to communicate with the facility on a daily basis to ensure that appropriate quantities of gas are being nominated based on current information
- Nominating agents to clean up imbalances or alter nominations when instructed by the DSO (e.g., Centra)

Why is a new Balancing Fee Structure needed? What has changed?

- T-Service customers' balancing activities are irregular and inconsistent, making forecasting of Delivery Area requirements and balancing of Delivery Areas difficult and costly (both real and opportunity costs)
- The result is inappropriate cross-subsidization of T-Service customers by Centra's system customers, and by other T-Service customers
- Financial incentives to "optimize" Mainline transportation are now much greater with the implementation of Mainline pricing discretion for short-term discretionary transportation services in July 2013
- Occasionally, Nominating Agents have refused to clean up imbalances when requested to do so by Centra
- It is clear that balancing "behaviour" must be financially incented to change

How Centra balances its Delivery Areas

- Asset portfolio designed with sufficient Intra-day flexibility
 - Suite of supply, transportation, and storage contracts
- Active position monitoring to stay within pipeline tolerances for imbalances
- Use of Mainline/GLGT Park and Loan services

Options available to T-Service customers to assist in balancing

- Contractual flexibility for gas supply – provisions which allow for increases or decreases to supply quantities at Intra-day nomination windows
- Active position monitoring to stay within Centra's tolerances for imbalances
- Pipelines services
 - Park and Loan services
 - Mainline Interruptible Transportation (IT) services

Mainline Balancing Fee Structure applicable to Centra

4 tiers of Daily balancing fees

Tier 1 Tolerance calculation = greater of 2,111 GJ, or 2% of Nomination less imbalance makeup OR , 2% of the average of the last 30 days of nominations

Tier 1 Daily Fee = $0.2 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) x Billed Excess

Tier 2 Tolerance calculation = greater of 4,221 GJ, or 4% of Nomination less imbalance makeup OR , 4% of the average of the last 30 days of nominations

Tier 2 Daily Fee = $0.5 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) x Billed Excess over and above Tier 1

Tier 3 Tolerance calculation = greater of 8,443 GJ, or 8% of Nomination less imbalance makeup OR , 8% of the average of the last 30 days of nominations

Tier 3 Daily Fee = $0.75 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) x Billed Excess over and above Tier 2

Tier 4 Tolerance calculation = greater of 10,553 GJ, or 10% of Nomination less imbalance makeup OR , 10% of the average of the last 30 days of nominations

Tier 4 Daily Fee = $1.0 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) x Billed Excess over and above Tier 3

Mainline Balancing Fee Structure applicable to Centra

2 tiers of Cumulative balancing fees

Tier 1 Tolerance calculation = greater of 4,221 GJ, or 4% of Nomination less imbalance makeup OR , 4% of the average of the last 30 days of nominations

Tier 1 Cumulative Fee = $0.15 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) x Billed Excess

Tier 2 Tolerance calculation = greater of 6,332 GJ, or 6% of Nomination less imbalance makeup OR , 6% of the average of the last 30 days of nominations

Tier 2 Cumulative Fee = $0.25 \times \$1.96169/\text{GJ}$ (KPUC EDA Eastern Zone toll) x Billed Excess over and above Tier 1

Centra's current Balancing Fee Structure

- Developed in a different era, and on the assumption that T-Service customers would balance on a daily basis
- T-Service customers were each afforded the same minimum tolerances as the DSO
- As a result, there are only four (4) T-Service customers who incur balancing fees under Centra's current Balancing Fee Structure
- Other T-Service customers have never incurred balancing fees, despite being proportionately out of balance

Centra's new Balancing Fee Structure

GOALS

- Eliminate the cross-subsidization as amongst T-Service customers (i.e., equity within T-Service)
- Eliminate the cross-subsidization of T-Service customers by system customers;
- Reduce the time & effort by Centra to manage T-Service;
- Financially incent T-Service customers to improve balancing behaviours (i.e., actively address imbalances to reduce amount of fees paid);
- Align with a commonly understood balancing fee structure (i.e., the Mainline)

Centra's new Balancing Fee Structure

- Centra's fee proposal represents ½ or 50% of what the Mainline charges the DSOs
- Once implemented, Centra will continue to evaluate the effectiveness of the 50% threshold, and reserves the right to increase this threshold should balancing behaviour not improve

		<u>New</u>
<u>Level of Daily</u>	<u>TransCanada</u>	<u>Centra Fee</u>
<u>Imbalance:</u>	<u>Fee (\$/GJ)</u>	<u>(\$/GJ)</u>
less than 2%	-	-
2% up to 4%	0.39234	0.19617
4% up to 8%	0.98085	0.49042
8% up to 10%	1.47127	0.73563
10% or greater	1.96169	0.98085

		<u>New</u>
<u>Level of Net</u>	<u>TransCanada</u>	<u>Centra Fee</u>
<u>Cumulative</u>	<u>Fee (\$/GJ)</u>	<u>(\$/GJ)</u>
<u>Imbalance:</u>		
less than 4%	-	-
4% up to 6%	0.29425	0.14713
6% or greater	0.49042	0.24521

Next Steps for Centra

- ✓ Advise nominating agents that the new Balancing Fee Structure has been presented to customers and provide them with details
Oct 2016
- ✓ Commence the provision of info on a monthly basis illustrating what T-Service customers would have paid under the new Balancing Fee Structure
Nov 2016
- ✓ Evaluate feedback from customers
Q4 2016
- ✓ Seek approval of new Balancing Fee Structure from the Public Utilities Board of Manitoba
Q1 2017
- ✓ Implement new Balancing Fee Structure
Target: Nov 1, 2017

Potential Next Steps for T-Service customers

- Review Centra's reporting on the pro-forma financial impact of the new Balancing Fee Structure based on current balancing behaviour;
- Consider amending supply contracts as required to allow for Intra-day supply flexibility (if not already in place);
- Improve communication between your plant/facility and gas supply manager or nominating agent (i.e., more accurate operational forecasts are required);
- Confer with nominating agent to ensure its understanding of balancing expectations (i.e., daily balancing of accounts);
- Consider whether T-Service continues to be the right service option for you within Manitoba

QUESTIONS?

Gas Day	Opening Balance	Nomination Including Pool Transfers	Imbalance Make Up To Centra	Imbalance Withdrawal From Centra	Daily Available	Net Measured Including Pool Transfers	Daily Imbalance	Imbalance Make Up To Centra	Imbalance Withdrawal From Centra	Adjusted Cumulative Imbalance	Net Cumulative Imbalance	Daily Tolerance	Tier 1 Daily Imbalance	Tier 2 Daily Imbalance	Tier 3 Daily Imbalance	Tier 4 Daily Imbalance	Daily Absolute Imbalance	Daily Absolute Tolerance Utilized	Tier 1 Daily Imbalance	Tier 2 Daily Imbalance	Tier 3 Daily Imbalance	Tier 4 Daily Imbalance	Daily Balancing Fee as per Absolute Tolerance Proposal	Cumulative Tolerance	Tier 1 Cumulative Imbalance	Tier 2 Cumulative Imbalance	Cumulative Absolute Imbalance	Cumulative Absolute Tolerance Utilized	Tier 1 Cumulative Imbalance	Tier 2 Cumulative Imbalance	Cumulative Balancing Fee as per Absolute Tolerance Proposal	Total Balancing Fees
Daily Position Report											Daily Imbalances as per Percentage Tolerances					Daily Imbalances Including Absolute Tolerances							Cumulative Imbalances as per Percentage Tolerances		Cumulative Imbalances Including Absolute Tolerances							
2/1/2019	206	3,050		181	3,231	2,807	424		181	25	449	65	65	129	65	101	150	0	0	108	65	101	\$150.39	129	65	255	300	0	0	149	\$27.51	\$177.91
2/2/2019	449	2,750		441	3,191	2,956	235		441	8	243	64	64	107	0	0	150	0	0	85	0	0	\$31.39	128	64	52	243	0	0	0	\$0.00	\$31.39
2/3/2019	243	2,950		241	3,191	3,114	77		241	2	79	64	13	0	0	0	77	0	0	0	0	0	\$0.00	128	0	0	0	0	0	0	\$0.00	\$0.00
2/4/2019	79	2,950		87	3,037	3,374	-337		87	-8	-345	61	61	121	61	33	150	0	0	93	61	33	\$92.58	121	61	163	300	0	0	45	\$8.31	\$100.89
2/5/2019	-345	3,300	320		2,980	3,306	-326	320		-25	-351	60	60	119	60	28	150	0	0	88	60	28	\$86.35	119	60	172	300	0	0	51	\$9.42	\$95.77
2/6/2019	-351	3,600	336		3,264	3,165	99	336		-15	84	65	34	0	0	0	99	0	0	0	0	0	\$0.00	131	0	0	0	0	0	0	\$0.00	\$0.00
2/7/2019	84	3,200		76	3,276	3,176	100		76	8	108	66	34	0	0	0	100	0	0	0	0	0	\$0.00	131	0	0	0	0	0	0	\$0.00	\$0.00
2/8/2019	108	3,175		75	3,250	2,848	402		75	33	435	65	65	130	65	77	150	0	0	110	65	77	\$133.51	130	65	240	300	0	0	135	\$24.93	\$158.44
2/9/2019	435	3,075		434	3,509	3,217	292		434	1	293	70	70	140	11	0	150	0	0	131	11	0	\$54.53	140	70	82	293	0	0	0	\$0.00	\$54.53
2/10/2019	293	3,075		278	3,353	3,148	205		278	15	220	67	67	71	0	0	150	0	0	55	0	0	\$20.31	134	67	19	220	0	0	0	\$0.00	\$20.31
2/11/2019	220	3,075		210	3,285	2,521	764		210	10	774	66	66	131	66	436	150	0	0	113	66	436	\$399.74	131	66	577	300	0	0	474	\$87.53	\$487.27
2/12/2019	774	2,500		684	3,184	2,395	789		684	90	879	64	64	127	64	471	150	0	0	105	64	471	\$421.56	127	64	688	300	0	0	579	\$106.92	\$528.48
2/13/2019	879	2,400		852	3,252	2,391	861		852	27	888	65	65	130	65	536	150	0	0	110	65	536	\$472.48	130	65	693	300	0	0	588	\$108.58	\$581.07
2/14/2019	888	1,900		783	2,683	2,377	306		783	105	411	54	54	107	54	38	150	0	0	65	54	38	\$81.45	107	54	250	300	0	0	111	\$20.50	\$101.94
2/15/2019	411	2,250		427	2,677	2,857	-180		427	-16	-196	54	54	73	0	0	150	0	0	30	0	0	\$11.08	107	54	35	196	0	0	0	\$0.00	\$11.08
2/16/2019	-196	2,675	171	0	2,504	2,561	-57	171	0	-196	-82	50	7	0	0	0	57	0	0	0	0	0	\$0.00	100	0	0	0	0	0	0	\$0.00	\$0.00
2/17/2019	-82	2,525	67		2,458	2,873	-415	67		-15	-430	49	49	98	49	169	150	0	0	47	49	169	\$169.44	98	49	283	300	0	0	130	\$24.01	\$193.45
2/18/2019	-430	2,825	388		2,437	2,929	-492	388		-42	-534	49	49	97	49	248	150	0	0	45	49	248	\$227.01	97	49	388	300	0	0	234	\$43.21	\$270.22
2/19/2019	-534	2,375	505		1,870	2,805	-935	505		-29	-964	37	37	75	37	748	150	0	0	0	37	748	\$573.01	75	37	852	300	0	0	664	\$122.62	\$695.62
2/20/2019	-964	3,350	881		2,469	2,684	-215	881		-83	-298	49	49	99	17	0	150	0	0	48	17	0	\$27.23	99	49	150	298	0	0	0	\$0.00	\$27.23
2/21/2019	-298	2,900	279		2,621	2,984	-363	279		-19	-382	52	52	105	52	101	150	0	0	60	52	101	\$125.61	105	52	225	300	0	0	82	\$15.14	\$140.75
2/22/2019	-382	3,200	368		2,832	2,808	24	368		-14	10	57	0	0	0	0	0	0	0	0	0	0	\$0.00	113	0	0	0	0	0	0	\$0.00	\$0.00
2/23/2019	10	2,600		13	2,613	2,767	-154		13	-3	-157	52	52	49	0	0	150	0	0	4	0	0	\$1.48	105	52	0	157	0	0	0	\$0.00	\$1.48
2/24/2019	-157	2,750	141		2,609	3,072	-463	141		-16	-479	52	52	104	52	202	150	0	0	59	52	202	\$199.87	104	52	322	300	0	0	179	\$33.05	\$232.93
2/25/2019	-479	2,600	441		2,159	2,831	-672	441		-38	-710	43	43	86	43	456	150	0	0	23	43	456	\$369.21	86	43	580	300	0	0	410	\$75.71	\$444.92
2/26/2019	-710	2,650	650		2,000	2,644	-644	650		-60	-704	40	40	80	40	444	150	0	0	10	40	444	\$353.81	80	40	584	300	0	0	404	\$74.60	\$428.42
2/27/2019	-704	2,000	700		1,300	1,162	138	700		-4	134	26	26	52	26	8	138	0	0	0	0	0	\$0.00	52	26	56	134	0	0	0	\$0.00	\$0.00
2/28/2019	134	800		106	906	602	304		106	28	332	18	18	36	18	213	150	0	0	0	0	154	\$113.75	36	18	278	300	0	0	32	\$5.91	\$119.66
Total												1,310	2,270	894	4,309			0	1,387	849	4,241	\$4,115.81		1,221	6,944			0	4,267	\$787.95	\$4,903.76	

Comparison of Key Characteristics of Centra Gas Manitoba's Three Natural Gas Supply Service Options

System Supply Service (Centra's Default Natural Gas Service Option)

Natural Gas Commodity: Centra supplies 100% of the customer's annual natural gas supply requirement, both Primary and Supplemental Gas, at Public Utilities Board of Manitoba ("PUB") reviewed and approved rates. No action of any kind is required on the part of the customer.

Upstream Transportation and Storage: Centra supplies all of the required upstream transportation and storage assets required to move the commodity to Centra's distribution system. No action of any kind is required on the part of the customer.

Daily Balancing: All daily balancing is the responsibility of Centra. No action of any kind is required on the part of the customer.

Balancing Fees: System Supply Service customers are not directly responsible for balancing fees of any kind. The cost of any balancing fees incurred by Centra as a result of serving System Supply Service customers are incorporated into the Transportation rates charged to this class of customers at cost with no mark-up.

Cost: The customer pays Centra for all Primary and Supplemental Gas supplies, upstream transportation and storage assets, as well as for the use of Centra's distribution system, based on Centra's PUB reviewed and approved rates. Other than those associated with the use of Centra's distribution system, these costs are all passed through to customers at cost with no mark-up or profit of any kind earned by Centra. Primary Gas rates are typically adjusted every three (3) months to reflect changes in market prices (i.e., November 1st, February 1st, May 1st & August 1st). Supplemental Gas, Transportation and Distribution rates are typically adjusted on an annual basis, again subject to review and approval by the PUB.

Billing: Centra bills the customer directly on a monthly basis for its Primary & Supplemental Gas consumption, upstream transportation and storage assets, as well as the customer's use of its distribution system.

Frequency of Migration to System Supply Service: Subject to satisfying any notice and/or contractual obligations associated with either the Transportation Service or the WTS, a customer may return to System Supply Service at any time.

Contracting Requirements: None.

Western Transportation Service ("WTS")

Natural Gas Commodity: A third-party natural gas marketer designated by the customer is responsible for supplying the customer's Primary Gas supply (approximately 94% of a customer's typical annual natural gas consumption) to Centra at the Empress Receipt Point on the TransCanada Pipelines Mainline

("TCPL Mainline") near the Alberta/Saskatchewan border. Centra automatically supplies the remaining approximately 6% of the customer's annual gas supply in the form of Supplemental Gas at PUB-reviewed and approved rates.

Upstream Transportation and Storage: After receipt of the customer's Primary Gas supply at the Empress Receipt Point on the TCPL Mainline, Centra supplies all of the required upstream transportation and storage assets required to move the customer's commodity to Centra's distribution system.

Daily Balancing: The obligation to provide the customer's daily Primary Gas supply requirement is the responsibility of the third-party marketer designated by the customer, not the customer. However, Centra provides an annual balancing service free of charge to each third-party marketer under the WTS. Under this annual balancing service, Centra assumes responsibility for forecasting each individual WTS customer's Primary Gas supply requirement, as well as determining the daily nomination of those supply requirements at the Empress Receipt Point on the TCPL Mainline. Approximately one (1) month in advance of the first of each month, Centra notifies each third-party marketer of the Maximum Daily Quantity ("MDQ") of Primary Gas that it will require the marketer to be able to deliver to the Empress Receipt Point on the TCPL Mainline on a firm basis each day of the month in question, on behalf of their overall pool of WTS customers. Centra may then nominate anywhere from zero to the full MDQ each day of that month, but never more than this amount. Each individual marketer's daily nomination of Primary Gas, relative to its MDQ for a given month, reflects a pro-rata adjustment that is the same as Centra's nomination relative to its own MDQ for System Supply Primary Gas customers that day. For example, if Centra's MDQ for its System Supply Primary Gas customers is 1,000 GJ/day and on a given day it is nominating 900 GJ relative to that MDQ, a third-party marketer under the WTS with an MDQ of 100 GJ/day would experience a nomination of 90 GJ that same day.

Balancing Fees: Neither the customer, nor their designated Primary Gas marketer are subject to balancing fees of any kind under the WTS. Balancing services are provided by Centra at no additional charge.

Cost: Under the WTS, the customer pays Centra for all Supplemental Gas supplies, upstream transportation and storage assets, as well as for the use of Centra's distribution system, based on Centra's PUB reviewed and approved Supplemental Gas, Transportation and Distribution rates that are typically adjusted on an annual basis. Other than those associated with the use of Centra's distribution system, these costs are all passed through to customers at cost with no mark-up or profit of any kind earned by Centra. The cost to the customer for their Primary Gas commodity purchases will be a function of the specific arrangements negotiated between the customer and their Primary Gas marketer, and to which Centra is not a party. Potential Primary Gas pricing mechanisms offered by Primary Gas marketers under the WTS cover the spectrum from daily and monthly market index pricing, to both short and long-term fixed price arrangements (i.e., periods ranging from one month through one to five years).

Billing: Centra bills the customer directly on a monthly basis for its Supplemental Gas consumption, upstream transportation and storage assets, as well as the customer's use of its distribution system.

Billing for the customer's Primary Gas consumption provided by the third-party marketer are also typically billed to the customer monthly via their Centra Gas bill based on instructions provided to Centra by the marketer (i.e., the Agency Billing and Collection Service). However, some WTS marketers choose to bill their customers directly for their monthly Primary Gas use under the WTS.

Frequency of Migration Both to and From the WTS: Subject to a 45-day advance notice period, customers can elect to move to the WTS as of the first day of any month. Subject to the agreement of the Primary Gas marketer, customers may leave the WTS and return to System Supply Service at any time.

Contracting Requirements: All contracting requirements with Centra under the WTS are the responsibility of the Primary Gas marketer, not the customer. Marketers are required to execute legal agreements with Centra in order to utilize both the WTS, as well as the Agency Billing and Collection Service. In addition, marketers who do not possess an investment grade credit rating from a recognized credit rating agency are required to post credit collateral sufficient to satisfy Centra's requirements in order to protect customers from the potential financial impacts that could result in the event of a marketer defaulting on any of its obligations, either to Centra or the marketer's Primary Gas customers. Customers are typically required to enter into a contractual arrangement with a marketer that specifies the respective parties' obligations under the WTS Primary Gas supply arrangement. These terms vary by marketer and customer and are the result of negotiation between the two parties.

Marketer Licensing Requirements: In addition to the foregoing, WTS marketers supplying Primary Gas to customers under the WTS are subject to PUB licensing and review requirements. The following link refers to the PUB's website listing all Primary Gas marketers currently licensed to serve customers under the WTS in Manitoba (please note that not all of the listed marketers are currently enabled with Centra in terms of credit collateral). <http://www.pub.gov.mb.ca/listbrokers.html>

Transportation Service

Natural Gas Commodity: The customer (or third party service provider designated by the customer) is responsible for the acquisition of 100% of their natural gas supply.

Upstream Transportation and Storage: The customer (or third party service provider designated by the customer) is responsible for contracting for the required amount of pipeline transportation and storage capacity (if required) upstream of Centra's distribution system in order to move their natural gas supply from the point of purchase to Centra's distribution system.

Daily Balancing: The customer is held responsible for balancing their daily natural gas deliveries with their daily consumption at their premises. While the customer may designate a third-party to manage these responsibilities on their behalf, ultimate accountability for fulfilling these requirements resides with the customer.

Balancing Fees: Effective November 1, 2017, Transportation Service customers will be responsible for the payment of balancing fees on both their daily and cumulative imbalances as per Centra's proposed

balancing fee structure, which is modeled directly on the balancing fee structure currently in place on the TCPL Mainline. Centra is subject to balancing fees from TCPL on behalf of all natural gas consumers in Manitoba (regardless of the natural gas supply service option chosen by the customer), as the Downstream Operator in Manitoba. Balancing fees paid to Centra by Transportation Service customers are directly refunded to System Sales customers in their rates, as they are reflective of Transportation Service customers' use of System Supply customer assets to balance their accounts at Centra's Delivery Areas on the TCPL Mainline.

Cost: The cost of service to the customer to utilize Centra's distribution system in order to transport its commodity supply from Centra's gate stations on the TCPL Mainline to their premises is based on Centra's distribution rates that are reviewed and approved by the PUB and which are typically adjusted on an annual basis. The additional costs to the customer for its commodity purchases, upstream transportation and storage assets, and balancing/nominating services provided by a marketer will be a function of the specific arrangements negotiated between the customer and the marketer, to which Centra is not a party.

Billing: Centra bills the customer directly on a monthly basis for the customer's use of its distribution system as well as any balancing fees incurred by the customer.

Frequency of Migration Both to and From Transportation Service: As per Centra's PUB-approved Special Terms and Conditions: Transportation Service, customers can elect to leave Transportation Service subject to providing notice to Centra at least ninety (90) days in advance. However, any customer electing to leave Transportation Service will not have the option to return to Transportation Service for a minimum of one (1) year.

Contracting Requirements: Customers must sign a contract with Centra in order to utilize Transportation Service. The customer would also have potentially multiple contracting requirements with third-party commodity, transportation and storage asset and balancing/nominating service providers to which Centra is not a party.

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REFERENCE:

Tab 12 pgs. 1 and 6 of 13; 2011/12 COG Tab 9 p. 5 of 7

PREAMBLE TO IR (IF ANY):

At the 2011/12 Cost of Gas, Centra proposed and subsequently received Board approval for changes to the Special Terms and Conditions for Transportation Service that introduced a minimum daily nomination eligibility threshold of 200 GJ/day under normal operating conditions.

At this 2019/20 GRA, Centra is applying to increase the T-Service daily nomination threshold from 200 GJ/day to 2,500 GJ/day under normal operating conditions.

QUESTION:

- a) Explain Centra's rationale for the 2,500 GJ/day value proposed as the new T-Service volumetric eligibility threshold. Why is 2,500 GJ/day the appropriate threshold and not some other threshold?
- b) Absent being grandfathered under Centra's proposal, how many of the current T-Service customers would not meet the 2,500 GJ/day threshold and thus would no longer be eligible for T-Service?
- c) In a format similar to the table below, provide the average and maximum daily imbalances for the past year of all T-Service customers.

Customer	Average Daily Consumption [GJ/day]	Average Daily Imbalance [% of Daily Consumption]	Maximum Daily Imbalance [% of Daily Consumption]
T-Service Customer 1			
T-Service Customer 2			
T-Service Customer 3			
Etc.			

RESPONSE:

- a) T-Service was originally designed for and is best suited to high load factor customers, particularly those with sufficient natural gas consumption to warrant the additional effort required to manage their own upstream gas arrangements, while capturing the savings afforded by the lower T-Service rate. For example, T-Service originated in Manitoba because of very large industrial consumers¹ of natural gas, with average consumption well in excess of 2,500 GJ/day.

Centra's observations of which T-Service customers currently meet their contractual obligations (i.e., daily balancing of their accounts in the normal course) also informed its volumetric eligibility threshold proposal. Currently, 4 of 15 T-Service customers reasonably address their imbalances on a daily and intra-day basis.

Centra may have been neutral on the current volumetric eligibility threshold for T-Service if balancing fees were to be collected at 100% of the TCPL Mainline's fee level and based on daily absolute tolerances of 2%. However, Centra's balancing fee proposal includes two major concessions to T-Service customers:

- i. TCPL Mainline fees have been reduced by 50%; and
- ii. More generous daily and cumulative absolute tolerances have been provided.

For all of these reasons, 2,500 GJ/day is a reasonable volumetric eligibility threshold for T-Service. In Centra's view raising the eligibility threshold is a sensible way to limit new entrants to T-Service to those who are inherently invested in actively forecasting their consumption and balancing their accounts on a daily and intra-day basis as required.

- b) Absent being grandfathered under Centra's proposal, 11 of 15 current T-Service customers would not meet the 2,500 GJ/day threshold. The average daily consumption of 1 of these 11 customers is expected to increase in or around the year 2020 such that

¹ For example, Simplot Canada, B.C. Sugar, Inland Cement.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
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it would then meet the 2,500 GJ/day threshold. Accordingly, a total of 5 of 15 customers would meet the new threshold, absent the grandfathering provision proposed by Centra.

c) Please see Attachment 1 to this response.

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T-Service Customer	Average Daily Available Volume (GJ)*	Average Absolute Daily Imbalance (GJ)	Average Absolute Daily Imbalance as % of Average Daily Available	Maximum Absolute Daily Imbalance (GJ)	Maximum Absolute Daily Imbalance as % of Average Daily Available
Customer A	1,641	215	13%	1,528	93%
Customer B	1,930	215	11%	1,453	75%
Customer C	2,035	290	14%	1,857	91%
Customer D	4,166	146	4%	1,970	47%
Customer E	6,467	1,109	17%	4,287	66%
Customer F	8,439	817	10%	3,588	43%
Customer G	683	134	20%	1,034	151%
Customer H	1,579	350	22%	1,408	89%
Customer I			2%		44%
Customer J	2,280	295	13%	1,166	51%
Customer K	1,446	190	13%	1,546	107%
Customer L	285	48	17%	302	106%
Customer M	824	187	23%	907	110%
Customer N	750	61	8%	542	72%
Customer O	1,424	156	11%	1,326	93%

2d

*Note: Daily Available Volume (also referred to as Net Nomination) includes both nomination and applicable balancing nomination.

REFERENCE:

Tab 12 pgs. 7-8 of 13

PREAMBLE TO IR (IF ANY):

Centra proposes to increase its Reconnect Fees from \$50 (plus GST) to \$70 (plus GST) during regular business hours and from \$65 (plus GST) to \$100 (plus GST) after hours.

QUESTION:

- a) Confirm whether Centra's proposed reconnection fees will, if approved as filed, match Manitoba Hydro's electric reconnection fees.
- b) In the instances where both gas and electric services are being reconnected, are reconnection fees charged for both or is only a single reconnection fee charged? If a single reconnection fee is charged, how is the revenue apportioned between gas and electric operations?
- c) Explain the reasons why Centra is proposing to recover only approximately 60% of its reconnection costs.
- d) Provide the total reconnection fee revenue collected by Centra in fiscal year 2017/18, broken down by customer class.

RESPONSE:

- a) If the proposed reconnections fees are approved as filed, Centra's reconnection fee will match Manitoba Hydro's electric reconnection fees.
- b) Reconnection fees are assessed for each service that is reconnected. If both services were disconnected for non-payment the customer would be charged one reconnection fee to reconnect the natural gas service and one reconnection fee to reconnect the electric service. However, Manitoba Hydro typically only disconnects the electric service if both services are present, and as such only a reconnection fee for the electric service would be charged.

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- c) Manitoba Hydro and Centra Gas made a policy decision prior to 2003 to harmonize customer fees and charges across the two utilities in order to make the fees and charges more understandable to customers. In Centra's 2003/04 General Rate Application, Centra sought and received approval for the current rates which at the time recovered approximately 50% of the costs to reconnect a customer. As the majority of service disconnections for non-payment completed by Manitoba Hydro involve disconnection of the electric service, the fee for reconnection of gas service has been based on the costs to reconnect electric service. Although reconnection of natural gas service costs more to complete, in order to maintain a consistency of fees, Centra proposes to continue to apply the same fee as an electric service reconnection to a natural gas reconnection.
- d) The following table provides the reconnection fee revenue billed by Centra in fiscal year 2017/18 broken down by customer class and identifying whether the disconnection occurred at the customer's request or as a result of non-payment.

Reconnection Fee Revenue				
Year	Residential		Commercial	
	Customer Request	Non-Payment	Customer Request	Non-Payment
2017/18	\$710	\$2,015	\$400	\$1,695

REFERENCE:

Tab 12 pgs. 9-10 of 13

PREAMBLE TO IR (IF ANY):

Centra proposes to increase its Meter Test fee from \$35 to \$110 for residential meters, and from \$135 to \$220 for commercial meters.

QUESTION:

- a) Using historical data from the last 5 years, specify the average number of times per year a gas meter dispute results in a meter test being performed.
- b) Using historical data from the last 5 years, specify the average number of times per year a contested gas meter is found to be out of tolerance.
- c) Provide the total meter test fee revenue collected by Centra in fiscal year 2017/18, broken down by customer class.

RESPONSE:

- a) Centra would like to clarify that the meter test fee for commercial meters found on page 9 of Tab 12 (Line 12) and restated in the preamble was incorrectly referenced as \$135. The current approved fee for commercial meters is \$130, as shown on page 51 of 52 of Centra's current approved T's & Cs.

A meter test is always performed if a customer requests a dispute test and pays the Meter Test Fee. The fee is returned to the customer in the event that the dispute is determined to be founded.

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b) Please see table below for requested information.

Year	Total Gas Meter Dispute Tests Performed	Dispute Founded (i.e. meter failed)	Dispute Unfounded (i.e. meter passed)
2018/19	1	0	1
2017/18	4	0	4
2016/17	0	0	0
2015/16	5	1	4
2014/15	3	1	2

c) In fiscal year 2017/18, Centra performed four gas meter dispute tests. Two residential customers were not charged a fee. A third residential customer was charged the \$35 fee. The final customer was a commercial customer who paid the \$135 dispute fee in the previous fiscal year, but the test was not completed until 2017/18.

Therefore the revenue collected in the 2017/18 fiscal year was \$35.00 + GST for one residential customer.

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PUB/CENTRA I-153a

REFERENCE:

Tab 12 pgs. 10-11 of 13

PREAMBLE TO IR (IF ANY):

Centra proposes to increase its late payment charges from 1.25% per month to 1.5% per month.

QUESTION:

- a) Provide the total revenue collected by Centra from its late payment charges, in each of the years since the last Centra GRA, broken down by customer class.

RATIONALE FOR QUESTION:

RESPONSE:

The following table provides late payment charges collected by Centra broken down by residential and commercial customer class. The commercial customer class includes SGS Commercial, LGS, High Volume Firm, Mainline Firm, Interruptible Sales, and Power Station and Special Contract class customers.

(\$000'S)	2011/12 Actuals	2012/13 Actuals	2013/14 Actuals	2014/15 Actuals	2015/16 Actuals	2016/17 Actuals	2017/18 Actuals	2018/19 Forecast	2019/20 Test Year
Residential	192	154	194	234	178	128	104	130	125
Commercial	826	655	717	834	677	481	453	511	493
Total	\$1 018	\$809	\$912	\$1 068	\$855	\$609	\$557	\$641	\$619

REFERENCE:

Tab 12 pgs. 10-11 of 13

PREAMBLE TO IR (IF ANY):

Centra proposes to increase its late payment charges from 1.25% per month to 1.5% per month.

QUESTION:

- b) Provide the expected incremental revenue to be raised by increasing the late payment charge from 1.25% to 1.50% per month.
- c) Indicate the effective annual interest rate related to the 1.5% per month late payment charge and provide a comparison with Centra's cost of borrowing and cost of capital.
- d) Similar to Figure 5 on page 78 of Appendix 10.5 from the 2017/18 Manitoba Hydro GRA, depict the proportion of Centra's SGS-residential customers in arrears that are energy poor at both the 6% and 10% energy burden thresholds.

RESPONSE:

- b) The expected incremental revenue from increasing the late payment charge from 1.25% to 1.50% is \$103,000.

Late Payment Charge Calculation	Proposed	Current
LPC Rate	1.50%	1.25%
LPC % of Gross Revenue	0.19%	0.16%
LPC Revenue	619	515
Increase in LPC (Proposed less Current)	103	

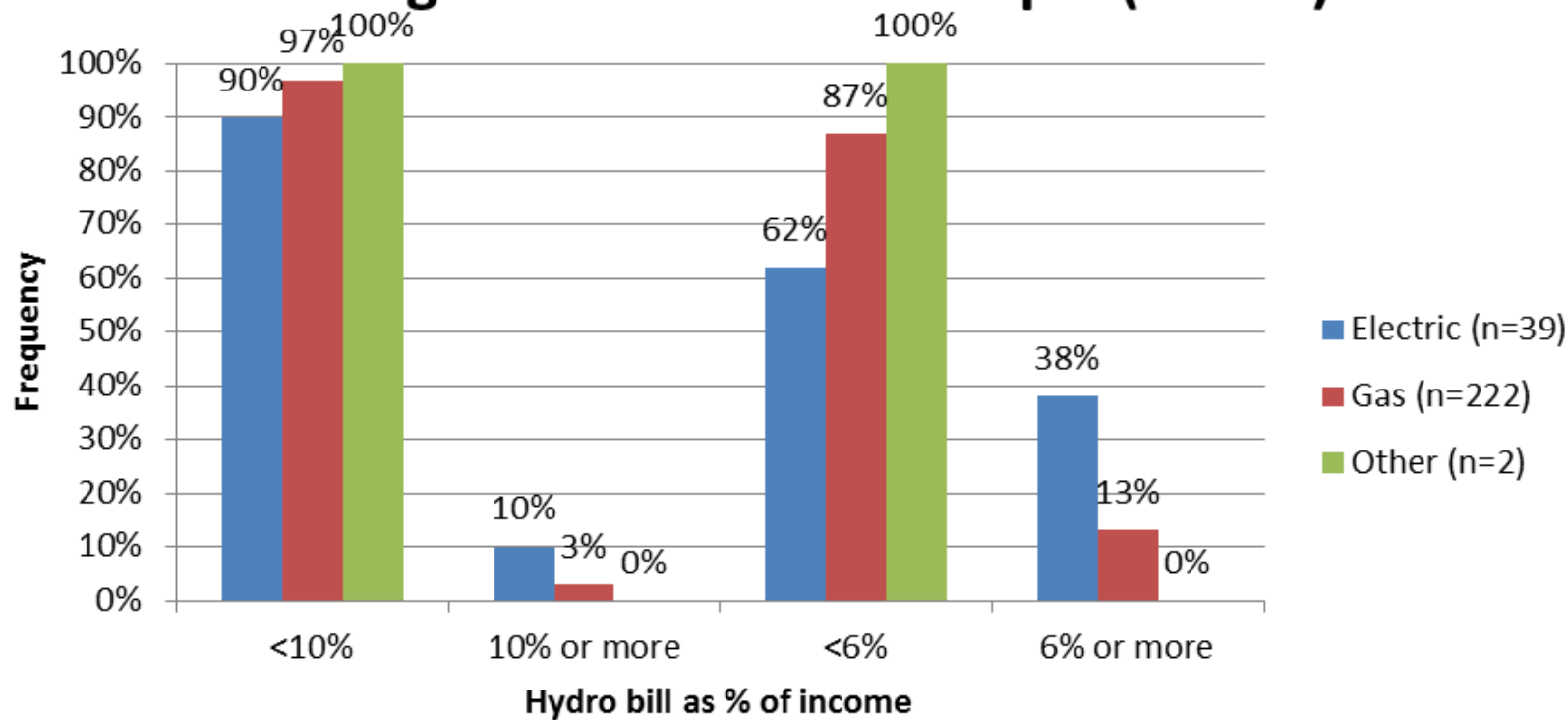
- c) The requested interest rate information is as follows:

Effective Annual Interest Rate of 1.50%	19.56%
Weighted Cost of Borrowing	4.82%
Weighted Cost of Capital	5.92%

- d) Prairie Research Associates (“PRA”) prepared Figure 5 on page 78 of 242 of Appendix 10.5 from the 2017/18 Manitoba Hydro General Rate Application. PRA also prepared the attachment to this response to support the Bill Affordability Working Group from the arrears subsample broken down by heat source. From this, natural gas serviced households in arrears with a combined electric and gas energy burden at the 6% level was 13%, while 3% had an energy burden at the 10% or greater level.

Energy Poverty by Heating Source

Proportion that are considered energy poor by heating source - Arrears sample (n=263)



REFERENCE:

Tab 12 pgs. 12-13 of 13, Appendix 12.4; 2013/14 GRA PUB/Centra I-130

PREAMBLE TO IR (IF ANY):

Centra states that it continues to offer the Equipment Problem Program (“Burner Tip Service”) to its customers, consistent and fully compliant with the original intent of the program as summarized in Order 49/95, and as set forth above in the corresponding terms and conditions of service last reviewed and approved by the PUB at Centra’s 2013/14 General Rate Application. Centra is not proposing any changes to the EPP or the related terms and conditions of the program as part of this Application.

QUESTION:

- a) Provide Centra’s November 15, 2018 response to Board Advisor questions regarding the Customer Equipment Problem Program (“Burner Tip Service”).
- b) Confirm whether Centra personnel will replace all the appliance parts identified in Order 49/95 at page 120.
- c) For each of the past five years, provide a breakdown of the total number of Residential service calls, the total cost of service calls, and the average cost per service call broken down into space heating and water heating.
- d) In Appendix 12.4 at page 21, Centra states: “Ignition modules and igniters are the common issues with ranges. As there are now a wide variety of range models and manufacturers, Manitoba Hydro does not repair many ranges annually. As there are so many different ranges, Manitoba Hydro is unsure of who the suppliers are and where to obtain parts.” In light of this, how does Centra comply with Order 85/13 Directive 21 which requires Centra to offer the Equipment Problem Program for ranges?

RESPONSE:

- a) See the attachment to this response.

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b) Centra continues to ensure that the safety objectives of the EPP are being met and will replace standard parts that are listed in Order 49/95. Over the last quarter century, advancements in technology have been made to improve the safe operation and reliability of natural gas appliances. A number of safety components such as limit controls, flame monitoring components, fan controls and modulating gas valves have been integrated into new appliances. Centra does not stock all proprietary parts in its standard parts kit.

c) The following table provides a summary of the requested Customer Equipment Problem Program (“CEPP”) data:

Fiscal years	2013/14	2014/15	2015/16	2016/17	2017/18
CEPP service cost	\$ 1,980,959	\$ 1,887,748	\$ 1,367,777	\$ 1,351,670	\$ 1,295,969
CEPP service orders	16,731	13,961	12,244	11,728	10,881
Avg cost/call - space heating	\$ 121.06	\$ 138.25	\$ 114.22	\$ 117.84	\$ 121.78
Avg cost/call - water heating	\$ 106.38	\$ 121.50	\$ 100.37	\$ 103.56	\$ 107.02

d) Centra receives fewer than fifty calls per year for servicing ranges under the Customer Equipment Problem Program. Service personnel are able to make repairs using standard parts. As with other gas appliances, technological advancements have resulted in the integration of proprietary parts which are not part of the standard parts kit and can be challenging to obtain.

From: Gratton, Charlene
Sent: Thursday, November 15, 2018 11:26 AM
To: 'David Bonin'
Cc: Brady Ryall; Simonsen, Kurt (PUB); Rachel McMillin; Gregorashuk, Shannon; Steele, Chuck
Subject: RE: PUB/MH QCM Draft Agenda

At the November 8, 2018 QCM, Ryall Engineering raised questions as to whether Centra had made changes to its Equipment Problem Program ("EPP").

Centra can advise that it has not made any changes to Equipment Problem Program since its Terms and Conditions of Service were last reviewed and approved by the PUB at the 2013/14 General Rate Application. In that application to the PUB, Centra proposed changes to its Terms and Conditions to limit the service provided under the EPP to primary space heating and water heating appliances. In proposing those changes, Centra clarified it would continue to address all safety concerns, regardless of the appliance involved. In Order 85/13 and 89/13, the PUB approved the changes to the Terms and Conditions of Service proposed by Centra but directed Centra to continue to service stoves and ranges under the EPP.

The Terms and Conditions of Centra's EPP are set out under "Other Services" (Section IV. E) c)) of Centra's *Schedule of Sales and Transportation Services and Rates*, dated August 2, 2013 as follows:

Provide safety inspections, safety related adjustments and/or repairs to the natural gas burning portion of stoves, ranges, and all primary space and water heating residential and commercial appliances under 400,000 Btu/h (422 MJ/h). This includes, but is not limited to, repair of minor gas leaks, and the adjustment and replacement of controls and control parts. The Small General Class Customer will be responsible for the cost of parts. All other Customers will be responsible for the cost of parts and labour.

The EPP, formerly known as Burner Tip, has been a service offered by Centra since the early 1990s. As outlined in PUB Order 49/95, issued following Centra's 1995 Test Year GRA, the focus of the program has always been, and continues to be, on safety and advice to the consumer. For all calls received under the EPP, Centra completes a diagnosis on the problem, makes immediate safety repairs, provides operating advice and makes referrals to heating dealers for more significant and complex repairs. As part of this program, Centra also responds to "no heat" calls in critically cold weather, completes some repairs and eliminates the health risk associated with no heat. Certain repairs can no longer be completed fully by Centra given significant industry advancements in technology and design in the wide variety of space and water heating appliances now available to customers, the complexity of the repair and/or obsolete replacement parts. In such cases, heating dealers are involved to complete the necessary and proper final repairs or to recommend that the customer obtain a new appliance.

In 2009, new regulations required that all new furnaces installed in the Province of Manitoba must meet high efficiency standards. The change has resulted in greater complexity and variety in the equipment utilizing proprietary parts. When the EPP was first developed, Centra stocked a list of standard parts which could be used to repair almost any furnace. With the introduction of many new manufacturers and models, it is impractical for Centra to maintain an inventory of parts for each individual make and model of furnace. When a Service Person encounters an equipment problem for which a specific brand and model of part is required, the customer is advised that Centra can order and obtain the part and return to install it, or the customer can call a heating dealer who specializes in that brand of equipment who may have the part in stock. As high-efficient furnaces now represent the majority of equipment installed in the Manitoba marketplace, this situation occurs more commonly than it used to. However, in Centra's view, the steps taken to ensure safety and to diagnose the problem are what was contemplated as part of the service provided under the EPP and do not constitute a change in the program from its original intent as

outlined in Order 49/95. As noted by Centra at the November 8 QCM Meeting, work completed by licensed heating dealers at a customer's request can include repairs or the installation of replacement gas valves, high temperature limits, and fan controls.

Centra continues to offer the EPP to its customers, consistent and fully compliant with the original intent of the program as summarized in Order 49/95, and outlined in the Terms and Conditions of Service approved by the PUB. As it has done in the past, Centra will bring forward to the PUB for review and approval any changes it would like to propose to the Terms & Conditions of Service related to the EPP.

Should you require further information, please contact Shannon Gregorashuk at 204-360-4270 or via email sgregorashuk@hydro.mb.ca.

Thank you

Charlene Gratton

REFERENCE:

Tab 13 p. 9 of 14

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Provide Centra's December 24, 2013 submission regarding Order 85/13 Directive 20
- b) Similar to Centra's December 24, 2013 report, provide updated Western Transportation Service (WTS) and Agency, Billing, and Collection (ABC) administration costs and ABC revenues for 2016/17 and 2017/18.
- c) Provide Centra's views whether it is still appropriate for the WTS and ABC administration costs to be recovered from all customers and not specifically from WTS customers.

RESPONSE:

- a) Please see the attachment to this response for Centra's December 24, 2013 submission.
- b) Please note that the WTS and ABC cost figures depicted in the attachment to part a) above included not only the direct costs of administering both the WTS and the ABC Services, but allocations of general corporate overhead costs as well. Since the filing of Centra's response to Directive 20 contained in Order 85/13, Centra no longer allocates corporate overhead costs to individual operating functions in its accounting system. The \$600,000 total cost figure contained in Centra's response to Directive 20 contained approximately \$105,000 of allocated corporate overhead costs. In order to make the 2012/13 cost figures contained in Centra's response to Directive 20 comparable to those for fiscal 2016/17 and 2017/18, which are provided below, this \$105,000 in allocated corporate overhead costs must be deducted in order to arrive at a direct cost figure for the administration of the WTS and ABC Services of approximately \$495,000 for fiscal 2012/13.

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PUB/CENTRA I-155a-c

Centra's total direct administrative costs associated with the delivery of both the WTS and ABC Services during its 2016/17 fiscal year were approximately \$470,000. In addition, uncollectable bad debt write-offs of Primary Gas billings associated with the ABC service totaled approximately \$37,000. Offsetting these costs were ABC Service fee revenues collected in the amount of approximately \$37,000. Therefore, Centra's overall direct cost to deliver the WTS and ABC services during its 2016/17 fiscal year was approximately \$470,000.

Centra's total direct WTS and ABC administrative costs during the 2017/18 fiscal year were approximately \$450,000. Uncollectable bad debt write-offs of Primary Gas billings associated with the ABC service added approximately \$39,000. Offsetting ABC Service fee revenues totaled approximately \$28,000. Centra's overall total direct WTS and ABC services cost during the 2017/18 fiscal year was approximately \$461,000, and is forecast to decline further going forward given staff reductions associated with less work.

- c) Centra continues to believe that customers benefit from having competitive market choice as to whom they purchase their Primary Gas commodity supply from and under what pricing terms. Furthermore, customers who choose to remain on Centra's default system supply Primary Gas commodity offering should rightfully bear some small portion of the costs associated with reserving the right to choose, regardless of whether they exercise that right or not.

Asking all customers to bear some portion of the costs associated with having greater choice as to their supplier of Primary Gas has been a commonly employed principle since the PUB first ordered Centra to develop the WTS in the late 1990s. At that time, millions of dollars of WTS development and implementation costs were ultimately recovered from all of gas customers in Manitoba, not just those choosing to avail themselves of the WTS. The PUB's position in justifying this cost treatment was that all customers benefit from having choice as to their Primary Gas supplier, regardless of whether they exercise that choice or not. Similar to initial development and implementation costs, the ongoing costs of maintaining the WTS continue to be recovered from all gas customers in Manitoba.

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While WTS marketers are charged a nominal fee of \$0.25 per customer per month in order to utilize Centra's Agency Billing & Collection Service ("ABC"), whereby Centra collects Primary Gas revenue from customers on WTS marketers' behalf and remits those amounts to marketers each month, this nominal fee does not fully recover the overall cost of maintaining the ABC. Centra's actual incurred ABC costs over and above the amounts recovered directly from WTS marketers via ABC fees are again recovered from all gas customers in their rates in return for the benefits of being able to choose their Primary Gas supplier.



PO Box 815 • Winnipeg Manitoba Canada • R3C 2P4
Street Location for DELIVERY: 22nd floor – 360 Portage Avenue
Telephone / N° de téléphone : (204) 360-3257 • Fax / N° de télécopieur : (204) 360-6147 • baczarniecki@hydro.mb.ca

December 24, 2013

THE PUBLIC UTILITIES BOARD OF MANITOBA
400-330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

ATTENTION: Mr. H. M. Singh, Board Secretary and Executive Director

Dear Mr. Singh:

RE: Directive 20 of Order 85/13- Western Transportation Service and Agency Billing and Collection Costs

On July 26, 2013, the Public Utilities Board of Manitoba (“PUB”) issued Order 85/13, with respect to Centra Gas Manitoba Inc.’s (“Centra”) 2013/14 General Rate Application. Directive 20 of Order 85/13 directs Centra to “file a report with the Board, on or before December 31, 2013, on the costs it incurs in administering the Western Transportation Service, including the Agency, Billing, and Collection service and any bad debt expense related to the Primary Gas portion of Western Transportation Service Customers”. Centra’s response to this directive is provided herein.

Centra incurs costs in the process of delivering the Western Transportation Service (“WTS”) and the Agency Billing and Collection (“ABC”) Service, the services that facilitate broker supply and Centra’s Fixed Rate Primary Gas Service. These include internal administrative costs, such as the wages and benefits of staff directly involved in delivering the WTS and ABC services, plus an allocated share of overhead costs. In addition, Centra incurs costs attributable to write-offs of uncollectable Primary Gas bad debts associated with ABC Service. ABC Service costs are partially offset by ABC fee revenues collected from marketers who participate in the ABC Service.

Centra’s total internal administrative costs associated with the delivery of both the WTS and ABC Services during its 2012/13 fiscal year were approximately \$550,000. In addition, uncollectable bad debt write-offs of Primary Gas billings associated with the ABC service totaled approximately \$100,000. Offsetting these costs were ABC Service fee revenues collected in the amount of approximately \$55,000. Therefore, Centra’s overall cost to deliver the WTS and ABC services during its 2012/13 fiscal year was approximately \$600,000.

Centra is requesting the PUB’s confirmation that Directive 20 of Order 85/13 has now been

Public Utilities Board of Manitoba
Directive 20 of Order 85/13

December 24, 2013
Page 2 of 2

satisfied. Should you have any questions regarding this submission, please contact the writer at 360-3257 or Greg Barnlund at 360-5243.

Yours truly,

MANITOBA HYDRO LAW DIVISION

Per:



Brent A. Czarnecki
Barrister & Solicitor

REFERENCE:

Application Tab 12 Section 12.6, Appendix 12.3

PREAMBLE TO IR (IF ANY):

“The application of a 5-year moving average is consistent with the Reconnect Fee and Meter Test fees shown in Sections 12.2 and 12.3 of Tab 12 and the rates in the electric Customer Service Quotation Schedule.”

QUESTION:

- a) Please provide details and a sample demonstrating the calculation of the 5-year moving average and provide a comparison of last years' rate with the 5-year moving average specific to Appendix 12.3 Appendix B- Schedule of Sales and Transportation Services and Rates.
- b) Please provide details on how the External Billable Overhead (EBO) of 49% was determined.
- c) Please provide details on cost components included in EBO that were removed from activity rates and common overhead as a result of the transition to IFRS.

RESPONSE:

- a) The following tables provide a comparison of the 2013/14-2017/18 5 year moving average rates to the 2014/15-2018/19 5 year moving average rates for Appendix B – Schedule of Sales and Transportation Services and Rates of Appendix 12.3 of the filing.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-156a-c

2017/18 - 5 Year Average

2013/14 - 2017/18 Average	Third Party Billing Surcharge (49%)	ST Rate (Average + Surcharge)	OT Rate (ST + 40%)
94	46	140	196
97	48	145	202
88	43	131	184
102	50	152	213

2018/19 - 5 Year Average

2014/15 - 2018/19 Average	Third Party Billing Surcharge (49%)	ST Rate (Average + Surcharge)	OT Rate (ST + 40%)
92	45	137	192
96	47	143	200
86	42	128	179
103	50	153	215

Difference

2014/15 - 2018/19 Average	Third Party Billing Surcharge (49%)	ST Rate (Average + Surcharge)	OT Rate (ST + 40%)
(2)	(1)	(3)	(4)
(1)	(0)	(1)	(2)
(2)	(1)	(3)	(4)
1	0	1	2

b) and c)

Please see the response to PUB/CENTRA I-31a-b.

REFERENCE:

Tab 13 p. 1 of 14, Tab 14 (December 12, 2018 Centra Letter) pgs. 4-5 of 5, Appendix 13.2

PREAMBLE TO IR (IF ANY):

QUESTION:

Provide the financial feasibility true-up reports associated with the following franchise applications:

- i. R.M. of Thompson/Roland (Order 80/11)
- ii. R.M. of Portage la Prairie (Order 89/11)
- iii. R.M. of Rockwood (Order 101/11)
- iv. R.M. of Rosedale (Order 51/12)
- v. R.M. of Whitewater (Order 61/12)
- vi. R.M. of Portage la Prairie (Order 67/12)
- vii. R.M. of South Norfolk/Grey (Order 70/12)
- viii. R.M. of Ste. Anne (Order 85/12)
- ix. R.M. of Bifrost/Woodlands (Order 94/12)
- x. R.M. of Woodworth (Order 131/12)
- xi. R.M. of Dufferin (Order 80/13)
- xii. R.M. of Cornwallis (Order 81/13)
- xiii. R.M. of Stanley (Order 116/13)
- xiv. R.M. of North Cypress/South Cypress (Order 117/13)

RESPONSE:

Please see attachment to this response for the financial feasibility true-up reports for the following municipalities:

- i. R.M. of Thompson/Roland (Order 80/11)
- ii. R.M. of Portage la Prairie (Order 89/11)
- iii. R.M. of Rockwood (Order 101/11) – Please note that the feasibility in the R.M. of Rockwood was completed using estimated capital.

- iv. R.M. of Rosedale (Order 51/12)
- v. R.M. of Whitewater (Order 61/12)
- vi. R.M. of Portage la Prairie (Order 67/12)
- vii. R.M. of South Norfolk/Grey (Order 70/12)
- viii. R.M. of Ste. Anne (Order 85/12) – The franchise application for the R.M. of Ste. Anne dated June 12th, 2012 should not have stated a recalculation will be completed at the end of five years. The customer feasibilities included in the franchise application resulted in a zero dollar contribution requirement. Centra does not recalculate feasibilities with zero dollar contributions.
- ix. R.M. of Bifrost/Woodlands (Order 94/12) – Please note that the feasibility in the R.M. of Bifrost/Woodlands was completed using estimated capital.

The following feasibilities will be recalculated in the 2019 calendar year:

- i. R.M. of Woodworth (Order 131/12) – The recalculation of the feasibility in the R.M. of Woodworth has not yet been completed because the customer and Centra mutually agreed to shift construction to the following summer season. The chance of incurring winter costs was deemed high and the customer did not require service until 2013, so the project was delayed.
- ii. R.M. of Dufferin (Order 80/13)
- iii. R.M. of Cornwallis (Order 81/13)
- iv. R.M. of Stanley (Order 116/13)
- v. R.M. of North Cypress/South Cypress (Order 117/13)

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of Thompson/Roland / PUB/CENTRA I-157 (i)**
2

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
	<u>YEAR 0</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>YEAR 6</u>	<u>YEAR 7</u>	<u>YEAR 8</u>	<u>YEAR 9</u>	<u>YEAR 10</u>

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	427	2,594	1,314	978	1,486	1,486	1,486	1,486	1,486	1,486
7	Annual Volume (103m3)	12	73	37	28	42	42	42	42	42	42
8	Projected Revenues	\$3,231	\$14,941	\$8,024	\$6,209	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954

RATE BASE

10	Gross Fixed Assets	\$143,217	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653
11	Accumulated Depreciation		\$4,115	\$8,230	\$12,344	\$16,459	\$20,574	\$24,689	\$28,803	\$32,918	\$41,148
12	Net Plant Closing	\$143,217	\$153,539	\$149,424	\$145,309	\$141,194	\$137,080	\$132,965	\$128,850	\$124,735	\$116,506
13	Net Plant at Mid-Year		\$148,378	\$151,481	\$147,367	\$143,252	\$139,137	\$135,022	\$130,908	\$126,793	\$118,563
14	Contributions	\$164,364	\$160,074	\$155,784	\$151,494	\$147,204	\$142,914	\$138,625	\$134,335	\$130,045	\$121,465
15	Contribution at Mid-Year		\$162,219	\$157,929	\$153,639	\$149,349	\$145,059	\$140,770	\$136,480	\$132,190	\$123,610
16	Working Capital Allowance		\$241	\$672	\$429	\$367	\$447	\$446	\$445	\$444	\$442
17	Rate Base at Mid-Year		(\$13,600)	(\$5,776)	(\$5,844)	(\$5,730)	(\$5,475)	(\$5,301)	(\$5,127)	(\$4,953)	(\$4,604)

REVENUE DEFICIENCY CALCULATION

20	Cost of Gas	\$1,788	\$10,860	\$5,501	\$4,095	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221
21	Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22	Depreciation Expense	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115
23	Amortization of Contributions	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)
24	Municipal Tax & Corp.Cap. Tax	\$3,270	\$3,315	\$3,528	\$3,635	\$3,199	\$3,179	\$3,158	\$3,138	\$3,117	\$3,096
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	(\$827)	(\$351)	(\$355)	(\$348)	(\$333)	(\$322)	(\$312)	(\$301)	(\$291)	(\$280)
27	Total Revenue Requirement	\$4,095	\$13,689	\$8,539	\$7,246	\$8,953	\$8,943	\$8,933	\$8,923	\$8,913	\$8,903
28	Projected Revenues	\$3,231	\$14,941	\$8,024	\$6,209	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954
29	Revenue Sufficiency (Deficiency)	(\$864)	\$1,251	(\$515)	(\$1,038)	\$1	\$11	\$21	\$31	\$41	\$51
30	Revenue to Cost Ratio	78.9%	109.1%	94.0%	85.7%	100.0%	100.1%	100.2%	100.3%	100.5%	100.6%

31	Net Present Value	\$1
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CONTRIBUTION REQUIREMENT

33	Total Contribution Required	\$164,364
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Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of Thompson/Roland / PUB/CENTRA I-157 (i)**

2

		<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>
		<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486
7	Annual Volume (103m3)	42	42	42	42	42	42	42	42	42	42
8	Projected Revenues	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653
11	Accumulated Depreciation	\$45,262	\$49,377	\$53,492	\$57,607	\$61,721	\$65,836	\$69,951	\$74,066	\$78,180	\$82,295
12	Net Plant Closing	\$116,506	\$112,391	\$108,276	\$104,162	\$100,047	\$95,932	\$91,817	\$87,703	\$83,588	\$79,473
13	Net Plant at Mid-Year		\$114,449	\$110,334	\$106,219	\$102,104	\$97,990	\$93,875	\$89,760	\$85,645	\$81,531
14	Contributions	\$121,465	\$117,175	\$112,885	\$108,595	\$104,305	\$100,015	\$95,726	\$91,436	\$87,146	\$82,856
15	Contribution at Mid-Year		\$119,320	\$115,030	\$110,740	\$106,450	\$102,160	\$97,871	\$93,581	\$89,291	\$85,001
16	Working Capital Allowance		\$441	\$440	\$439	\$438	\$437	\$436	\$435	\$434	\$433
17	Rate Base at Mid-Year		(\$4,430)	(\$4,256)	(\$4,082)	(\$3,908)	(\$3,733)	(\$3,559)	(\$3,385)	(\$3,211)	(\$3,037)
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221
21	Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22	Depreciation Expense	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115
23	Amortization of Contributions	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)
24	Municipal Tax & Corp.Cap. Tax	\$3,076	\$3,055	\$3,035	\$3,014	\$2,994	\$2,973	\$2,952	\$2,932	\$2,911	\$2,891
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	(\$269)	(\$259)	(\$248)	(\$238)	(\$227)	(\$216)	(\$206)	(\$195)	(\$185)	(\$174)
27	Total Revenue Requirement	\$8,893	\$8,883	\$8,873	\$8,863	\$8,853	\$8,843	\$8,833	\$8,823	\$8,813	\$8,803
28	Projected Revenues	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954
29	Revenue Sufficiency (Deficiency)	\$61	\$71	\$81	\$91	\$101	\$111	\$121	\$131	\$141	\$151
30	Revenue to Cost Ratio	100.7%	100.8%	100.9%	101.0%	101.1%	101.3%	101.4%	101.5%	101.6%	101.7%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of Thompson/Roland / PUB/CENTRA I-157 (i)**

2

		<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>
		<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486	1,486
7	Annual Volume (103m3)	42	42	42	42	42	42	42	42	42	42
8	Projected Revenues	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653	\$157,653
11	Accumulated Depreciation	\$86,410	\$90,525	\$94,639	\$98,754	\$102,869	\$106,984	\$111,098	\$115,213	\$119,328	\$123,443
12	Net Plant Closing	\$75,358	\$71,244	\$67,129	\$63,014	\$58,899	\$54,785	\$50,670	\$46,555	\$42,440	\$38,326
13	Net Plant at Mid-Year		\$73,301	\$69,186	\$65,071	\$60,957	\$56,842	\$52,727	\$48,612	\$44,498	\$40,383
14	Contributions	\$78,566	\$74,276	\$69,986	\$65,696	\$61,406	\$57,116	\$52,827	\$48,537	\$44,247	\$39,957
15	Contribution at Mid-Year		\$76,421	\$72,131	\$67,841	\$63,551	\$59,261	\$54,972	\$50,682	\$46,392	\$42,102
16	Working Capital Allowance		\$432	\$431	\$430	\$429	\$428	\$427	\$426	\$425	\$424
17	Rate Base at Mid-Year		(\$2,688)	(\$2,514)	(\$2,340)	(\$2,166)	(\$1,992)	(\$1,818)	(\$1,643)	(\$1,469)	(\$1,295)
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221	\$6,221
21	Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22	Depreciation Expense	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115	\$4,115
23	Amortization of Contributions	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)	(\$4,290)
24	Municipal Tax & Corp.Cap. Tax	\$2,870	\$2,850	\$2,829	\$2,808	\$2,788	\$2,767	\$2,747	\$2,726	\$2,706	\$2,685
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	(\$163)	(\$153)	(\$142)	(\$132)	(\$121)	(\$111)	(\$100)	(\$89)	(\$79)	(\$68)
27	Total Revenue Requirement	\$8,793	\$8,783	\$8,773	\$8,763	\$8,753	\$8,743	\$8,733	\$8,723	\$8,713	\$8,703
28	Projected Revenues	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954	\$8,954
29	Revenue Sufficiency (Deficiency)	\$161	\$171	\$180	\$190	\$200	\$210	\$220	\$230	\$240	\$250
30	Revenue to Cost Ratio	101.8%	101.9%	102.1%	102.2%	102.3%	102.4%	102.5%	102.6%	102.8%	102.9%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of Portage la Prairie / PUB/CENTRA I-157 (ii)**
2

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
	<u>YEAR 0</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>YEAR 6</u>	<u>YEAR 7</u>	<u>YEAR 8</u>	<u>YEAR 9</u>	<u>YEAR 10</u>

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	5,834	10,496	10,183	8,915	9,216	9,216	9,216	9,216	9,216	9,216
7	Annual Volume (103m3)	165	297	288	253	261	261	261	261	261	261
8	Projected Revenues	\$32,448	\$57,639	\$55,948	\$49,096	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722

RATE BASE

10	Gross Fixed Assets	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903
11	Accumulated Depreciation	\$9,002	\$18,004	\$27,006	\$36,008	\$45,010	\$54,012	\$63,014	\$72,016	\$81,018	\$90,020
12	Net Plant Closing	\$344,903	\$335,901	\$326,899	\$317,897	\$308,895	\$299,893	\$290,891	\$281,889	\$272,887	\$263,885
13	Net Plant at Mid-Year		\$340,402	\$331,400	\$322,398	\$313,396	\$304,394	\$295,392	\$286,390	\$277,388	\$268,386
14	Contributions	\$274,214	\$267,057	\$259,900	\$252,743	\$245,586	\$238,429	\$231,272	\$224,115	\$216,958	\$209,801
15	Contribution at Mid-Year		\$270,636	\$263,479	\$256,322	\$249,165	\$242,008	\$234,851	\$227,694	\$220,537	\$213,380
16	Working Capital Allowance		\$1,482	\$2,408	\$2,343	\$2,094	\$2,125	\$2,122	\$2,120	\$2,118	\$2,116
17	Rate Base at Mid-Year		\$71,248	\$70,329	\$68,419	\$66,325	\$64,510	\$62,663	\$60,816	\$58,969	\$57,122

REVENUE DEFICIENCY CALCULATION

20	Cost of Gas	\$24,425	\$43,944	\$42,634	\$37,325	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585
21	Operating & Maintenance Expenses	\$380	\$380	\$380	\$380	\$380	\$380	\$380	\$380	\$380	\$380
22	Depreciation Expense	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002
23	Amortization of Contributions	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)
24	Municipal Tax & Corp.Cap. Tax	\$6,553	\$6,625	\$6,567	\$6,602	\$5,990	\$5,945	\$5,900	\$5,855	\$5,810	\$5,765
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$4,332	\$4,276	\$4,160	\$4,033	\$3,923	\$3,810	\$3,698	\$3,586	\$3,473	\$3,361
27	Total Revenue Requirement	\$37,535	\$57,071	\$55,585	\$50,185	\$50,722	\$50,565	\$50,408	\$50,251	\$50,093	\$49,936
28	Projected Revenues	\$32,448	\$57,639	\$55,948	\$49,096	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722
29	Revenue Sufficiency (Deficiency)	(\$5,087)	\$568	\$362	(\$1,089)	(\$0)	\$157	\$315	\$472	\$629	\$787
30	Revenue to Cost Ratio	86.4%	101.0%	100.7%	97.8%	100.0%	100.3%	100.6%	100.9%	101.3%	101.6%

31	Net Present Value	\$10,066
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CONTRIBUTION REQUIREMENT

33	Total Contribution Required	\$274,214
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Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 True-Up: R.M. of Portage la Prairie / PUB/CENTRA I-157 (ii)

2

		<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>
		<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	9,216	9,216	9,216	9,216	9,216	9,216	9,216	9,216	9,216	9,216
7	Annual Volume (103m3)	261	261	261	261	261	261	261	261	261	261
8	Projected Revenues	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903
11	Accumulated Depreciation	\$99,022	\$108,023	\$117,025	\$126,027	\$135,029	\$144,031	\$153,033	\$162,035	\$171,037	\$180,039
12	Net Plant Closing	\$254,883	\$245,881	\$236,879	\$227,877	\$218,875	\$209,873	\$191,869	\$182,867	\$173,865	\$164,863
13	Net Plant at Mid-Year		\$250,382	\$241,380	\$232,378	\$223,376	\$214,374	\$196,370	\$187,368	\$178,366	\$169,364
14	Contributions	\$202,644	\$195,487	\$188,330	\$181,173	\$174,016	\$166,859	\$159,702	\$145,389	\$138,232	\$131,075
15	Contribution at Mid-Year		\$199,066	\$191,909	\$184,752	\$177,595	\$170,438	\$156,124	\$148,967	\$141,810	\$134,653
16	Working Capital Allowance		\$2,112	\$2,110	\$2,108	\$2,105	\$2,103	\$2,099	\$2,097	\$2,095	\$2,093
17	Rate Base at Mid-Year		\$53,428	\$51,581	\$49,734	\$47,887	\$46,039	\$44,192	\$42,345	\$40,498	\$38,651
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585
21	Operating & Maintenance Expenses	\$380	\$380	\$380	\$380	\$380	\$380	\$380	\$380	\$380	\$380
22	Depreciation Expense	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002
23	Amortization of Contributions	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)
24	Municipal Tax & Corp.Cap. Tax	\$5,720	\$5,675	\$5,630	\$5,585	\$5,540	\$5,495	\$5,450	\$5,405	\$5,360	\$5,315
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$3,249	\$3,136	\$3,024	\$2,912	\$2,799	\$2,687	\$2,575	\$2,462	\$2,350	\$2,238
27	Total Revenue Requirement	\$49,779	\$49,621	\$49,464	\$49,307	\$49,149	\$48,992	\$48,835	\$48,677	\$48,520	\$48,363
28	Projected Revenues	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722
29	Revenue Sufficiency (Deficiency)	\$944	\$1,101	\$1,259	\$1,416	\$1,573	\$1,731	\$1,888	\$2,045	\$2,202	\$2,360
30	Revenue to Cost Ratio	101.9%	102.2%	102.5%	102.9%	103.2%	103.5%	103.9%	104.2%	104.5%	104.9%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 True-Up: R.M. of Portage la Prairie / PUB/CENTRA I-157 (ii)

2

	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>
	<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>

4

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	9,216	9,216	9,216	9,216	9,216	9,216	9,216	9,216	9,216
7	Annual Volume (103m3)	261	261	261	261	261	261	261	261	261
8	Projected Revenues	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722

9 **RATE BASE**

10	Gross Fixed Assets	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903	\$344,903
11	Accumulated Depreciation	\$189,041	\$198,043	\$207,045	\$216,047	\$225,049	\$234,051	\$243,053	\$252,055	\$261,057
12	Net Plant Closing	\$164,863	\$155,861	\$146,859	\$137,858	\$128,856	\$119,854	\$110,852	\$92,848	\$83,846
13	Net Plant at Mid-Year	\$160,362	\$151,360	\$142,359	\$133,357	\$124,355	\$115,353	\$106,351	\$97,349	\$88,347
14	Contributions	\$131,075	\$123,918	\$116,761	\$109,604	\$95,290	\$88,133	\$80,976	\$73,819	\$66,662
15	Contribution at Mid-Year	\$127,496	\$120,339	\$113,182	\$106,025	\$98,868	\$91,711	\$84,554	\$77,397	\$70,240
16	Working Capital Allowance	\$2,091	\$2,088	\$2,086	\$2,084	\$2,082	\$2,080	\$2,078	\$2,076	\$2,074
17	Rate Base at Mid-Year	\$34,957	\$33,110	\$31,263	\$29,416	\$27,569	\$25,722	\$23,874	\$22,027	\$20,180

18 **REVENUE DEFICIENCY CALCULATION**

19

20	Cost of Gas	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585	\$38,585
21	Operating & Maintenance Expenses	\$380	\$380	\$380	\$380	\$380	\$380	\$380	\$380	\$380
22	Depreciation Expense	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002	\$9,002
23	Amortization of Contributions	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)	(\$7,157)
24	Municipal Tax & Corp.Cap. Tax	\$5,270	\$5,225	\$5,180	\$5,135	\$5,090	\$5,045	\$5,000	\$4,955	\$4,865
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$2,126	\$2,013	\$1,901	\$1,789	\$1,676	\$1,564	\$1,452	\$1,339	\$1,227
27	Total Revenue Requirement	\$48,205	\$48,048	\$47,891	\$47,733	\$47,576	\$47,419	\$47,261	\$47,104	\$46,947
28	Projected Revenues	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722	\$50,722
29	Revenue Sufficiency (Deficiency)	\$2,517	\$2,674	\$2,832	\$2,989	\$3,146	\$3,304	\$3,461	\$3,618	\$3,776
30	Revenue to Cost Ratio	105.2%	105.6%	105.9%	106.3%	106.6%	107.0%	107.3%	107.7%	108.0%

Financial Feasibility Test

Page 1 of 3

Centra Gas Manitoba Inc.

1 **Recalculation: R.M. of Rockwood / PUB/CENTRA I-157 (iii)**
2

[illegible]

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	2,567	7,518	8,071	7,382	7,867	7,867	7,867	7,867	7,867
7	Annual Volume (103m3)	73	213	229	209	223	223	223	223	223
8	Projected Revenues	\$18,011	\$50,967	\$54,648	\$50,062	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290

9 **RATE BASE**

10	Gross Fixed Assets	\$88,424	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888
11	Accumulated Depreciation		\$2,633	\$5,266	\$7,900	\$10,533	\$13,166	\$15,799	\$18,432	\$21,065	\$23,699
12	Net Plant Closing	\$88,424	\$98,255	\$95,622	\$92,989	\$90,356	\$87,722	\$85,089	\$82,456	\$79,823	\$77,190
13	Net Plant at Mid-Year		\$93,339	\$96,939	\$94,305	\$91,672	\$89,039	\$86,406	\$83,773	\$81,139	\$78,506
14	Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	Contribution at Mid-Year		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	Working Capital Allowance		\$757	\$2,028	\$2,170	\$1,992	\$2,116	\$2,115	\$2,115	\$2,114	\$2,113
17	Rate Base at Mid-Year		\$94,096	\$98,967	\$96,475	\$93,664	\$91,155	\$88,521	\$85,887	\$83,254	\$80,620

18 REVENUE DEFICIENCY CALCULATION

19											
20	Cost of Gas	\$13,957	\$40,875	\$43,882	\$40,136	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773
21	Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22	Depreciation Expense	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633
23	Amortization of Contributions	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)
24	Municipal Tax & Corp.Cap. Tax	\$2,013	\$2,000	\$1,986	\$1,973	\$1,960	\$1,947	\$1,934	\$1,921	\$1,907	\$1,894
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$5,721	\$6,018	\$5,866	\$5,695	\$5,543	\$5,382	\$5,222	\$5,062	\$4,902	\$4,742
27	Total Revenue Requirement	\$24,364	\$51,565	\$54,407	\$50,477	\$52,948	\$52,775	\$52,602	\$52,428	\$52,255	\$52,082
28	Projected Revenues	\$18,011	\$50,967	\$54,648	\$50,062	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290
29	Revenue Sufficiency (Deficiency)	(\$6,353)	(\$598)	\$241	(\$416)	\$342	\$515	\$688	\$862	\$1,035	\$1,208
30	Revenue to Cost Ratio	73.9%	98.8%	100.4%	99.2%	100.6%	101.0%	101.3%	101.6%	102.0%	102.3%

31	Net Present Value	\$13,263
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32 CONTRIBUTION REQUIREMENT

33	Total Contribution Required	\$0
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Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 Recalculation: R.M. of Rockwood / PUB/CENTRA I-157 (iii)

		<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>
		<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	7,867	7,867	7,867	7,867	7,867	7,867	7,867	7,867	7,867	7,867
7	Annual Volume (103m3)	223	223	223	223	223	223	223	223	223	223
8	Projected Revenues	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888
11	Accumulated Depreciation	\$28,965	\$31,598	\$34,231	\$36,865	\$39,498	\$42,131	\$44,764	\$47,397	\$50,031	\$52,664
12	Net Plant Closing	\$74,556	\$71,923	\$69,290	\$66,657	\$64,024	\$61,391	\$58,757	\$56,124	\$53,491	\$50,858
13	Net Plant at Mid-Year	\$73,240	\$70,607	\$67,974	\$65,340	\$62,707	\$60,074	\$57,441	\$54,808	\$52,174	\$49,541
14	Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	Contribution at Mid-Year	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	Working Capital Allowance	\$2,112	\$2,112	\$2,111	\$2,110	\$2,110	\$2,109	\$2,108	\$2,108	\$2,107	\$2,107
17	Rate Base at Mid-Year	\$75,352	\$72,718	\$70,084	\$67,451	\$64,817	\$62,183	\$59,549	\$56,915	\$54,282	\$51,648
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773
21	Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22	Depreciation Expense	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633
23	Amortization of Contributions	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)
24	Municipal Tax & Corp.Cap. Tax	\$1,881	\$1,868	\$1,855	\$1,842	\$1,828	\$1,815	\$1,802	\$1,789	\$1,776	\$1,763
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$4,582	\$4,422	\$4,261	\$4,101	\$3,941	\$3,781	\$3,621	\$3,461	\$3,301	\$3,140
27	Total Revenue Requirement	\$51,909	\$51,735	\$51,562	\$51,389	\$51,215	\$51,042	\$50,869	\$50,695	\$50,522	\$50,349
28	Projected Revenues	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290
29	Revenue Sufficiency (Deficiency)	\$1,382	\$1,555	\$1,728	\$1,901	\$2,075	\$2,248	\$2,421	\$2,595	\$2,768	\$2,941
30	Revenue to Cost Ratio	102.7%	103.0%	103.4%	103.7%	104.1%	104.4%	104.8%	105.1%	105.5%	105.8%

Financial Feasibility Test
Page 3 of 3

Centra Gas Manitoba Inc.

1 Recalculation: R.M. of Rockwood / PUB/CENTRA I-157 (iii)

		<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>
		<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	7,867	7,867	7,867	7,867	7,867	7,867	7,867	7,867	7,867	7,867
7	Annual Volume (103m3)	223	223	223	223	223	223	223	223	223	223
8	Projected Revenues	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888	\$100,888
11	Accumulated Depreciation	\$55,297	\$57,930	\$60,563	\$63,196	\$65,830	\$68,463	\$71,096	\$73,729	\$76,362	\$78,996
12	Net Plant Closing	\$48,225	\$45,591	\$42,958	\$40,325	\$37,692	\$35,059	\$32,426	\$29,792	\$27,159	\$24,893
13	Net Plant at Mid-Year	\$46,908	\$44,275	\$41,642	\$39,008	\$36,375	\$33,742	\$31,109	\$28,476	\$25,843	\$23,209
14	Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	Contribution at Mid-Year	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	Working Capital Allowance	\$2,106	\$2,105	\$2,105	\$2,104	\$2,104	\$2,103	\$2,102	\$2,102	\$2,101	\$2,100
17	Rate Base at Mid-Year	\$49,014	\$46,380	\$43,746	\$41,113	\$38,479	\$35,845	\$33,211	\$30,577	\$27,944	\$25,310
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773	\$42,773
21	Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22	Depreciation Expense	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633	\$2,633
23	Amortization of Contributions	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)	(\$0)
24	Municipal Tax & Corp.Cap. Tax	\$1,749	\$1,736	\$1,723	\$1,710	\$1,697	\$1,684	\$1,670	\$1,657	\$1,644	\$1,631
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$2,980	\$2,820	\$2,660	\$2,500	\$2,340	\$2,180	\$2,019	\$1,859	\$1,699	\$1,539
27	Total Revenue Requirement	\$50,175	\$50,002	\$49,829	\$49,655	\$49,482	\$49,309	\$49,136	\$48,962	\$48,789	\$48,616
28	Projected Revenues	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290	\$53,290
29	Revenue Sufficiency (Deficiency)	\$3,115	\$3,288	\$3,461	\$3,635	\$3,808	\$3,981	\$4,155	\$4,328	\$4,501	\$4,674
30	Revenue to Cost Ratio	106.2%	106.6%	106.9%	107.3%	107.7%	108.1%	108.5%	108.8%	109.2%	109.6%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of Rosedale / PUB/CENTRA I-157 (iv)**
2

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
	<u>YEAR 0</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>YEAR 6</u>	<u>YEAR 7</u>	<u>YEAR 8</u>	<u>YEAR 9</u>	<u>YEAR 10</u>

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	16,854	16,551	13,704	15,156	15,672	15,672	15,672	15,672	15,672	15,672
7	Annual Volume (103m3)	477	469	388	429	444	444	444	444	444	444
8	Projected Revenues	\$84,886	\$83,375	\$69,194	\$76,423	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996

RATE BASE

10	Gross Fixed Assets	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349
11	Accumulated Depreciation	\$11,937	\$23,874	\$35,810	\$47,747	\$59,684	\$71,621	\$83,558	\$95,495	\$107,431	\$119,368
12	Net Plant Closing	\$457,349	\$445,412	\$433,476	\$421,539	\$409,602	\$397,665	\$385,728	\$373,792	\$361,855	\$349,918
13	Net Plant at Mid-Year		\$451,381	\$439,444	\$427,507	\$415,570	\$403,634	\$391,697	\$379,760	\$367,823	\$355,886
14	Contributions	\$302,766	\$294,864	\$286,962	\$279,059	\$271,157	\$263,255	\$255,353	\$247,451	\$239,549	\$231,646
15	Contribution at Mid-Year		\$298,815	\$290,913	\$283,011	\$275,108	\$267,206	\$259,304	\$251,402	\$243,500	\$235,597
16	Working Capital Allowance		\$3,391	\$3,334	\$2,832	\$3,050	\$3,142	\$3,139	\$3,136	\$3,133	\$3,128
17	Rate Base at Mid-Year		\$155,957	\$151,865	\$147,328	\$143,512	\$139,569	\$135,532	\$131,494	\$127,457	\$123,419

REVENUE DEFICIENCY CALCULATION

20	Cost of Gas	\$63,462	\$62,320	\$51,601	\$57,066	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937
23	Amortization of Contributions	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)
24	Municipal Tax & Corp.Cap. Tax	\$8,194	\$8,124	\$8,216	\$7,374	\$7,365	\$7,305	\$7,245	\$7,186	\$7,126	\$7,066
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$9,482	\$9,234	\$8,958	\$8,726	\$8,486	\$8,241	\$7,995	\$7,750	\$7,504	\$7,259
27	Total Revenue Requirement	\$85,274	\$83,813	\$72,910	\$77,301	\$78,996	\$78,691	\$78,386	\$78,080	\$77,775	\$77,470
28	Projected Revenues	\$84,886	\$83,375	\$69,194	\$76,423	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996
29	Revenue Sufficiency (Deficiency)	(\$387)	(\$438)	(\$3,716)	(\$877)	(\$0)	\$305	\$610	\$915	\$1,221	\$1,526
30	Revenue to Cost Ratio	99.5%	99.5%	94.9%	98.9%	100.0%	100.4%	100.8%	101.2%	101.6%	102.0%

31 Net Present Value \$24,368

CONTRIBUTION REQUIREMENT

33 Total Contribution Required \$302,766

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of Rosedale / PUB/CENTRA I-157 (iv)**

2

	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>
	<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>

4

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	15,672	15,672	15,672	15,672	15,672	15,672	15,672	15,672	15,672
7	Annual Volume (103m3)	444	444	444	444	444	444	444	444	444
8	Projected Revenues	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996
9	<u>RATE BASE</u>									
10	Gross Fixed Assets	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349
11	Accumulated Depreciation	\$131,305	\$143,242	\$155,179	\$167,115	\$179,052	\$190,989	\$202,926	\$214,863	\$226,800
12	Net Plant Closing	\$337,981	\$326,044	\$314,107	\$302,171	\$290,234	\$278,297	\$266,360	\$254,423	\$242,487
13	Net Plant at Mid-Year		\$332,013	\$320,076	\$308,139	\$296,202	\$284,265	\$272,329	\$260,392	\$248,455
14	Contributions	\$223,744	\$215,842	\$207,940	\$200,038	\$192,135	\$184,233	\$176,331	\$168,429	\$160,527
15	Contribution at Mid-Year		\$219,793	\$211,891	\$203,989	\$196,086	\$188,184	\$180,282	\$172,380	\$164,478
16	Working Capital Allowance		\$3,125	\$3,122	\$3,119	\$3,116	\$3,113	\$3,111	\$3,108	\$3,105
17	Rate Base at Mid-Year		\$115,344	\$111,307	\$107,269	\$103,232	\$99,195	\$95,157	\$91,120	\$87,082

18 **REVENUE DEFICIENCY CALCULATION**

19

20	Cost of Gas	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937
23	Amortization of Contributions	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)
24	Municipal Tax & Corp.Cap. Tax	\$7,006	\$6,947	\$6,887	\$6,827	\$6,768	\$6,708	\$6,648	\$6,589	\$6,529
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$7,013	\$6,768	\$6,522	\$6,277	\$6,031	\$5,786	\$5,540	\$5,295	\$5,050
27	Total Revenue Requirement	\$77,165	\$76,860	\$76,555	\$76,249	\$75,944	\$75,639	\$75,334	\$75,029	\$74,723
28	Projected Revenues	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996
29	Revenue Sufficiency (Deficiency)	\$1,831	\$2,136	\$2,441	\$2,747	\$3,052	\$3,357	\$3,662	\$3,967	\$4,272
30	Revenue to Cost Ratio	102.4%	102.8%	103.2%	103.6%	104.0%	104.4%	104.9%	105.3%	105.7%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 True-Up: R.M. of Rosedale / PUB/CENTRA I-157 (iv)

2

	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>	<u>2042</u>
	<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>

4

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	15,672	15,672	15,672	15,672	15,672	15,672	15,672	15,672	15,672
7	Annual Volume (103m3)	444	444	444	444	444	444	444	444	444
8	Projected Revenues	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996

9 **RATE BASE**

10	Gross Fixed Assets	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349	\$457,349
11	Accumulated Depreciation	\$250,673	\$262,610	\$274,547	\$286,484	\$298,420	\$310,357	\$322,294	\$334,231	\$358,104
12	Net Plant Closing	\$218,613	\$194,739	\$182,803	\$170,866	\$158,929	\$146,992	\$135,055	\$123,118	\$99,245
13	Net Plant at Mid-Year	\$212,645	\$200,708	\$188,771	\$176,834	\$164,897	\$152,960	\$141,024	\$129,087	\$105,213
14	Contributions	\$144,722	\$136,820	\$128,918	\$121,016	\$113,113	\$97,309	\$89,407	\$81,505	\$73,602
15	Contribution at Mid-Year	\$140,771	\$132,869	\$124,967	\$117,065	\$109,162	\$101,260	\$93,358	\$85,456	\$77,554
16	Working Capital Allowance	\$3,096	\$3,094	\$3,091	\$3,088	\$3,085	\$3,082	\$3,080	\$3,077	\$3,074
17	Rate Base at Mid-Year	\$74,970	\$70,933	\$66,895	\$62,858	\$58,820	\$54,783	\$50,745	\$46,708	\$42,670

18 **REVENUE DEFICIENCY CALCULATION**

19

20	Cost of Gas	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010	\$59,010
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937	\$11,937
23	Amortization of Contributions	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)	(\$7,902)
24	Municipal Tax & Corp.Cap. Tax	\$6,410	\$6,350	\$6,290	\$6,231	\$6,171	\$6,111	\$6,052	\$5,992	\$5,872
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$4,559	\$4,313	\$4,068	\$3,822	\$3,577	\$3,331	\$3,086	\$2,840	\$2,595
27	Total Revenue Requirement	\$74,113	\$73,808	\$73,503	\$73,198	\$72,892	\$72,587	\$72,282	\$71,977	\$71,672
28	Projected Revenues	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996	\$78,996
29	Revenue Sufficiency (Deficiency)	\$4,883	\$5,188	\$5,493	\$5,798	\$6,104	\$6,409	\$6,714	\$7,019	\$7,324
30	Revenue to Cost Ratio	106.6%	107.0%	107.5%	107.9%	108.4%	108.8%	109.3%	109.8%	110.2%

Financial Feasibility Test

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Centra Gas Manitoba Inc.

1 True-Up: R.M. of Whitewater / PUB/CENTRA I-157 (v)
2

[illegible]

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	26,452	26,769	23,185	30,740	27,821	27,821	27,821	27,821	27,821
7	Annual Volume (103m3)	749	758	657	871	788	788	788	788	788
8	Projected Revenues	\$132,699	\$134,278	\$116,422	\$154,059	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516

9 **RATE BASE**

10	Gross Fixed Assets	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971
11	Accumulated Depreciation		\$8,247	\$16,494	\$24,741	\$32,987	\$41,234	\$49,481	\$57,728	\$65,975	\$74,222
12	Net Plant Closing	\$315,971	\$307,724	\$299,477	\$291,230	\$282,983	\$274,737	\$266,490	\$258,243	\$249,996	\$241,749
13	Net Plant at Mid-Year		\$311,847	\$303,601	\$295,354	\$287,107	\$278,860	\$270,613	\$262,366	\$254,120	\$245,873
14	Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	Contribution at Mid-Year		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	Working Capital Allowance		\$5,033	\$5,075	\$4,449	\$5,756	\$5,238	\$5,236	\$5,234	\$5,233	\$5,231
17	Rate Base at Mid-Year		\$316,880	\$308,676	\$299,803	\$292,863	\$284,098	\$275,850	\$267,601	\$259,352	\$251,103

18 REVENUE DEFICIENCY CALCULATION

19											
20	Cost of Gas	\$99,601	\$100,795	\$87,298	\$115,746	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247
23	Amortization of Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
24	Municipal Tax & Corp.Cap. Tax	\$6,788	\$6,489	\$6,737	\$5,955	\$5,987	\$5,945	\$5,904	\$5,863	\$5,822	\$5,781
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$19,266	\$18,769	\$18,229	\$17,807	\$17,274	\$16,773	\$16,271	\$15,770	\$15,268	\$14,767
27	Total Revenue Requirement	\$134,002	\$134,400	\$120,612	\$147,855	\$136,362	\$135,819	\$135,276	\$134,734	\$134,191	\$133,648
28	Projected Revenues	\$132,699	\$134,278	\$116,422	\$154,059	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516
29	Revenue Sufficiency (Deficiency)	(\$1,303)	(\$122)	(\$4,190)	\$6,204	\$3,154	\$3,697	\$4,239	\$4,782	\$5,325	\$5,868
30	Revenue to Cost Ratio	99.0%	99.9%	96.5%	104.2%	102.3%	102.7%	103.1%	103.5%	104.0%	104.4%

31	Net Present Value	\$83,640
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32 CONTRIBUTION REQUIREMENT

33	Total Contribution Required	\$0
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Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of Whitewater / PUB/CENTRA I-157 (v)**

2

		<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>
		<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	27,821	27,821	27,821	27,821	27,821	27,821	27,821	27,821	27,821	27,821
7	Annual Volume (103m3)	788	788	788	788	788	788	788	788	788	788
8	Projected Revenues	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971
11	Accumulated Depreciation	\$90,715	\$98,962	\$107,209	\$115,456	\$123,703	\$131,949	\$140,196	\$148,443	\$156,690	\$164,937
12	Net Plant Closing	\$233,502	\$225,256	\$217,009	\$208,762	\$200,515	\$192,268	\$184,021	\$175,775	\$167,528	\$159,281
13	Net Plant at Mid-Year		\$229,379	\$221,132	\$212,885	\$204,638	\$196,392	\$188,145	\$179,898	\$171,651	\$163,404
14	Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	Contribution at Mid-Year		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	Working Capital Allowance		\$5,227	\$5,225	\$5,223	\$5,221	\$5,219	\$5,217	\$5,215	\$5,213	\$5,211
17	Rate Base at Mid-Year		\$234,606	\$226,357	\$218,108	\$209,859	\$201,611	\$193,362	\$185,113	\$176,864	\$168,615
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247
23	Amortization of Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
24	Municipal Tax & Corp.Cap. Tax	\$5,739	\$5,698	\$5,657	\$5,616	\$5,574	\$5,533	\$5,492	\$5,451	\$5,409	\$5,368
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$14,265	\$13,764	\$13,262	\$12,760	\$12,259	\$11,757	\$11,256	\$10,754	\$10,253	\$9,751
27	Total Revenue Requirement	\$133,105	\$132,562	\$132,020	\$131,477	\$130,934	\$130,391	\$129,848	\$129,306	\$128,763	\$128,220
28	Projected Revenues	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516
29	Revenue Sufficiency (Deficiency)	\$6,411	\$6,953	\$7,496	\$8,039	\$8,582	\$9,125	\$9,667	\$10,210	\$10,753	\$11,296
30	Revenue to Cost Ratio	104.8%	105.2%	105.7%	106.1%	106.6%	107.0%	107.4%	107.9%	108.4%	108.8%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of Whitewater / PUB/CENTRA I-157 (v)**

2

		<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>	<u>2042</u>
		<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	27,821	27,821	27,821	27,821	27,821	27,821	27,821	27,821	27,821	27,821
7	Annual Volume (103m3)	788	788	788	788	788	788	788	788	788	788
8	Projected Revenues	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971	\$315,971
11	Accumulated Depreciation	\$173,184	\$181,430	\$189,677	\$197,924	\$206,171	\$214,418	\$222,665	\$230,911	\$239,158	\$247,405
12	Net Plant Closing	\$151,034	\$142,787	\$134,540	\$126,294	\$118,047	\$109,800	\$101,553	\$93,306	\$85,059	\$76,813
13	Net Plant at Mid-Year		\$146,911	\$138,664	\$130,417	\$122,170	\$113,923	\$105,676	\$97,430	\$89,183	\$80,936
14	Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	Contribution at Mid-Year		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	Working Capital Allowance		\$5,207	\$5,205	\$5,203	\$5,201	\$5,199	\$5,197	\$5,195	\$5,194	\$5,192
17	Rate Base at Mid-Year		\$152,118	\$143,869	\$135,620	\$127,371	\$119,123	\$110,874	\$102,625	\$94,376	\$86,128
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754	\$104,754
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247	\$8,247
23	Amortization of Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
24	Municipal Tax & Corp.Cap. Tax	\$5,327	\$5,286	\$5,244	\$5,203	\$5,162	\$5,121	\$5,080	\$5,038	\$4,997	\$4,956
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$9,249	\$8,748	\$8,246	\$7,745	\$7,243	\$6,742	\$6,240	\$5,739	\$5,237	\$4,735
27	Total Revenue Requirement	\$127,677	\$127,134	\$126,592	\$126,049	\$125,506	\$124,963	\$124,420	\$123,878	\$123,335	\$122,792
28	Projected Revenues	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516	\$139,516
29	Revenue Sufficiency (Deficiency)	\$11,839	\$12,381	\$12,924	\$13,467	\$14,010	\$14,553	\$15,095	\$15,638	\$16,181	\$16,724
30	Revenue to Cost Ratio	109.3%	109.7%	110.2%	110.7%	111.2%	111.6%	112.1%	112.6%	113.1%	113.6%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of Portage la Prairie / PUB/CENTRA I-157 (vi)**
2

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
	<u>YEAR 0</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>YEAR 6</u>	<u>YEAR 7</u>	<u>YEAR 8</u>	<u>YEAR 9</u>	<u>YEAR 10</u>

OPERATING ASSUMPTIONS

5	Number of Customers	4	4	4	4	4	4	4	4	4	4
6	Annual Volume (Mcf)	48,949	65,798	52,006	56,797	58,760	58,760	58,760	58,760	58,760	58,760
7	Annual Volume (103m3)	1,387	1,864	1,473	1,609	1,665	1,665	1,665	1,665	1,665	1,665
8	Projected Revenues	\$247,543	\$331,475	\$262,768	\$286,636	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416

9 **RATE BASE**

10	Gross Fixed Assets	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373
11	Accumulated Depreciation		\$40,935	\$81,869	\$122,804	\$163,738	\$204,673	\$245,607	\$286,542	\$327,476	\$368,411
12	Net Plant Closing	\$1,568,373	\$1,527,439	\$1,486,504	\$1,445,570	\$1,404,635	\$1,363,701	\$1,322,766	\$1,281,832	\$1,240,897	\$1,199,963
13	Net Plant at Mid-Year		\$1,547,906	\$1,506,972	\$1,466,037	\$1,425,103	\$1,384,168	\$1,343,233	\$1,302,299	\$1,261,364	\$1,220,430
14	Contributions	\$942,028	\$917,441	\$892,854	\$868,267	\$843,680	\$819,093	\$794,506	\$769,919	\$745,332	\$720,745
15	Contribution at Mid-Year		\$929,734	\$905,147	\$880,560	\$855,973	\$831,387	\$806,800	\$782,213	\$757,626	\$733,039
16	Working Capital Allowance		\$9,907	\$12,896	\$10,432	\$11,275	\$11,614	\$11,605	\$11,595	\$11,585	\$11,576
17	Rate Base at Mid-Year		\$628,079	\$614,720	\$595,908	\$580,404	\$564,396	\$548,038	\$531,681	\$515,324	\$498,967

18 **REVENUE DEFICIENCY CALCULATION**

19											
20	Cost of Gas	\$184,311	\$247,751	\$195,818	\$213,859	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251
21	Operating & Maintenance Expenses	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400
22	Depreciation Expense	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935
23	Amortization of Contributions	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)
24	Municipal Tax & Corp.Cap. Tax	\$24,918	\$24,714	\$24,509	\$24,304	\$24,100	\$23,895	\$23,690	\$23,486	\$23,281	\$23,076
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$38,187	\$37,378	\$36,234	\$35,291	\$34,318	\$33,323	\$32,329	\$31,334	\$30,339	\$29,345
27	Total Revenue Requirement	\$264,164	\$326,590	\$273,309	\$290,202	\$296,416	\$295,217	\$294,018	\$292,819	\$291,619	\$290,420
28	Projected Revenues	\$247,543	\$331,475	\$262,768	\$286,636	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416
29	Revenue Sufficiency (Deficiency)	(\$16,621)	\$4,886	(\$10,541)	(\$3,566)	(\$0)	\$1,199	\$2,398	\$3,598	\$4,797	\$5,996
30	Revenue to Cost Ratio	93.7%	101.5%	96.1%	98.8%	100.0%	100.4%	100.8%	101.2%	101.6%	102.1%

31	Net Present Value	\$90,710
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32 **CONTRIBUTION REQUIREMENT**

33	Total Contribution Required	\$942,028
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Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 True-Up: R.M. of Portage la Prairie / PUB/CENTRA I-157 (vi)

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		<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>
		<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	4	4	4	4	4	4	4	4	4	4
6	Annual Volume (Mcf)	58,760	58,760	58,760	58,760	58,760	58,760	58,760	58,760	58,760	58,760
7	Annual Volume (103m3)	1,665	1,665	1,665	1,665	1,665	1,665	1,665	1,665	1,665	1,665
8	Projected Revenues	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373
11	Accumulated Depreciation	\$450,280	\$491,215	\$532,149	\$573,084	\$614,018	\$654,953	\$695,887	\$736,822	\$777,756	\$818,691
12	Net Plant Closing	\$1,159,028	\$1,118,093	\$1,077,159	\$1,036,224	\$995,290	\$954,355	\$913,421	\$872,486	\$831,552	\$790,617
13	Net Plant at Mid-Year	\$1,138,561	\$1,097,626	\$1,056,692	\$1,015,757	\$974,823	\$933,888	\$892,953	\$852,019	\$811,084	\$770,150
14	Contributions	\$696,158	\$671,572	\$646,985	\$622,398	\$597,811	\$573,224	\$548,637	\$524,050	\$499,463	\$474,876
15	Contribution at Mid-Year	\$683,865	\$659,278	\$634,691	\$610,104	\$585,517	\$560,930	\$536,343	\$511,757	\$487,170	\$462,583
16	Working Capital Allowance	\$11,556	\$11,547	\$11,537	\$11,527	\$11,518	\$11,508	\$11,498	\$11,489	\$11,479	\$11,469
17	Rate Base at Mid-Year	\$466,252	\$449,895	\$433,537	\$417,180	\$400,823	\$384,465	\$368,108	\$351,751	\$335,394	\$319,036
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251
21	Operating & Maintenance Expenses	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400
22	Depreciation Expense	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935
23	Amortization of Contributions	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)
24	Municipal Tax & Corp.Cap. Tax	\$22,871	\$22,667	\$22,462	\$22,257	\$22,053	\$21,848	\$21,643	\$21,439	\$21,234	\$21,029
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$28,350	\$27,356	\$26,361	\$25,366	\$24,372	\$23,377	\$22,383	\$21,388	\$20,393	\$19,399
27	Total Revenue Requirement	\$289,221	\$288,022	\$286,822	\$285,623	\$284,424	\$283,224	\$282,025	\$280,826	\$279,627	\$278,427
28	Projected Revenues	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416
29	Revenue Sufficiency (Deficiency)	\$7,196	\$8,395	\$9,594	\$10,793	\$11,993	\$13,192	\$14,391	\$15,590	\$16,790	\$17,989
30	Revenue to Cost Ratio	102.5%	102.9%	103.3%	103.8%	104.2%	104.7%	105.1%	105.6%	106.0%	106.5%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 True-Up: R.M. of Portage la Prairie / PUB/CENTRA I-157 (vi)

2

		<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>	<u>2042</u>
		<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	4	4	4	4	4	4	4	4	4	4
6	Annual Volume (Mcf)	58,760	58,760	58,760	58,760	58,760	58,760	58,760	58,760	58,760	58,760
7	Annual Volume (103m3)	1,665	1,665	1,665	1,665	1,665	1,665	1,665	1,665	1,665	1,665
8	Projected Revenues	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373	\$1,568,373
11	Accumulated Depreciation	\$859,625	\$900,560	\$941,495	\$982,429	\$1,023,364	\$1,064,298	\$1,105,233	\$1,146,167	\$1,187,102	\$1,228,036
12	Net Plant Closing	\$749,683	\$708,748	\$667,813	\$626,879	\$585,944	\$545,010	\$504,075	\$463,141	\$422,206	\$381,272
13	Net Plant at Mid-Year		\$729,215	\$688,281	\$647,346	\$606,412	\$565,477	\$524,543	\$483,608	\$442,673	\$401,739
14	Contributions	\$450,289	\$425,702	\$401,115	\$376,528	\$351,942	\$327,355	\$302,768	\$278,181	\$253,594	\$229,007
15	Contribution at Mid-Year		\$437,996	\$413,409	\$388,822	\$364,235	\$339,648	\$315,061	\$290,474	\$265,887	\$241,300
16	Working Capital Allowance		\$11,459	\$11,450	\$11,440	\$11,430	\$11,421	\$11,411	\$11,401	\$11,392	\$11,382
17	Rate Base at Mid-Year		\$302,679	\$286,322	\$269,964	\$253,607	\$237,250	\$220,892	\$204,535	\$188,178	\$171,821
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251	\$221,251
21	Operating & Maintenance Expenses	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400
22	Depreciation Expense	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935	\$40,935
23	Amortization of Contributions	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)	(\$24,587)
24	Municipal Tax & Corp.Cap. Tax	\$20,825	\$20,620	\$20,415	\$20,211	\$20,006	\$19,801	\$19,597	\$19,392	\$19,187	\$18,983
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$18,404	\$17,410	\$16,415	\$15,420	\$14,426	\$13,431	\$12,437	\$11,442	\$10,447	\$9,453
27	Total Revenue Requirement	\$277,228	\$276,029	\$274,830	\$273,630	\$272,431	\$271,232	\$270,032	\$268,833	\$267,634	\$266,435
28	Projected Revenues	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416	\$296,416
29	Revenue Sufficiency (Deficiency)	\$19,188	\$20,388	\$21,587	\$22,786	\$23,985	\$25,185	\$26,384	\$27,583	\$28,782	\$29,982
30	Revenue to Cost Ratio	106.9%	107.4%	107.9%	108.3%	108.8%	109.3%	109.8%	110.3%	110.8%	111.3%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **True-Up: R.M. of South Norfolk/Grey / PUB/CENTRA I-157 (vii) - R.M. of Grey Main Extension**
2

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
	<u>YEAR 0</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>YEAR 6</u>	<u>YEAR 7</u>	<u>YEAR 8</u>	<u>YEAR 9</u>	<u>YEAR 10</u>

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	1,131	4,545	4,491	5,476	5,179	5,179	5,179	5,179	5,179	5,179
7	Annual Volume (103m3)	32	129	127	155	147	147	147	147	147	147
8	Projected Revenues	\$6,560	\$23,565	\$23,294	\$28,202	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724

RATE BASE

10	Gross Fixed Assets	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297
11	Accumulated Depreciation	\$5,071	\$10,142	\$15,213	\$20,285	\$25,356	\$30,427	\$35,498	\$40,569	\$45,640	\$50,712
12	Net Plant Closing	\$194,297	\$189,226	\$184,155	\$179,084	\$174,012	\$168,941	\$163,870	\$158,799	\$153,728	\$148,657
13	Net Plant at Mid-Year		\$191,761	\$186,690	\$181,619	\$176,548	\$171,477	\$166,406	\$161,335	\$156,263	\$151,192
14	Contributions	\$153,834	\$149,819	\$145,804	\$141,789	\$137,774	\$133,759	\$129,743	\$125,728	\$121,713	\$117,698
15	Contribution at Mid-Year		\$151,826	\$147,811	\$143,796	\$139,781	\$135,766	\$131,751	\$127,736	\$123,721	\$119,706
16	Working Capital Allowance		\$392	\$998	\$987	\$1,161	\$1,107	\$1,106	\$1,105	\$1,104	\$1,101
17	Rate Base at Mid-Year		\$40,327	\$39,877	\$38,810	\$37,928	\$36,818	\$35,761	\$34,703	\$33,646	\$32,589

REVENUE DEFICIENCY CALCULATION

20	Cost of Gas	\$4,260	\$17,113	\$16,908	\$20,618	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071
23	Amortization of Contributions	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)
24	Municipal Tax & Corp.Cap. Tax	\$3,930	\$3,904	\$3,879	\$3,854	\$3,828	\$3,803	\$3,778	\$3,752	\$3,727	\$3,702
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$2,452	\$2,425	\$2,360	\$2,306	\$2,239	\$2,174	\$2,110	\$2,046	\$1,982	\$1,917
27	Total Revenue Requirement	\$11,798	\$24,598	\$24,303	\$27,934	\$26,724	\$26,634	\$26,545	\$26,455	\$26,365	\$26,276
28	Projected Revenues	\$6,560	\$23,565	\$23,294	\$28,202	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724
29	Revenue Sufficiency (Deficiency)	(\$5,238)	(\$1,033)	(\$1,009)	\$268	(\$0)	\$90	\$179	\$269	\$359	\$448
30	Revenue to Cost Ratio	55.6%	95.8%	95.8%	101.0%	100.0%	100.3%	100.7%	101.0%	101.4%	101.7%

31	Net Present Value	\$2,008
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CONTRIBUTION REQUIREMENT

33	Total Contribution Required	\$153,834
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Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 True-Up: R.M. of South Norfolk/Grey / PUB/CENTRA I-157 (vii) - R.M. of Grey Main Extension

2

		<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>
		<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179
7	Annual Volume (103m3)	147	147	147	147	147	147	147	147	147	147
8	Projected Revenues	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297
11	Accumulated Depreciation	\$55,783	\$60,854	\$65,925	\$70,996	\$76,067	\$81,138	\$86,210	\$91,281	\$96,352	\$101,423
12	Net Plant Closing	\$143,585	\$138,514	\$133,443	\$128,372	\$123,301	\$118,230	\$113,159	\$108,087	\$103,016	\$97,945
13	Net Plant at Mid-Year	\$141,050	\$135,979	\$130,908	\$125,836	\$120,765	\$115,694	\$110,623	\$105,552	\$100,481	\$95,410
14	Contributions	\$113,683	\$109,668	\$105,653	\$101,638	\$97,623	\$93,608	\$89,593	\$85,578	\$81,563	\$77,548
15	Contribution at Mid-Year	\$111,676	\$107,661	\$103,646	\$99,630	\$95,615	\$91,600	\$87,585	\$83,570	\$79,555	\$75,540
16	Working Capital Allowance	\$1,100	\$1,099	\$1,098	\$1,096	\$1,095	\$1,094	\$1,093	\$1,092	\$1,090	\$1,089
17	Rate Base at Mid-Year	\$30,474	\$29,417	\$28,360	\$27,302	\$26,245	\$25,188	\$24,131	\$23,073	\$22,016	\$20,959
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071
23	Amortization of Contributions	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)
24	Municipal Tax & Corp.Cap. Tax	\$3,676	\$3,651	\$3,626	\$3,600	\$3,575	\$3,549	\$3,524	\$3,499	\$3,473	\$3,448
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$1,853	\$1,789	\$1,724	\$1,660	\$1,596	\$1,532	\$1,467	\$1,403	\$1,339	\$1,274
27	Total Revenue Requirement	\$26,186	\$26,097	\$26,007	\$25,917	\$25,828	\$25,738	\$25,648	\$25,559	\$25,469	\$25,379
28	Projected Revenues	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724
29	Revenue Sufficiency (Deficiency)	\$538	\$628	\$717	\$807	\$896	\$986	\$1,076	\$1,165	\$1,255	\$1,345
30	Revenue to Cost Ratio	102.1%	102.4%	102.8%	103.1%	103.5%	103.8%	104.2%	104.6%	104.9%	105.3%

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Centra Gas Manitoba Inc.

1 True-Up: R.M. of South Norfolk/Grey / PUB/CENTRA I-157 (vii) - R.M. of Grey Main Extension

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		<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>	<u>2042</u>
		<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179	5,179
7	Annual Volume (103m3)	147	147	147	147	147	147	147	147	147	147
8	Projected Revenues	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297	\$194,297
11	Accumulated Depreciation	\$106,494	\$111,565	\$116,637	\$121,708	\$126,779	\$131,850	\$136,921	\$141,992	\$147,063	\$152,135
12	Net Plant Closing	\$92,874	\$87,803	\$82,732	\$77,661	\$72,589	\$67,518	\$62,447	\$57,376	\$52,305	\$47,234
13	Net Plant at Mid-Year		\$90,338	\$85,267	\$80,196	\$75,125	\$70,054	\$64,983	\$59,911	\$54,840	\$49,769
14	Contributions	\$73,533	\$69,518	\$65,502	\$61,487	\$57,472	\$53,457	\$49,442	\$45,427	\$41,412	\$37,397
15	Contribution at Mid-Year		\$71,525	\$67,510	\$63,495	\$59,480	\$55,465	\$51,450	\$47,435	\$43,420	\$39,405
16	Working Capital Allowance		\$1,088	\$1,087	\$1,086	\$1,085	\$1,083	\$1,082	\$1,081	\$1,080	\$1,079
17	Rate Base at Mid-Year		\$19,901	\$18,844	\$17,787	\$16,730	\$15,672	\$14,615	\$13,558	\$12,500	\$11,443
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501	\$19,501
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071	\$5,071
23	Amortization of Contributions	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)	(\$4,015)
24	Municipal Tax & Corp.Cap. Tax	\$3,423	\$3,397	\$3,372	\$3,347	\$3,321	\$3,296	\$3,271	\$3,245	\$3,220	\$3,195
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$1,210	\$1,146	\$1,082	\$1,017	\$953	\$889	\$824	\$760	\$696	\$632
27	Total Revenue Requirement	\$25,290	\$25,200	\$25,110	\$25,021	\$24,931	\$24,842	\$24,752	\$24,662	\$24,573	\$24,483
28	Projected Revenues	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724	\$26,724
29	Revenue Sufficiency (Deficiency)	\$1,434	\$1,524	\$1,614	\$1,703	\$1,793	\$1,883	\$1,972	\$2,062	\$2,151	\$2,241
30	Revenue to Cost Ratio	105.7%	106.0%	106.4%	106.8%	107.2%	107.6%	108.0%	108.4%	108.8%	109.2%

1 **True-Up: R.M. of South Norfolk/Grey / PUB/CENTRA I-157 (vii) - R.M. of South Norfolk Main Extension**
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Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 True-Up: R.M. of South Norfolk/Grey / PUB/CENTRA I-157 (vii) - R.M. of South Norfolk Main Extension

		<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>
		<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	15,949	15,949	15,949	15,949	15,949	15,949	15,949	15,949	15,949	15,949
7	Annual Volume (103m3)	452	452	452	452	452	452	452	452	452	452
8	Projected Revenues	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231
11	Accumulated Depreciation	\$78,158	\$85,263	\$92,368	\$99,473	\$106,578	\$113,684	\$120,789	\$127,894	\$134,999	\$142,105
12	Net Plant Closing	\$201,179	\$194,074	\$186,968	\$179,863	\$172,758	\$165,653	\$158,547	\$151,442	\$144,337	\$137,232
13	Net Plant at Mid-Year		\$197,626	\$190,521	\$183,416	\$176,310	\$169,205	\$162,100	\$154,995	\$147,890	\$140,784
14	Contributions	\$66,359	\$64,015	\$61,671	\$59,328	\$56,984	\$54,640	\$52,297	\$49,953	\$47,609	\$45,266
15	Contribution at Mid-Year		\$65,187	\$62,843	\$60,500	\$58,156	\$55,812	\$53,469	\$51,125	\$48,781	\$46,438
16	Working Capital Allowance		\$3,092	\$3,090	\$3,089	\$3,087	\$3,085	\$3,084	\$3,082	\$3,080	\$3,079
17	Rate Base at Mid-Year		\$135,531	\$130,768	\$126,005	\$121,241	\$116,478	\$111,715	\$106,952	\$102,188	\$97,425
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas		\$60,055	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055
21	Operating & Maintenance Expenses		\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense		\$7,105	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105
23	Amortization of Contributions		(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)
24	Municipal Tax & Corp.Cap. Tax		\$5,270	\$5,234	\$5,199	\$5,163	\$5,128	\$5,092	\$5,057	\$5,021	\$4,986
25	Income Taxes		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return		\$8,241	\$7,951	\$7,662	\$7,372	\$7,082	\$6,793	\$6,503	\$6,214	\$5,924
27	Total Revenue Requirement		\$78,427	\$78,102	\$77,777	\$77,452	\$77,127	\$76,802	\$76,477	\$76,151	\$75,826
28	Projected Revenues		\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378
29	Revenue Sufficiency (Deficiency)		\$1,951	\$2,276	\$2,601	\$2,926	\$3,251	\$3,577	\$3,902	\$4,227	\$4,552
30	Revenue to Cost Ratio		102.5%	102.9%	103.3%	103.8%	104.2%	104.7%	105.1%	105.6%	106.0%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 True-Up: R.M. of South Norfolk/Grey / PUB/CENTRA I-157 (vii) - R.M. of South Norfolk Main Extension

		<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>	<u>2042</u>	<u>2043</u>
3		<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	15,949	15,949	15,949	15,949	15,949	15,949	15,949	15,949	15,949	15,949
7	Annual Volume (103m3)	452	452	452	452	452	452	452	452	452	452
8	Projected Revenues	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231	\$272,231
11	Accumulated Depreciation	\$149,210	\$156,315	\$163,420	\$170,526	\$177,631	\$184,736	\$191,841	\$198,946	\$206,052	\$213,157
12	Net Plant Closing	\$130,126	\$123,021	\$115,916	\$108,811	\$101,706	\$94,600	\$87,495	\$80,390	\$73,285	\$66,179
13	Net Plant at Mid-Year		\$126,574	\$119,469	\$112,363	\$105,258	\$98,153	\$91,048	\$83,942	\$76,837	\$69,732
14	Contributions	\$42,922	\$40,578	\$38,235	\$35,891	\$33,548	\$31,204	\$28,860	\$26,517	\$24,173	\$21,829
15	Contribution at Mid-Year		\$41,750	\$39,407	\$37,063	\$34,719	\$32,376	\$30,032	\$27,688	\$25,345	\$23,001
16	Working Capital Allowance		\$3,075	\$3,074	\$3,072	\$3,070	\$3,068	\$3,067	\$3,065	\$3,063	\$3,062
17	Rate Base at Mid-Year		\$87,899	\$83,135	\$78,372	\$73,609	\$68,846	\$64,082	\$59,319	\$54,556	\$49,793
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055	\$60,055
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105	\$7,105
23	Amortization of Contributions	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)	(\$2,344)
24	Municipal Tax & Corp.Cap. Tax	\$4,915	\$4,879	\$4,843	\$4,808	\$4,772	\$4,737	\$4,701	\$4,666	\$4,630	\$4,595
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$5,345	\$5,055	\$4,765	\$4,476	\$4,186	\$3,897	\$3,607	\$3,317	\$3,028	\$2,738
27	Total Revenue Requirement	\$75,176	\$74,851	\$74,526	\$74,200	\$73,875	\$73,550	\$73,225	\$72,900	\$72,575	\$72,250
28	Projected Revenues	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378	\$80,378
29	Revenue Sufficiency (Deficiency)	\$5,202	\$5,528	\$5,853	\$6,178	\$6,503	\$6,828	\$7,153	\$7,478	\$7,804	\$8,129
30	Revenue to Cost Ratio	106.9%	107.4%	107.9%	108.3%	108.8%	109.3%	109.8%	110.3%	110.8%	111.3%

Financial Feasibility Test

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Centra Gas Manitoba Inc.

1 Recalculation: R.M. of Bifrost/Woodlands / PUB/CENTRA I-157 (ix)

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Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 Recalculation: R.M. of Bifrost/Woodlands / PUB/CENTRA I-157 (ix)

		<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>
		YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20
4 OPERATING ASSUMPTIONS											
Number of Customers		1	1	1	1	1	1	1	1	1	1
5 Annual Volume (Mcf)		1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081
6 Annual Volume (103m3)		31	31	31	31	31	31	31	31	31	31
7 Projected Revenues		\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797
8 RATE BASE											
9 Gross Fixed Assets		\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871
10 Accumulated Depreciation		\$12,631	\$13,780	\$14,928	\$16,076	\$17,224	\$18,373	\$19,521	\$20,669	\$21,818	\$22,966
11 Net Plant Closing	\$28,388	\$27,240	\$26,092	\$24,943	\$23,795	\$22,647	\$21,499	\$20,350	\$19,202	\$18,054	\$16,905
12 Net Plant at Mid-Year		\$27,814	\$26,666	\$25,518	\$24,369	\$23,221	\$22,073	\$20,924	\$19,776	\$18,628	\$17,480
13 Contributions	\$15,065	\$14,456	\$13,847	\$13,237	\$12,628	\$12,019	\$11,409	\$10,800	\$10,190	\$9,581	\$8,972
14 Contribution at Mid-Year		\$14,761	\$14,151	\$13,542	\$12,933	\$12,323	\$11,714	\$11,104	\$10,495	\$9,886	\$9,276
15 Working Capital Allowance		\$247	\$246	\$246	\$246	\$246	\$245	\$245	\$245	\$244	\$244
16 Rate Base at Mid-year		\$13,300	\$12,761	\$12,222	\$11,683	\$11,143	\$10,604	\$10,065	\$9,526	\$8,987	\$8,447
17 REVENUE DEFICIENCY CALCULATION											
18											
19 Cost of Gas		\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551
20 Operating & Maintenance Expenses		\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
21 Depreciation Expense		\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148
22 Amortization of Contributions		(609)	(609)	(609)	(609)	(609)	(609)	(609)	(609)	(609)	(609)
23 Municipal Tax & Corp.Cap. Tax		\$627	\$621	\$616	\$610	\$604	\$598	\$593	\$587	\$581	\$575
24 Income Taxes		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
25 Overall Return		809	776	743	710	678	645	612	579	546	514
26 Total Revenue Requirement		\$6,566	\$6,528	\$6,489	\$6,451	\$6,412	\$6,374	\$6,335	\$6,297	\$6,258	\$6,219
27 Projected Revenues		\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797
28 Revenue Deficiency (Annual)		\$231	\$270	\$308	\$347	\$385	\$424	\$462	\$501	\$539	\$578
29 Revenue to Cost Ratio		103.5%	104.1%	104.7%	105.4%	106.0%	106.6%	107.3%	108.0%	108.6%	109.3%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 Recalculation: R.M. of Bifrost/Woodlands / PUB/CENTRA I-157 (ix)

	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>	<u>2042</u>
	YEAR 21	YEAR 22	YEAR 23	YEAR 24	YEAR 25	YEAR 26	YEAR 27	YEAR 28	YEAR 29	YEAR 30
4 OPERATING ASSUMPTIONS										
Number of Customers	1	1	1	1	1	1	1	1	1	1
5 Annual Volume (Mcf)	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081	1,081
6 Annual Volume (103m3)	31	31	31	31	31	31	31	31	31	31
7 Projected Revenues	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797
8 RATE BASE										
9 Gross Fixed Assets	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871	\$39,871
10 Accumulated Depreciation	\$24,114	\$25,262	\$26,411	\$27,559	\$28,707	\$29,856	\$31,004	\$32,152	\$33,301	\$34,449
11 Net Plant Closing	\$16,905	\$15,757	\$14,609	\$13,461	\$12,312	\$11,164	\$10,016	\$8,867	\$7,719	\$6,571
12 Net Plant at Mid-Year		\$16,331	\$15,183	\$14,035	\$12,886	\$11,738	\$10,590	\$9,441	\$8,293	\$7,145
13 Contributions	\$8,972	\$8,362	\$7,753	\$7,143	\$6,534	\$5,925	\$5,315	\$4,706	\$4,096	\$3,487
14 Contribution at Mid-Year		\$8,667	\$8,057	\$7,448	\$6,839	\$6,229	\$5,620	\$5,011	\$4,401	\$3,792
15 Working Capital Allowance		\$244	\$244	\$243	\$243	\$243	\$243	\$242	\$242	\$242
16 Rate Base at Mid-year		\$7,908	\$7,369	\$6,830	\$6,291	\$5,752	\$5,212	\$4,673	\$4,134	\$3,595
17 REVENUE DEFICIENCY CALCULATION										
18										
19 Cost of Gas	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551	\$4,551
20 Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
21 Depreciation Expense	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148	\$1,148
22 Amortization of Contributions	(609)	(609)	(609)	(609)	(609)	(609)	(609)	(609)	(609)	(609)
23 Municipal Tax & Corp.Cap. Tax	\$570	\$564	\$558	\$552	\$547	\$541	\$535	\$530	\$524	\$518
24 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
25 Overall Return	481	448	415	383	350	317	284	251	219	186
26 Total Revenue Requirement	\$6,181	\$6,142	\$6,104	\$6,065	\$6,027	\$5,988	\$5,950	\$5,911	\$5,873	\$5,834
27 Projected Revenues	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797	\$6,797
28 Revenue Deficiency (Annual)	\$616	\$655	\$693	\$732	\$771	\$809	\$848	\$886	\$925	\$963
29 Revenue to Cost Ratio	110.0%	110.7%	111.4%	112.1%	112.8%	113.5%	114.2%	115.0%	115.7%	116.5%

REFERENCE:

Tab 13 p. 1 of 14, Appendix 13.2

PREAMBLE TO IR (IF ANY):

QUESTION:

Provide the feasibility tests associated with the following Main Extensions greater than 500 m:

- a) MER 2014-00073 (R.M. of Springfield)
- b) MER 2015-00827 (R.M. of North Norfolk)
- c) MER 2015-00848 (City of Winnipeg)
- d) MER 2016-00808 (R.M. of Woodlands)
- e) MER 2016-00837 (R.M. of Argyle)
- f) MER 2017-00043 (City of Winnipeg)
- g) MER 2017-00828 (R.M. of Dufferin)

RESPONSE:

Please see the attachment to this response for the feasibility tests associated with the requested Main Extensions greater than 500 m.

Financial Feasibility Test
Page 1 of 3

Centra Gas Manitoba Inc.

1 **MER 2014-00073 (R.M. of Springfield) / PUB/CENTRA I-158 a)**

2

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
	<u>YEAR 0</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>YEAR 6</u>	<u>YEAR 7</u>	<u>YEAR 8</u>	<u>YEAR 9</u>	<u>YEAR 10</u>

4

OPERATING ASSUMPTIONS

5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	20,488	20,488	20,488	20,488	20,488	20,488	20,488	20,488	20,488	20,488
7	Annual Volume (103m3)	580	580	580	580	580	580	580	580	580	580
8	Projected Revenues	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462

9 **RATE BASE**

10	Gross Fixed Assets	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316
11	Accumulated Depreciation	\$21,059	\$42,118	\$63,178	\$84,237	\$105,296	\$126,355	\$147,415	\$168,474	\$189,533	\$210,592
12	Net Plant Closing	\$1,032,316	\$1,011,256	\$990,197	\$969,138	\$948,079	\$927,019	\$905,960	\$884,901	\$863,842	\$842,782
13	Net Plant at Mid-Year		\$1,021,786	\$1,000,727	\$979,667	\$958,608	\$937,549	\$916,490	\$895,430	\$874,371	\$853,312
14	Contributions	\$909,807	\$891,247	\$872,687	\$854,127	\$835,566	\$817,006	\$798,446	\$779,886	\$761,326	\$742,766
15	Contribution at Mid-Year		\$900,527	\$881,967	\$863,407	\$844,847	\$826,286	\$807,726	\$789,166	\$770,606	\$752,046
16	Working Capital Allowance		\$5,778	\$5,773	\$5,769	\$5,764	\$5,759	\$5,754	\$5,749	\$5,744	\$5,739
17	Rate Base at Mid-Year		\$127,038	\$124,534	\$122,029	\$119,525	\$117,021	\$114,517	\$112,013	\$109,509	\$107,004

18 **REVENUE DEFICIENCY CALCULATION**

19

20	Cost of Gas	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059
23	Amortization of Contributions	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)
24	Municipal Tax & Corp.Cap. Tax	\$17,538	\$17,433	\$17,328	\$17,222	\$17,117	\$17,012	\$16,906	\$16,801	\$16,696	\$16,591
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$7,724	\$7,572	\$7,420	\$7,268	\$7,115	\$6,963	\$6,811	\$6,659	\$6,506	\$6,354
27	Total Revenue Requirement	\$132,492	\$132,235	\$131,977	\$131,720	\$131,462	\$131,205	\$130,947	\$130,689	\$130,432	\$130,174
28	Projected Revenues	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462
29	Revenue Sufficiency (Deficiency)	(\$1,030)	(\$773)	(\$515)	(\$258)	(\$0)	\$258	\$515	\$773	\$1,030	\$1,288
30	Revenue to Cost Ratio	99.2%	99.4%	99.6%	99.8%	100.0%	100.2%	100.4%	100.6%	100.8%	101.0%

31	Net Present Value	\$22,122
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32 **CONTRIBUTION REQUIREMENT**

33	Total Contribution Required	\$909,807
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Financial Feasibility Test
Page 2 of 3

Centra Gas Manitoba Inc.

1 **MER 2014-00073 (R.M. of Springfield) / PUB/CENTRA I-158 a)**

2

		<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>
		<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	20,488	20,488	20,488	20,488	20,488	20,488	20,488	20,488	20,488	20,488
7	Annual Volume (103m3)	580	580	580	580	580	580	580	580	580	580
8	Projected Revenues	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316
11	Accumulated Depreciation	\$231,652	\$252,711	\$273,770	\$294,829	\$315,889	\$336,948	\$358,007	\$379,066	\$400,125	\$421,185
12	Net Plant Closing	\$821,723	\$800,664	\$779,605	\$758,545	\$737,486	\$716,427	\$695,368	\$674,308	\$653,249	\$632,190
13	Net Plant at Mid-Year		\$811,194	\$790,134	\$769,075	\$748,016	\$726,957	\$705,897	\$684,838	\$663,779	\$642,720
14	Contributions	\$724,206	\$705,646	\$687,086	\$668,526	\$649,966	\$631,406	\$612,846	\$594,286	\$575,726	\$557,166
15	Contribution at Mid-Year		\$714,926	\$696,366	\$677,806	\$659,246	\$640,686	\$622,126	\$603,566	\$585,006	\$566,446
16	Working Capital Allowance		\$5,729	\$5,724	\$5,719	\$5,714	\$5,709	\$5,704	\$5,699	\$5,694	\$5,689
17	Rate Base at Mid-Year		\$101,996	\$99,492	\$96,988	\$94,484	\$91,979	\$89,475	\$86,971	\$84,467	\$81,963
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059
23	Amortization of Contributions	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)
24	Municipal Tax & Corp.Cap. Tax	\$16,485	\$16,380	\$16,275	\$16,169	\$16,064	\$15,959	\$15,854	\$15,748	\$15,643	\$15,538
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$6,202	\$6,050	\$5,897	\$5,745	\$5,593	\$5,441	\$5,288	\$5,136	\$4,984	\$4,831
27	Total Revenue Requirement	\$129,917	\$129,659	\$129,402	\$129,144	\$128,887	\$128,629	\$128,371	\$128,114	\$127,856	\$127,599
28	Projected Revenues	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462
29	Revenue Sufficiency (Deficiency)	\$1,545	\$1,803	\$2,060	\$2,318	\$2,576	\$2,833	\$3,091	\$3,348	\$3,606	\$3,863
30	Revenue to Cost Ratio	101.2%	101.4%	101.6%	101.8%	102.0%	102.2%	102.4%	102.6%	102.8%	103.0%

Financial Feasibility Test
Page 3 of 3

Centra Gas Manitoba Inc.

1 **MER 2014-00073 (R.M. of Springfield) / PUB/CENTRA I-158 a)**

2

		<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>	<u>2042</u>	<u>2043</u>	<u>2044</u>
		<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	1	1	1	1	1	1	1	1	1	1
6	Annual Volume (Mcf)	20,488	20,488	20,488	20,488	20,488	20,488	20,488	20,488	20,488	20,488
7	Annual Volume (103m3)	580	580	580	580	580	580	580	580	580	580
8	Projected Revenues	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316	\$1,032,316
11	Accumulated Depreciation	\$442,244	\$463,303	\$484,362	\$505,422	\$526,481	\$547,540	\$568,599	\$589,659	\$610,718	\$631,777
12	Net Plant Closing	\$611,131	\$590,072	\$569,012	\$547,953	\$526,894	\$505,835	\$484,775	\$463,716	\$442,657	\$421,598
13	Net Plant at Mid-Year		\$600,601	\$579,542	\$558,483	\$537,423	\$516,364	\$495,305	\$474,246	\$453,187	\$432,127
14	Contributions	\$538,606	\$520,046	\$501,485	\$482,925	\$464,365	\$445,805	\$427,245	\$408,685	\$390,125	\$371,565
15	Contribution at Mid-Year		\$529,326	\$510,765	\$492,205	\$473,645	\$455,085	\$436,525	\$417,965	\$399,405	\$380,845
16	Working Capital Allowance		\$5,679	\$5,674	\$5,669	\$5,664	\$5,659	\$5,654	\$5,649	\$5,644	\$5,639
17	Rate Base at Mid-Year		\$76,955	\$74,450	\$71,946	\$69,442	\$66,938	\$64,434	\$61,930	\$59,425	\$56,921
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630	\$104,630
21	Operating & Maintenance Expenses	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
22	Depreciation Expense	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059	\$21,059
23	Amortization of Contributions	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)	(\$18,560)
24	Municipal Tax & Corp.Cap. Tax	\$15,432	\$15,327	\$15,222	\$15,116	\$15,011	\$14,906	\$14,801	\$14,695	\$14,590	\$14,485
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$4,679	\$4,527	\$4,375	\$4,222	\$4,070	\$3,918	\$3,766	\$3,613	\$3,461	\$3,309
27	Total Revenue Requirement	\$127,341	\$127,084	\$126,826	\$126,568	\$126,311	\$126,053	\$125,796	\$125,538	\$125,281	\$125,023
28	Projected Revenues	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462	\$131,462
29	Revenue Sufficiency (Deficiency)	\$4,121	\$4,378	\$4,636	\$4,894	\$5,151	\$5,409	\$5,666	\$5,924	\$6,181	\$6,439
30	Revenue to Cost Ratio	103.2%	103.4%	103.7%	103.9%	104.1%	104.3%	104.5%	104.7%	104.9%	105.2%

Financial Feasibility Test
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Centra Gas Manitoba Inc.

1 **MER 2015-00827 (R.M. of North Norfolk) PUB/CENTRA I-158 b)**

2

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
	<u>YEAR 0</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>YEAR 6</u>	<u>YEAR 7</u>	<u>YEAR 8</u>	<u>YEAR 9</u>	<u>YEAR 10</u>

OPERATING ASSUMPTIONS

5	Number of Customers	7	8	8	8	8	8	8	8	8	8
6	Annual Volume (Mcf)	20,664	21,593	21,593	21,593	21,593	21,593	21,593	21,593	21,593	21,593
7	Annual Volume (103m3)	585	612	612	612	612	612	612	612	612	612
8	Projected Revenues	\$122,240	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478

RATE BASE

10	Gross Fixed Assets	\$1,201,094	\$1,208,503	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716
11	Accumulated Depreciation		\$24,653	\$49,740	\$74,826	\$99,912	\$124,998	\$150,084	\$175,171	\$200,257	\$250,429
12	Net Plant Closing	\$1,201,094	\$1,183,849	\$1,179,976	\$1,154,890	\$1,129,804	\$1,104,718	\$1,079,631	\$1,054,545	\$1,029,459	\$979,287
13	Net Plant at Mid-Year		\$1,192,472	\$1,181,913	\$1,167,433	\$1,142,347	\$1,117,261	\$1,092,174	\$1,067,088	\$1,042,002	\$991,830
14	Contributions	\$1,047,044	\$1,025,684	\$1,004,324	\$982,965	\$961,605	\$940,245	\$918,886	\$897,526	\$876,166	\$854,806
15	Contribution at Mid-Year		\$1,036,364	\$1,015,004	\$993,644	\$972,285	\$950,925	\$929,565	\$908,206	\$886,846	\$865,486
16	Working Capital Allowance		\$5,223	\$5,420	\$5,414	\$5,408	\$5,402	\$5,396	\$5,390	\$5,384	\$5,379
17	Rate Base at Mid-Year		\$161,331	\$172,329	\$179,203	\$175,470	\$171,738	\$168,005	\$164,273	\$160,540	\$156,808

REVENUE DEFICIENCY CALCULATION

20	Cost of Gas	\$92,079	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218
21	Operating & Maintenance Expenses	\$280	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320
22	Depreciation Expense	\$24,653	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086
23	Amortization of Contributions	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)
24	Municipal Tax & Corp.Cap. Tax	\$18,156	\$18,147	\$18,022	\$17,896	\$17,771	\$17,645	\$17,520	\$17,395	\$17,269	\$17,144
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$9,809	\$10,478	\$10,896	\$10,669	\$10,442	\$10,215	\$9,989	\$9,762	\$9,535	\$9,308
27	Total Revenue Requirement	\$123,617	\$128,890	\$129,183	\$128,830	\$128,478	\$128,126	\$127,773	\$127,421	\$127,068	\$126,716
28	Projected Revenues	\$122,240	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478
29	Revenue Sufficiency (Deficiency)	(\$1,377)	(\$412)	(\$705)	(\$352)	(\$0)	\$352	\$705	\$1,057	\$1,410	\$1,762
30	Revenue to Cost Ratio	98.9%	99.7%	99.5%	99.7%	100.0%	100.3%	100.6%	100.8%	101.1%	101.4%

31 Net Present Value \$30,870

CONTRIBUTION REQUIREMENT

33 Total Contribution Required \$1,047,044

Financial Feasibility Test
Page 2 of 3

Centra Gas Manitoba Inc.

1 **MER 2015-00827 (R.M. of North Norfolk) PUB/CENTRA I-158 b)**

2

		<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>
		<u>YEAR 11</u>	<u>YEAR 12</u>	<u>YEAR 13</u>	<u>YEAR 14</u>	<u>YEAR 15</u>	<u>YEAR 16</u>	<u>YEAR 17</u>	<u>YEAR 18</u>	<u>YEAR 19</u>	<u>YEAR 20</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	8	8	8	8	8	8	8	8	8	8
6	Annual Volume (Mcf)	21,593	21,593	21,593	21,593	21,593	21,593	21,593	21,593	21,593	21,593
7	Annual Volume (103m3)	612	612	612	612	612	612	612	612	612	612
8	Projected Revenues	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716
11	Accumulated Depreciation	\$275,515	\$300,602	\$325,688	\$350,774	\$375,860	\$400,946	\$426,033	\$451,119	\$476,205	\$501,291
12	Net Plant Closing	\$979,287	\$954,200	\$929,114	\$904,028	\$878,942	\$853,856	\$828,769	\$803,683	\$778,597	\$753,511
13	Net Plant at Mid-Year		\$966,743	\$941,657	\$916,571	\$891,485	\$866,399	\$841,312	\$816,226	\$791,140	\$766,054
14	Contributions	\$833,447	\$812,087	\$790,727	\$769,368	\$748,008	\$726,648	\$705,289	\$683,929	\$662,569	\$641,210
15	Contribution at Mid-Year		\$822,767	\$801,407	\$780,048	\$758,688	\$737,328	\$715,969	\$694,609	\$673,249	\$651,889
16	Working Capital Allowance		\$5,367	\$5,361	\$5,355	\$5,349	\$5,343	\$5,337	\$5,331	\$5,325	\$5,319
17	Rate Base at Mid-Year		\$149,343	\$145,611	\$141,878	\$138,146	\$134,413	\$130,681	\$126,949	\$123,216	\$119,484
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218
21	Operating & Maintenance Expenses	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320
22	Depreciation Expense	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086
23	Amortization of Contributions	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)
24	Municipal Tax & Corp.Cap. Tax	\$17,018	\$16,893	\$16,767	\$16,642	\$16,517	\$16,391	\$16,266	\$16,140	\$16,015	\$15,889
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$9,081	\$8,854	\$8,627	\$8,400	\$8,173	\$7,946	\$7,719	\$7,492	\$7,265	\$7,038
27	Total Revenue Requirement	\$126,364	\$126,011	\$125,659	\$125,307	\$124,954	\$124,602	\$124,249	\$123,897	\$123,545	\$123,192
28	Projected Revenues	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478
29	Revenue Sufficiency (Deficiency)	\$2,114	\$2,467	\$2,819	\$3,171	\$3,524	\$3,876	\$4,229	\$4,581	\$4,933	\$5,286
30	Revenue to Cost Ratio	101.7%	102.0%	102.2%	102.5%	102.8%	103.1%	103.4%	103.7%	104.0%	104.3%

Financial Feasibility Test
Page 3 of 3

Centra Gas Manitoba Inc.

1 **MER 2015-00827 (R.M. of North Norfolk) PUB/CENTRA I-158 b)**

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		<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>	<u>2041</u>	<u>2042</u>	<u>2043</u>	<u>2044</u>	<u>2045</u>
		<u>YEAR 21</u>	<u>YEAR 22</u>	<u>YEAR 23</u>	<u>YEAR 24</u>	<u>YEAR 25</u>	<u>YEAR 26</u>	<u>YEAR 27</u>	<u>YEAR 28</u>	<u>YEAR 29</u>	<u>YEAR 30</u>
3											
4											
	<u>OPERATING ASSUMPTIONS</u>										
5	Number of Customers	8	8	8	8	8	8	8	8	8	8
6	Annual Volume (Mcf)	21,593	21,593	21,593	21,593	21,593	21,593	21,593	21,593	21,593	21,593
7	Annual Volume (103m3)	612	612	612	612	612	612	612	612	612	612
8	Projected Revenues	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478
9	<u>RATE BASE</u>										
10	Gross Fixed Assets	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716	\$1,229,716
11	Accumulated Depreciation	\$526,378	\$551,464	\$576,550	\$601,636	\$626,722	\$651,809	\$676,895	\$701,981	\$727,067	\$752,153
12	Net Plant Closing	\$728,424	\$703,338	\$678,252	\$653,166	\$628,080	\$602,993	\$577,907	\$552,821	\$527,735	\$502,649
13	Net Plant at Mid-Year		\$715,881	\$690,795	\$665,709	\$640,623	\$615,537	\$590,450	\$565,364	\$540,278	\$515,192
14	Contributions	\$619,850	\$598,490	\$577,131	\$555,771	\$534,411	\$513,051	\$491,692	\$470,332	\$448,972	\$427,613
15	Contribution at Mid-Year		\$609,170	\$587,810	\$566,451	\$545,091	\$523,731	\$502,372	\$481,012	\$459,652	\$438,293
16	Working Capital Allowance		\$5,307	\$5,301	\$5,296	\$5,290	\$5,284	\$5,278	\$5,272	\$5,266	\$5,260
17	Rate Base at Mid-Year		\$112,019	\$108,286	\$104,554	\$100,821	\$97,089	\$93,357	\$89,624	\$85,892	\$82,159
18	<u>REVENUE DEFICIENCY CALCULATION</u>										
19											
20	Cost of Gas	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218	\$96,218
21	Operating & Maintenance Expenses	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320
22	Depreciation Expense	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086	\$25,086
23	Amortization of Contributions	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)	(\$21,360)
24	Municipal Tax & Corp.Cap. Tax	\$15,764	\$15,638	\$15,513	\$15,388	\$15,262	\$15,137	\$15,011	\$14,886	\$14,760	\$14,635
25	Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	Overall Return	\$6,811	\$6,584	\$6,357	\$6,130	\$5,903	\$5,677	\$5,450	\$5,223	\$4,996	\$4,769
27	Total Revenue Requirement	\$122,840	\$122,487	\$122,135	\$121,783	\$121,430	\$121,078	\$120,726	\$120,373	\$120,021	\$119,668
28	Projected Revenues	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478	\$128,478
29	Revenue Sufficiency (Deficiency)	\$5,638	\$5,990	\$6,343	\$6,695	\$7,048	\$7,400	\$7,752	\$8,105	\$8,457	\$8,809
30	Revenue to Cost Ratio	104.6%	104.9%	105.2%	105.5%	105.8%	106.1%	106.4%	106.7%	107.0%	107.4%

Financial Feasibility Test

1 MER 2015-0048 (City of Winnipeg) PUB/CENTRA/ I-158c)

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3	TIME 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
4	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025

OPERATING ASSUMPTIONS

5 Number of Customers		0	2	6	6	6	6	6	6	6	6
6 Annual Volume (Mcf)		0	3,763	11,615	11,615	11,615	11,615	11,615	11,615	11,615	11,615
7 Annual Volume (10 ³ m ³)		0	107	329	329	329	329	329	329	329	329
8 Projected Revenues		\$0	\$23,216	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498
9 RATE BASE											
10 Gross Fixed Assets	\$38,875	\$38,875	\$62,508	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138
11 Accumulated Depreciation		\$793	\$2,068	\$4,478	\$6,888	\$9,298	\$11,708	\$14,118	\$16,528	\$18,938	\$21,348
12 Net Plant Closing	\$38,875	\$38,082	\$60,440	\$113,660	\$111,250	\$108,840	\$106,430	\$104,020	\$101,610	\$99,200	\$96,790
13 Net Plant at Mid-Year		\$38,479	\$49,261	\$87,050	\$112,455	\$110,045	\$107,635	\$105,225	\$102,815	\$100,405	\$97,995
14 Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15 Contribution at Mid-Year		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16 Working Capital Allowance		\$23	\$818	\$2,478	\$2,478	\$2,477	\$2,477	\$2,476	\$2,475	\$2,475	\$2,474
17 Rate Base at Mid-year		\$38,502	\$50,079	\$89,528	\$114,932	\$112,522	\$110,111	\$107,701	\$105,290	\$102,879	\$100,469

18 REVENUE DEFICIENCY CALCULATION

19

20 Cost of Gas		\$0	\$16,611	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272
21 Operating & Maintenance Expenses		\$0	\$80	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240
22 Depreciation Expense		\$793	\$1,275	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410
23 Amortization of Contributions		0	0	0	0	0	0	0	0	0	0
24 Municipal Tax & Corp.Cap. Tax		\$481	\$615	\$927	\$914	\$902	\$890	\$878	\$866	\$854	\$842
25 Income Taxes		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return		2,341	3,045	5,444	6,988	6,842	6,695	6,549	6,402	6,256	6,109
27 Total Revenue Requirement		\$3,615	\$21,626	\$60,292	\$61,825	\$61,666	\$61,507	\$61,349	\$61,190	\$61,032	\$60,873
28 Projected Revenues		\$0	\$23,216	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498
29 Revenue Deficiency (Annual)		-\$3,615	\$1,589	\$11,206	\$9,674	\$9,832	\$9,991	\$10,150	\$10,308	\$10,467	\$10,625
30 Revenue to Cost Ratio		0.0%	107.3%	118.6%	115.6%	115.9%	116.2%	116.5%	116.8%	117.1%	117.5%
31 NPV of Revenue Deficiency	\$130,242										

32 CONTRIBUTION REQUIREMENT

33 Total Contribution Required	\$0
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Financial Feasibility Test

1 **MER 2015-00848 (City of Winnipeg) PUB/CENTRA/ I-158c)**

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	YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035

OPERATING ASSUMPTIONS

5 Number of Customers	6	6	6	6	6	6	6	6	6	6
6 Annual Volume (Mcf)	11,615	11,615	11,615	11,615	11,615	11,615	11,615	11,615	11,615	11,615
7 Annual Volume (10 ³ m ³)	329	329	329	329	329	329	329	329	329	329
8 Projected Revenues	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498
9 <u>RATE BASE</u>										
10 Gross Fixed Assets	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138
11 Accumulated Depreciation	\$23,758	\$26,168	\$28,578	\$30,988	\$33,398	\$35,808	\$38,218	\$40,628	\$43,038	\$45,448
12 Net Plant Closing	\$94,380	\$91,970	\$89,560	\$87,150	\$84,740	\$82,330	\$79,919	\$77,509	\$75,099	\$72,689
13 Net Plant at Mid-Year	\$95,585	\$93,175	\$90,765	\$88,355	\$85,945	\$83,535	\$81,125	\$78,714	\$76,304	\$73,894
14 Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15 Contribution at Mid-Year	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16 Working Capital Allowance	\$2,474	\$2,473	\$2,473	\$2,472	\$2,471	\$2,471	\$2,470	\$2,470	\$2,469	\$2,469
17 Rate Base at Mid-year	\$98,058	\$95,648	\$93,237	\$90,827	\$88,416	\$86,005	\$83,595	\$81,184	\$78,774	\$76,363

18 **REVENUE DEFICIENCY CALCULATION**

19

20 Cost of Gas	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272
21 Operating & Maintenance Expenses	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240
22 Depreciation Expense	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410
23 Amortization of Contributions	0	0	0	0	0	0	0	0	0	0
24 Municipal Tax & Corp.Cap. Tax	\$830	\$818	\$806	\$794	\$782	\$770	\$758	\$746	\$734	\$722
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	5,962	5,816	5,669	5,523	5,376	5,230	5,083	4,936	4,790	4,643
27 Total Revenue Requirement	\$60,714	\$60,556	\$60,397	\$60,238	\$60,080	\$59,921	\$59,763	\$59,604	\$59,445	\$59,287
28 Projected Revenues	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498
29 Revenue Deficiency (Annual)	\$10,784	\$10,943	\$11,101	\$11,260	\$11,419	\$11,577	\$11,736	\$11,894	\$12,053	\$12,212
30 Revenue to Cost Ratio	117.8%	118.1%	118.4%	118.7%	119.0%	119.3%	119.6%	120.0%	120.3%	120.6%
31 NPV of Revenue Deficiency										

32 **CONTRIBUTION REQUIREMENT**

33 Total Contribution Required

Financial Feasibility Test

1 MER 2015-00848 (City of Winnipeg) PUB/CENTRA/ I-158c)

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	YEAR 21	YEAR 22	YEAR 23	YEAR 24	YEAR 25	YEAR 26	YEAR 27	YEAR 28	YEAR 29	YEAR 30
	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045

OPERATING ASSUMPTIONS

5 Number of Customers	6	6	6	6	6	6	6	6	6	6
6 Annual Volume (Mcf)	11,615	11,615	11,615	11,615	11,615	11,615	11,615	11,615	11,615	11,615
7 Annual Volume (10 ³ m ³)	329	329	329	329	329	329	329	329	329	329
8 Projected Revenues	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498
9 <u>RATE BASE</u>										
10 Gross Fixed Assets	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138	\$118,138
11 Accumulated Depreciation	\$47,858	\$50,268	\$52,679	\$55,089	\$57,499	\$59,909	\$62,319	\$64,729	\$67,139	\$69,549
12 Net Plant Closing	\$70,279	\$67,869	\$65,459	\$63,049	\$60,639	\$58,229	\$55,819	\$53,409	\$50,999	\$48,589
13 Net Plant at Mid-Year	\$71,484	\$69,074	\$66,664	\$64,254	\$61,844	\$59,434	\$57,024	\$54,614	\$52,204	\$49,794
14 Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15 Contribution at Mid-Year	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16 Working Capital Allowance	\$2,468	\$2,467	\$2,467	\$2,466	\$2,466	\$2,465	\$2,465	\$2,464	\$2,463	\$2,463
17 Rate Base at Mid-year	\$73,952	\$71,542	\$69,131	\$66,721	\$64,310	\$61,900	\$59,489	\$57,078	\$54,668	\$52,257

18 REVENUE DEFICIENCY CALCULATION

19

20 Cost of Gas	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272	\$51,272
21 Operating & Maintenance Expenses	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240
22 Depreciation Expense	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410	\$2,410
23 Amortization of Contributions	0	0	0	0	0	0	0	0	0	0
24 Municipal Tax & Corp.Cap. Tax	\$710	\$698	\$686	\$673	\$661	\$649	\$637	\$625	\$613	\$601
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	4,497	4,350	4,203	4,057	3,910	3,764	3,617	3,471	3,324	3,177
27 Total Revenue Requirement	\$59,128	\$58,969	\$58,811	\$58,652	\$58,494	\$58,335	\$58,176	\$58,018	\$57,859	\$57,700
28 Projected Revenues	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498	\$71,498
29 Revenue Deficiency (Annual)	\$12,370	\$12,529	\$12,688	\$12,846	\$13,005	\$13,163	\$13,322	\$13,481	\$13,639	\$13,798
30 Revenue to Cost Ratio	120.9%	121.2%	121.6%	121.9%	122.2%	122.6%	122.9%	123.2%	123.6%	123.9%
31 NPV of Revenue Deficiency										

32 CONTRIBUTION REQUIREMENT

33 Total Contribution Required

Financial Feasibility Test

1 **MER 2016-00808 (R.M. of Woodlands) PUB/CENTRA/I-158 d)**

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3	TIME 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
4	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025

OPERATING ASSUMPTIONS

5 Number of Customers		1	1	1	1	1	1	1	1	1	1
6 Annual Volume (Mcf)		16,474	16,474	16,474	16,474	16,474	16,474	16,474	16,474	16,474	16,474
7 Annual Volume (10 ³ m ³)		467	467	467	467	467	467	467	467	467	467
8 Projected Revenues		\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081
9 <u>RATE BASE</u>											
10 Gross Fixed Assets	\$462,119	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973
11 Accumulated Depreciation		\$9,853	\$19,705	\$29,558	\$39,411	\$49,263	\$59,116	\$68,969	\$78,821	\$88,674	\$98,527
12 Net Plant Closing	\$462,119	\$473,120	\$463,268	\$453,415	\$443,563	\$433,710	\$423,857	\$414,005	\$404,152	\$394,299	\$384,447
13 Net Plant at Mid-Year		\$467,620	\$468,194	\$458,341	\$448,489	\$438,636	\$428,784	\$418,931	\$409,078	\$399,226	\$389,373
14 Contributions	\$316,713	\$310,252	\$303,791	\$297,330	\$290,869	\$284,408	\$277,947	\$271,486	\$265,025	\$258,564	\$252,103
15 Contribution at Mid-Year		\$313,482	\$307,021	\$300,560	\$294,099	\$287,638	\$281,177	\$274,717	\$268,256	\$261,795	\$255,334
16 Working Capital Allowance		\$3,992	\$3,989	\$3,987	\$3,985	\$3,982	\$3,980	\$3,978	\$3,975	\$3,973	\$3,971
17 Rate Base at Mid-year		\$158,129	\$165,162	\$161,768	\$158,374	\$154,980	\$151,586	\$148,192	\$144,798	\$141,404	\$138,010

18 **REVENUE DEFICIENCY CALCULATION**

19

20 Cost of Gas		\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332
21 Operating & Maintenance Expenses		\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22 Depreciation Expense		\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853
23 Amortization of Contributions		(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)
24 Municipal Tax & Corp.Cap. Tax		\$9,091	\$9,041	\$8,992	\$8,943	\$8,894	\$8,844	\$8,795	\$8,746	\$8,697	\$8,647
25 Income Taxes		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return		9,615	10,043	9,836	9,630	9,424	9,217	9,011	8,804	8,598	8,392
27 Total Revenue Requirement		\$97,470	\$97,848	\$97,592	\$97,337	\$97,081	\$96,825	\$96,570	\$96,314	\$96,059	\$95,803
28 Projected Revenues		\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081
29 Revenue Deficiency (Annual)		-\$389	-\$767	-\$511	-\$256	\$0	\$256	\$511	\$767	\$1,022	\$1,278
30 Revenue to Cost Ratio		99.6%	99.2%	99.5%	99.7%	100.0%	100.3%	100.5%	100.8%	101.1%	101.3%
31 NPV of Revenue Deficiency	\$22,552										

32 **CONTRIBUTION REQUIREMENT**

33 Total Contribution Required	\$316,713
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Financial Feasibility Test

1 **MER 2016-00808 (R.M. of Woodlands) PUB/CENTRA/I-158 d**

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YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20
2026	2027	2028	2029	2030	2031	2032	2033	2034	2035

OPERATING ASSUMPTIONS

5 Number of Customers	1	1	1	1	1	1	1	1	1	1
6 Annual Volume (Mcf)	16,474	16,474	16,474	16,474	16,474	16,474	16,474	16,474	16,474	16,474
7 Annual Volume (10 ³ m ³)	467	467	467	467	467	467	467	467	467	467
8 Projected Revenues	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081
9 <u>RATE BASE</u>										
10 Gross Fixed Assets	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973
11 Accumulated Depreciation	\$108,379	\$118,232	\$128,084	\$137,937	\$147,790	\$157,642	\$167,495	\$177,348	\$187,200	\$197,053
12 Net Plant Closing	\$374,594	\$364,741	\$354,889	\$345,036	\$335,183	\$325,331	\$315,478	\$305,625	\$295,773	\$285,920
13 Net Plant at Mid-Year	\$379,520	\$369,668	\$359,815	\$349,962	\$340,110	\$330,257	\$320,404	\$310,552	\$300,699	\$290,846
14 Contributions	\$245,642	\$239,181	\$232,720	\$226,260	\$219,799	\$213,338	\$206,877	\$200,416	\$193,955	\$187,494
15 Contribution at Mid-Year	\$248,873	\$242,412	\$235,951	\$229,490	\$223,029	\$216,568	\$210,107	\$203,646	\$197,185	\$190,724
16 Working Capital Allowance	\$3,968	\$3,966	\$3,964	\$3,961	\$3,959	\$3,957	\$3,954	\$3,952	\$3,950	\$3,948
17 Rate Base at Mid-year	\$134,616	\$131,222	\$127,828	\$124,434	\$121,040	\$117,646	\$114,252	\$110,858	\$107,464	\$104,070

18 **REVENUE DEFICIENCY CALCULATION**

19

20 Cost of Gas	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332
21 Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22 Depreciation Expense	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853
23 Amortization of Contributions	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)
24 Municipal Tax & Corp.Cap. Tax	\$8,598	\$8,549	\$8,500	\$8,450	\$8,401	\$8,352	\$8,303	\$8,253	\$8,204	\$8,155
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	8,185	7,979	7,773	7,566	7,360	7,153	6,947	6,741	6,534	6,328
27 Total Revenue Requirement	\$95,547	\$95,292	\$95,036	\$94,780	\$94,525	\$94,269	\$94,013	\$93,758	\$93,502	\$93,247
28 Projected Revenues	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081
29 Revenue Deficiency (Annual)	\$1,534	\$1,789	\$2,045	\$2,301	\$2,556	\$2,812	\$3,068	\$3,323	\$3,579	\$3,834
30 Revenue to Cost Ratio	101.6%	101.9%	102.2%	102.4%	102.7%	103.0%	103.3%	103.5%	103.8%	104.1%
31 NPV of Revenue Deficiency										

32 **CONTRIBUTION REQUIREMENT**

33 Total Contribution Required

Financial Feasibility Test

1 **MER 2016-00808 (R.M. of Woodlands) PUB/CENTRA/I-158 d**

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	YEAR 21	YEAR 22	YEAR 23	YEAR 24	YEAR 25	YEAR 26	YEAR 27	YEAR 28	YEAR 29	YEAR 30
	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045

OPERATING ASSUMPTIONS

5 Number of Customers	1	1	1	1	1	1	1	1	1	1
6 Annual Volume (Mcf)	16,474	16,474	16,474	16,474	16,474	16,474	16,474	16,474	16,474	16,474
7 Annual Volume (10 ³ m ³)	467	467	467	467	467	467	467	467	467	467
8 Projected Revenues	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081
9 <u>RATE BASE</u>										
10 Gross Fixed Assets	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973	\$482,973
11 Accumulated Depreciation	\$206,906	\$216,758	\$226,611	\$236,464	\$246,316	\$256,169	\$266,022	\$275,874	\$285,727	\$295,580
12 Net Plant Closing	\$276,067	\$266,215	\$256,362	\$246,509	\$236,657	\$226,804	\$216,952	\$207,099	\$197,246	\$187,394
13 Net Plant at Mid-Year	\$280,994	\$271,141	\$261,288	\$251,436	\$241,583	\$231,730	\$221,878	\$212,025	\$202,173	\$192,320
14 Contributions	\$181,033	\$174,572	\$168,111	\$161,650	\$155,189	\$148,728	\$142,267	\$135,806	\$129,345	\$122,885
15 Contribution at Mid-Year	\$184,263	\$177,802	\$171,342	\$164,881	\$158,420	\$151,959	\$145,498	\$139,037	\$132,576	\$126,115
16 Working Capital Allowance	\$3,945	\$3,943	\$3,941	\$3,938	\$3,936	\$3,934	\$3,931	\$3,929	\$3,927	\$3,924
17 Rate Base at Mid-year	\$100,676	\$97,281	\$93,887	\$90,493	\$87,099	\$83,705	\$80,311	\$76,917	\$73,523	\$70,129

18 **REVENUE DEFICIENCY CALCULATION**

19

20 Cost of Gas	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332	\$75,332
21 Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22 Depreciation Expense	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853	\$9,853
23 Amortization of Contributions	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)	(6,461)
24 Municipal Tax & Corp.Cap. Tax	\$8,105	\$8,056	\$8,007	\$7,958	\$7,908	\$7,859	\$7,810	\$7,761	\$7,711	\$7,662
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	6,122	5,915	5,709	5,502	5,296	5,090	4,883	4,677	4,471	4,264
27 Total Revenue Requirement	\$92,991	\$92,735	\$92,480	\$92,224	\$91,968	\$91,713	\$91,457	\$91,201	\$90,946	\$90,690
28 Projected Revenues	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081	\$97,081
29 Revenue Deficiency (Annual)	\$4,090	\$4,346	\$4,601	\$4,857	\$5,113	\$5,368	\$5,624	\$5,880	\$6,135	\$6,391
30 Revenue to Cost Ratio	104.4%	104.7%	105.0%	105.3%	105.6%	105.9%	106.1%	106.4%	106.7%	107.0%
31 NPV of Revenue Deficiency										

32 **CONTRIBUTION REQUIREMENT**

33 Total Contribution Required

Financial Feasibility Test

1 MER 2016-00837 R.M. of Argyle PUB/CENTRA I-158 e)

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3	TIME 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
4	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026

OPERATING ASSUMPTIONS

5 Number of Customers		23	27	32	37	42	42	42	42	42	42
6 Annual Volume (Mcf)		3,500	3,900	4,400	4,900	5,400	5,400	5,400	5,400	5,400	5,400
7 Annual Volume (10 ³ m ³)		99	110	125	139	153	153	153	153	153	153
8 Projected Revenues		\$29,004	\$32,570	\$37,027	\$41,483	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940
9 <u>RATE BASE</u>											
10 Gross Fixed Assets	\$194,934	\$274,495	\$281,404	\$290,212	\$299,197	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362
11 Accumulated Depreciation		\$5,600	\$11,340	\$17,261	\$23,364	\$29,655	\$35,945	\$42,236	\$48,527	\$54,817	\$61,108
12 Net Plant Closing	\$194,934	\$268,895	\$270,063	\$272,952	\$275,833	\$278,707	\$272,417	\$266,126	\$259,835	\$253,545	\$247,254
13 Net Plant at Mid-Year		\$231,915	\$269,479	\$271,508	\$274,392	\$277,270	\$275,562	\$269,271	\$262,981	\$256,690	\$250,399
14 Contributions	\$96,284	\$94,320	\$92,356	\$90,392	\$88,427	\$86,463	\$84,499	\$82,535	\$80,571	\$78,606	\$76,642
15 Contribution at Mid-Year		\$95,302	\$93,338	\$91,374	\$89,410	\$87,445	\$85,481	\$83,517	\$81,553	\$79,589	\$77,624
16 Working Capital Allowance		\$965	\$1,060	\$1,179	\$1,298	\$1,417	\$1,416	\$1,414	\$1,413	\$1,411	\$1,410
17 Rate Base at Mid-year		\$137,577	\$177,201	\$181,313	\$186,281	\$191,242	\$191,496	\$187,168	\$182,841	\$178,513	\$174,185

18 REVENUE DEFICIENCY CALCULATION

19

20 Cost of Gas		\$15,639	\$17,431	\$19,670	\$21,910	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150
21 Operating & Maintenance Expenses		\$920	\$1,080	\$1,280	\$1,480	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680
22 Depreciation Expense		\$5,600	\$5,741	\$5,920	\$6,104	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291
23 Amortization of Contributions		(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)
24 Municipal Tax & Corp.Cap. Tax		\$3,851	\$3,911	\$3,992	\$4,074	\$4,156	\$4,124	\$4,093	\$4,061	\$4,030	\$3,998
25 Income Taxes		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return		8,365	10,775	11,025	11,327	11,628	11,644	11,381	11,118	10,854	10,591
27 Total Revenue Requirement		\$32,411	\$36,972	\$39,923	\$42,930	\$45,940	\$45,924	\$45,630	\$45,335	\$45,040	\$44,746
28 Projected Revenues		\$29,004	\$32,570	\$37,027	\$41,483	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940
29 Revenue Deficiency (Annual)		-\$3,406	-\$4,403	-\$2,897	-\$1,447	\$0	\$16	\$311	\$605	\$900	\$1,194
30 Revenue to Cost Ratio		89.5%	88.1%	92.7%	96.6%	100.0%	100.0%	100.7%	101.3%	102.0%	102.7%
31 NPV of Revenue Deficiency	\$14,601										

32 CONTRIBUTION REQUIREMENT

33 Total Contribution Required	\$96,284
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Financial Feasibility Test

1 MER 2016-00837 R.M. of Argyle PUB/CENTRA I-158 e)

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	YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20
	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036

OPERATING ASSUMPTIONS

5 Number of Customers	42	42	42	42	42	42	42	42	42	42
6 Annual Volume (Mcf)	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400
7 Annual Volume (10 ³ m ³)	153	153	153	153	153	153	153	153	153	153
8 Projected Revenues	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940
9 <u>RATE BASE</u>										
10 Gross Fixed Assets	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362
11 Accumulated Depreciation	\$67,398	\$73,689	\$79,980	\$86,270	\$92,561	\$98,851	\$105,142	\$111,432	\$117,723	\$124,014
12 Net Plant Closing	\$240,964	\$234,673	\$228,382	\$222,092	\$215,801	\$209,511	\$203,220	\$196,930	\$190,639	\$184,348
13 Net Plant at Mid-Year	\$244,109	\$237,818	\$231,528	\$225,237	\$218,947	\$212,656	\$206,365	\$200,075	\$193,784	\$187,494
14 Contributions	\$74,678	\$72,714	\$70,750	\$68,785	\$66,821	\$64,857	\$62,893	\$60,929	\$58,964	\$57,000
15 Contribution at Mid-Year	\$75,660	\$73,696	\$71,732	\$69,768	\$67,803	\$65,839	\$63,875	\$61,911	\$59,947	\$57,982
16 Working Capital Allowance	\$1,408	\$1,407	\$1,405	\$1,404	\$1,402	\$1,401	\$1,399	\$1,398	\$1,396	\$1,395
17 Rate Base at Mid-year	\$169,857	\$165,529	\$161,201	\$156,873	\$152,545	\$148,218	\$143,890	\$139,562	\$135,234	\$130,906

18 **REVENUE DEFICIENCY CALCULATION**

19

20 Cost of Gas	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150
21 Operating & Maintenance Expenses	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680
22 Depreciation Expense	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291
23 Amortization of Contributions	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)
24 Municipal Tax & Corp.Cap. Tax	\$3,967	\$3,935	\$3,904	\$3,872	\$3,841	\$3,810	\$3,778	\$3,747	\$3,715	\$3,684
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	10,328	10,065	9,802	9,539	9,275	9,012	8,749	8,486	8,223	7,960
27 Total Revenue Requirement	\$44,451	\$44,157	\$43,862	\$43,567	\$43,273	\$42,978	\$42,683	\$42,389	\$42,094	\$41,800
28 Projected Revenues	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940
29 Revenue Deficiency (Annual)	\$1,489	\$1,784	\$2,078	\$2,373	\$2,667	\$2,962	\$3,257	\$3,551	\$3,846	\$4,141
30 Revenue to Cost Ratio	103.3%	104.0%	104.7%	105.4%	106.2%	106.9%	107.6%	108.4%	109.1%	109.9%
31 NPV of Revenue Deficiency										

32 **CONTRIBUTION REQUIREMENT**

33 Total Contribution Required

Financial Feasibility Test

1 **MER 2016-00837 R.M. of Argyle PUB/CENTRA I-158 e)**

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	YEAR 21	YEAR 22	YEAR 23	YEAR 24	YEAR 25	YEAR 26	YEAR 27	YEAR 28	YEAR 29	YEAR 30
	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046

OPERATING ASSUMPTIONS

5 Number of Customers	42	42	42	42	42	42	42	42	42	42
6 Annual Volume (Mcf)	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400	5,400
7 Annual Volume (10 ³ m ³)	153	153	153	153	153	153	153	153	153	153
8 Projected Revenues	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940
9 <u>RATE BASE</u>										
10 Gross Fixed Assets	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362	\$308,362
11 Accumulated Depreciation	\$130,304	\$136,595	\$142,885	\$149,176	\$155,467	\$161,757	\$168,048	\$174,338	\$180,629	\$186,919
12 Net Plant Closing	\$178,058	\$171,767	\$165,477	\$159,186	\$152,895	\$146,605	\$140,314	\$134,024	\$127,733	\$121,443
13 Net Plant at Mid-Year	\$181,203	\$174,912	\$168,622	\$162,331	\$156,041	\$149,750	\$143,460	\$137,169	\$130,878	\$124,588
14 Contributions	\$55,036	\$53,072	\$51,108	\$49,143	\$47,179	\$45,215	\$43,251	\$41,287	\$39,322	\$37,358
15 Contribution at Mid-Year	\$56,018	\$54,054	\$52,090	\$50,126	\$48,161	\$46,197	\$44,233	\$42,269	\$40,305	\$38,340
16 Working Capital Allowance	\$1,393	\$1,392	\$1,390	\$1,389	\$1,387	\$1,386	\$1,384	\$1,383	\$1,381	\$1,380
17 Rate Base at Mid-year	\$126,578	\$122,250	\$117,922	\$113,595	\$109,267	\$104,939	\$100,611	\$96,283	\$91,955	\$87,627

18 **REVENUE DEFICIENCY CALCULATION**

19

20 Cost of Gas	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150	\$24,150
21 Operating & Maintenance Expenses	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680	\$1,680
22 Depreciation Expense	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291	\$6,291
23 Amortization of Contributions	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)	(1,964)
24 Municipal Tax & Corp.Cap. Tax	\$3,652	\$3,621	\$3,589	\$3,558	\$3,527	\$3,495	\$3,464	\$3,432	\$3,401	\$3,369
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	7,697	7,433	7,170	6,907	6,644	6,381	6,118	5,854	5,591	5,328
27 Total Revenue Requirement	\$41,505	\$41,210	\$40,916	\$40,621	\$40,327	\$40,032	\$39,737	\$39,443	\$39,148	\$38,854
28 Projected Revenues	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940	\$45,940
29 Revenue Deficiency (Annual)	\$4,435	\$4,730	\$5,024	\$5,319	\$5,614	\$5,908	\$6,203	\$6,497	\$6,792	\$7,087
30 Revenue to Cost Ratio	110.7%	111.5%	112.3%	113.1%	113.9%	114.8%	115.6%	116.5%	117.3%	118.2%
31 NPV of Revenue Deficiency										

32 **CONTRIBUTION REQUIREMENT**

33 Total Contribution Required

Financial Feasibility Test

1 MER 2017-00043 City of Winnipeg PUB/CENTRA I-158 f)

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3	TIME 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
4	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027

OPERATING ASSUMPTIONS

5 Number of Customers		0	0	0	0	0	0	0	0	0	0
6 Annual Volume (Mcf)		0	0	0	0	0	0	0	0	0	0
7 Annual Volume (10 ³ m ³)		0	0	0	0	0	0	0	0	0	0
8 Projected Revenues		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9 RATE BASE											
10 Gross Fixed Assets	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465
11 Accumulated Depreciation		\$873	\$1,747	\$2,620	\$3,494	\$4,367	\$5,241	\$6,114	\$6,987	\$7,861	\$8,734
12 Net Plant Closing	\$33,465	\$32,591	\$31,718	\$30,844	\$29,971	\$29,097	\$28,224	\$27,351	\$26,477	\$25,604	\$24,730
13 Net Plant at Mid-Year		\$33,028	\$32,154	\$31,281	\$30,408	\$29,534	\$28,661	\$27,787	\$26,914	\$26,040	\$25,167
14 Contributions	\$48,193	\$46,936	\$45,678	\$44,420	\$43,162	\$41,904	\$40,646	\$39,389	\$38,131	\$36,873	\$35,615
15 Contribution at Mid-Year		\$47,565	\$46,307	\$45,049	\$43,791	\$42,533	\$41,275	\$40,017	\$38,760	\$37,502	\$36,244
16 Working Capital Allowance		\$51	\$50	\$50	\$50	\$50	\$50	\$49	\$49	\$49	\$49
17 Rate Base at Mid-year		(\$14,486)	(\$14,102)	(\$13,718)	(\$13,333)	(\$12,949)	(\$12,565)	(\$12,181)	(\$11,797)	(\$11,412)	(\$11,028)

18 REVENUE DEFICIENCY CALCULATION

19

20 Cost of Gas		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21 Operating & Maintenance Expenses		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
22 Depreciation Expense		\$873	\$873	\$873	\$873	\$873	\$873	\$873	\$873	\$873	\$873
23 Amortization of Contributions		(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)
24 Municipal Tax & Corp.Cap. Tax		\$1,070	\$1,065	\$1,061	\$1,057	\$1,052	\$1,048	\$1,044	\$1,039	\$1,035	\$1,030
25 Income Taxes		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return		(881)	(857)	(834)	(811)	(787)	(764)	(741)	(717)	(694)	(671)
27 Total Revenue Requirement		-\$196	-\$177	-\$158	-\$139	-\$120	-\$101	-\$82	-\$63	-\$44	-\$25
28 Projected Revenues		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29 Revenue Deficiency (Annual)		\$196	\$177	\$158	\$139	\$120	\$101	\$82	\$63	\$44	\$25
30 Revenue to Cost Ratio		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
31 NPV of Revenue Deficiency	\$0										

32 CONTRIBUTION REQUIREMENT

33 Total Contribution Required	\$48,193
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Financial Feasibility Test

1 MER 2017-00043 City of Winnipeg PUB/CENTRA I-158 f)

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	YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20
	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037

OPERATING ASSUMPTIONS

5 Number of Customers	0	0	0	0	0	0	0	0	0	0
6 Annual Volume (Mcf)	0	0	0	0	0	0	0	0	0	0
7 Annual Volume (10 ³ m ³)	0	0	0	0	0	0	0	0	0	0
8 Projected Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

9 RATE BASE

10 Gross Fixed Assets	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465
11 Accumulated Depreciation	\$9,608	\$10,481	\$11,355	\$12,228	\$13,101	\$13,975	\$14,848	\$15,722	\$16,595	\$17,469
12 Net Plant Closing	\$23,857	\$22,983	\$22,110	\$21,237	\$20,363	\$19,490	\$18,616	\$17,743	\$16,869	\$15,996
13 Net Plant at Mid-Year	\$24,294	\$23,420	\$22,547	\$21,673	\$20,800	\$19,926	\$19,053	\$18,180	\$17,306	\$16,433
14 Contributions	\$34,357	\$33,099	\$31,841	\$30,584	\$29,326	\$28,068	\$26,810	\$25,552	\$24,294	\$23,036
15 Contribution at Mid-Year	\$34,986	\$33,728	\$32,470	\$31,213	\$29,955	\$28,697	\$27,439	\$26,181	\$24,923	\$23,665
16 Working Capital Allowance	\$48	\$48	\$48	\$48	\$48	\$47	\$47	\$47	\$47	\$47
17 Rate Base at Mid-year	(\$10,644)	(\$10,260)	(\$9,876)	(\$9,491)	(\$9,107)	(\$8,723)	(\$8,339)	(\$7,954)	(\$7,570)	(\$7,186)

18 REVENUE DEFICIENCY CALCULATION

19

20 Cost of Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21 Operating & Maintenance Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
22 Depreciation Expense	\$873	\$873	\$873	\$873	\$873	\$873	\$873	\$873	\$873	\$873
23 Amortization of Contributions	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)
24 Municipal Tax & Corp.Cap. Tax	\$1,026	\$1,022	\$1,017	\$1,013	\$1,009	\$1,004	\$1,000	\$995	\$991	\$987
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	(647)	(624)	(600)	(577)	(554)	(530)	(507)	(484)	(460)	(437)
27 Total Revenue Requirement	-\$6	\$13	\$32	\$51	\$70	\$89	\$108	\$127	\$146	\$165
28 Projected Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29 Revenue Deficiency (Annual)	\$6	-\$13	-\$32	-\$51	-\$70	-\$89	-\$108	-\$127	-\$146	-\$165
30 Revenue to Cost Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
31 NPV of Revenue Deficiency										

32 CONTRIBUTION REQUIREMENT

33 Total Contribution Required

Financial Feasibility Test

1 **MER 2017-00043 City of Winnipeg PUB/CENTRA I-158 f)**

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	YEAR 21	YEAR 22	YEAR 23	YEAR 24	YEAR 25	YEAR 26	YEAR 27	YEAR 28	YEAR 29	YEAR 30
	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047

OPERATING ASSUMPTIONS

5 Number of Customers	0	0	0	0	0	0	0	0	0	0
6 Annual Volume (Mcf)	0	0	0	0	0	0	0	0	0	0
7 Annual Volume (10 ³ m ³)	0	0	0	0	0	0	0	0	0	0
8 Projected Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

9 RATE BASE

10 Gross Fixed Assets	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465	\$33,465
11 Accumulated Depreciation	\$18,342	\$19,215	\$20,089	\$20,962	\$21,836	\$22,709	\$23,582	\$24,456	\$25,329	\$26,203
12 Net Plant Closing	\$15,123	\$14,249	\$13,376	\$12,502	\$11,629	\$10,756	\$9,882	\$9,009	\$8,135	\$7,262
13 Net Plant at Mid-Year	\$15,559	\$14,686	\$13,813	\$12,939	\$12,066	\$11,192	\$10,319	\$9,445	\$8,572	\$7,699
14 Contributions	\$21,779	\$20,521	\$19,263	\$18,005	\$16,747	\$15,489	\$14,232	\$12,974	\$11,716	\$10,458
15 Contribution at Mid-Year	\$22,408	\$21,150	\$19,892	\$18,634	\$17,376	\$16,118	\$14,860	\$13,603	\$12,345	\$11,087
16 Working Capital Allowance	\$46	\$46	\$46	\$46	\$46	\$45	\$45	\$45	\$45	\$45
17 Rate Base at Mid-year	(\$6,802)	(\$6,418)	(\$6,033)	(\$5,649)	(\$5,265)	(\$4,881)	(\$4,496)	(\$4,112)	(\$3,728)	(\$3,344)

18 REVENUE DEFICIENCY CALCULATION

19

20 Cost of Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21 Operating & Maintenance Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
22 Depreciation Expense	\$873	\$873	\$873	\$873	\$873	\$873	\$873	\$873	\$873	\$873
23 Amortization of Contributions	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)	(1,258)
24 Municipal Tax & Corp.Cap. Tax	\$982	\$978	\$974	\$969	\$965	\$961	\$956	\$952	\$947	\$943
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	(414)	(390)	(367)	(343)	(320)	(297)	(273)	(250)	(227)	(203)
27 Total Revenue Requirement	\$184	\$203	\$222	\$241	\$260	\$279	\$298	\$317	\$336	\$355
28 Projected Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29 Revenue Deficiency (Annual)	-\$184	-\$203	-\$222	-\$241	-\$260	-\$279	-\$298	-\$317	-\$336	-\$355
30 Revenue to Cost Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
31 NPV of Revenue Deficiency										

32 CONTRIBUTION REQUIREMENT

33 Total Contribution Required

Financial Feasibility Test

1 MER 2017-00828 R.M. of Dufferin PUB/CENTRA I-158 g)

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3	TIME 0	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
4	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027

OPERATING ASSUMPTIONS

5 Number of Customers		1	1	1	1	1	1	1	1	1	1
6 Annual Volume (Mcf)		369	369	369	369	369	369	369	369	369	369
7 Annual Volume (10 ³ m ³)		10	10	10	10	10	10	10	10	10	10
8 Projected Revenues		\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116
9 <u>RATE BASE</u>											
10 Gross Fixed Assets	\$93,002	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707
11 Accumulated Depreciation		\$2,942	\$5,883	\$8,825	\$11,767	\$14,708	\$17,650	\$20,592	\$23,533	\$26,475	\$29,416
12 Net Plant Closing	\$93,002	\$109,765	\$106,824	\$103,882	\$100,940	\$97,999	\$95,057	\$92,115	\$89,174	\$86,232	\$83,290
13 Net Plant at Mid-Year		\$101,384	\$108,294	\$105,353	\$102,411	\$99,469	\$96,528	\$93,586	\$90,644	\$87,703	\$84,761
14 Contributions	\$114,024	\$111,048	\$108,072	\$105,096	\$102,120	\$99,144	\$96,168	\$93,192	\$90,216	\$87,240	\$84,264
15 Contribution at Mid-Year		\$112,536	\$109,560	\$106,584	\$103,608	\$100,632	\$97,656	\$94,680	\$91,704	\$88,728	\$85,752
16 Working Capital Allowance		\$155	\$154	\$153	\$152	\$152	\$151	\$150	\$150	\$149	\$148
17 Rate Base at Mid-year		(\$10,998)	(\$1,112)	(\$1,078)	(\$1,044)	(\$1,011)	(\$977)	(\$943)	(\$909)	(\$876)	(\$842)

18 REVENUE DEFICIENCY CALCULATION

19

20 Cost of Gas		\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726
21 Operating & Maintenance Expenses		\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22 Depreciation Expense		\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942
23 Amortization of Contributions		(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)
24 Municipal Tax & Corp.Cap. Tax		\$1,505	\$1,490	\$1,476	\$1,461	\$1,446	\$1,432	\$1,417	\$1,402	\$1,387	\$1,373
25 Income Taxes		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return		(669)	(68)	(66)	(63)	(61)	(59)	(57)	(55)	(53)	(51)
27 Total Revenue Requirement		\$2,568	\$3,154	\$3,141	\$3,129	\$3,116	\$3,103	\$3,091	\$3,078	\$3,065	\$3,053
28 Projected Revenues		\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116
29 Revenue Deficiency (Annual)		\$548	-\$38	-\$25	-\$13	\$0	\$13	\$25	\$38	\$51	\$63
30 Revenue to Cost Ratio		121.4%	98.8%	99.2%	99.6%	100.0%	100.4%	100.8%	101.2%	101.7%	102.1%
31 NPV of Revenue Deficiency	\$1,652										

32 CONTRIBUTION REQUIREMENT

33 Total Contribution Required	\$114,024
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Financial Feasibility Test

1 **MER 2017-00828 R.M. of Dufferin PUB/CENTRA I-158 g)**

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YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15	YEAR 16	YEAR 17	YEAR 18	YEAR 19	YEAR 20
2028	2029	2030	2031	2032	2033	2034	2035	2036	2037

OPERATING ASSUMPTIONS

5 Number of Customers	1	1	1	1	1	1	1	1	1	1
6 Annual Volume (Mcf)	369	369	369	369	369	369	369	369	369	369
7 Annual Volume (10 ³ m ³)	10	10	10	10	10	10	10	10	10	10
8 Projected Revenues	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116
9 <u>RATE BASE</u>										
10 Gross Fixed Assets	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707
11 Accumulated Depreciation	\$32,358	\$35,300	\$38,241	\$41,183	\$44,125	\$47,066	\$50,008	\$52,950	\$55,891	\$58,833
12 Net Plant Closing	\$80,349	\$77,407	\$74,465	\$71,524	\$68,582	\$65,640	\$62,699	\$59,757	\$56,816	\$53,874
13 Net Plant at Mid-Year	\$81,820	\$78,878	\$75,936	\$72,995	\$70,053	\$67,111	\$64,170	\$61,228	\$58,286	\$55,345
14 Contributions	\$81,288	\$78,312	\$75,336	\$72,360	\$69,384	\$66,407	\$63,431	\$60,455	\$57,479	\$54,503
15 Contribution at Mid-Year	\$82,776	\$79,800	\$76,824	\$73,848	\$70,872	\$67,896	\$64,919	\$61,943	\$58,967	\$55,991
16 Working Capital Allowance	\$148	\$147	\$146	\$146	\$145	\$144	\$143	\$143	\$142	\$141
17 Rate Base at Mid-year	(\$808)	(\$775)	(\$741)	(\$707)	(\$674)	(\$640)	(\$606)	(\$573)	(\$539)	(\$505)

18 **REVENUE DEFICIENCY CALCULATION**

19

20 Cost of Gas	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726
21 Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22 Depreciation Expense	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942
23 Amortization of Contributions	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)
24 Municipal Tax & Corp.Cap. Tax	\$1,358	\$1,343	\$1,329	\$1,314	\$1,299	\$1,284	\$1,270	\$1,255	\$1,240	\$1,226
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	(49)	(47)	(45)	(43)	(41)	(39)	(37)	(35)	(33)	(31)
27 Total Revenue Requirement	\$3,040	\$3,027	\$3,015	\$3,002	\$2,989	\$2,977	\$2,964	\$2,952	\$2,939	\$2,926
28 Projected Revenues	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116
29 Revenue Deficiency (Annual)	\$76	\$89	\$101	\$114	\$127	\$139	\$152	\$165	\$177	\$190
30 Revenue to Cost Ratio	102.5%	102.9%	103.4%	103.8%	104.2%	104.7%	105.1%	105.6%	106.0%	106.5%
31 NPV of Revenue Deficiency										

32 **CONTRIBUTION REQUIREMENT**

33 Total Contribution Required

Financial Feasibility Test

1 **MER 2017-00828 R.M. of Dufferin PUB/CENTRA I-158 g)**

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	YEAR 21	YEAR 22	YEAR 23	YEAR 24	YEAR 25	YEAR 26	YEAR 27	YEAR 28	YEAR 29	YEAR 30
	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047

OPERATING ASSUMPTIONS

5 Number of Customers	1	1	1	1	1	1	1	1	1	1
6 Annual Volume (Mcf)	369	369	369	369	369	369	369	369	369	369
7 Annual Volume (10 ³ m ³)	10	10	10	10	10	10	10	10	10	10
8 Projected Revenues	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116
9 <u>RATE BASE</u>										
10 Gross Fixed Assets	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707	\$112,707
11 Accumulated Depreciation	\$61,775	\$64,716	\$67,658	\$70,600	\$73,541	\$76,483	\$79,425	\$82,366	\$85,308	\$88,249
12 Net Plant Closing	\$50,932	\$47,991	\$45,049	\$42,107	\$39,166	\$36,224	\$33,282	\$30,341	\$27,399	\$24,457
13 Net Plant at Mid-Year	\$52,403	\$49,461	\$46,520	\$43,578	\$40,636	\$37,695	\$34,753	\$31,812	\$28,870	\$25,928
14 Contributions	\$51,527	\$48,551	\$45,575	\$42,599	\$39,623	\$36,647	\$33,671	\$30,695	\$27,719	\$24,743
15 Contribution at Mid-Year	\$53,015	\$50,039	\$47,063	\$44,087	\$41,111	\$38,135	\$35,159	\$32,183	\$29,207	\$26,231
16 Working Capital Allowance	\$141	\$140	\$139	\$139	\$138	\$137	\$137	\$136	\$135	\$134
17 Rate Base at Mid-year	(\$472)	(\$438)	(\$404)	(\$371)	(\$337)	(\$303)	(\$270)	(\$236)	(\$202)	(\$169)

18 **REVENUE DEFICIENCY CALCULATION**

19

20 Cost of Gas	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726	\$1,726
21 Operating & Maintenance Expenses	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40	\$40
22 Depreciation Expense	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942	\$2,942
23 Amortization of Contributions	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)	(2,976)
24 Municipal Tax & Corp.Cap. Tax	\$1,211	\$1,196	\$1,181	\$1,167	\$1,152	\$1,137	\$1,123	\$1,108	\$1,093	\$1,079
25 Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26 Overall Return	(29)	(27)	(25)	(23)	(20)	(18)	(16)	(14)	(12)	(10)
27 Total Revenue Requirement	\$2,914	\$2,901	\$2,888	\$2,876	\$2,863	\$2,850	\$2,838	\$2,825	\$2,812	\$2,800
28 Projected Revenues	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116	\$3,116
29 Revenue Deficiency (Annual)	\$203	\$215	\$228	\$241	\$253	\$266	\$279	\$291	\$304	\$317
30 Revenue to Cost Ratio	107.0%	107.4%	107.9%	108.4%	108.8%	109.3%	109.8%	110.3%	110.8%	111.3%
31 NPV of Revenue Deficiency										

32 **CONTRIBUTION REQUIREMENT**

33 Total Contribution Required

REFERENCE:

Appendix 13.2

PREAMBLE TO IR (IF ANY):

QUESTION:

Explain why the Main Extension Requests listed below do not appear to have any firm or forecast customers in the first five years. Who paid the customer contribution for each project? If no contribution was received, explain Centra's rationale for proceeding with these projects.

- a) MER 2014-00139
- b) MER 2015-00837
- c) MER 2016-00015
- d) MER 2016-00073
- e) MER 2017-00025
- f) MER 2017-00043
- g) MER 2017-00056
- h) MER 2017-00080
- i) MER 2017-00085
- j) MER 2017-00805
- k) MER 2017-00833

RESPONSE:

- a) MER 2014-00139 was a main extension request to pre-service a light industrial park where no committed customers had been identified at the time of request. The contribution was paid by the developer of the industrial park.
- b) MER 2015-00837 was a main extension request to pre-service a commercial sub-division where no committed customers had been identified at the time of request. The contribution was paid by the developer of the commercial sub-division.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-159a-k

- c) MER 2016-00015 was a main extension request to pre-service a light industrial park where no committed customers had been identified at the time of request. The contribution was paid by the developer of the industrial park.
- d) MER 2016-00073 was a main extension request to pre-service a commercial sub-division where no committed customers had been identified at the time of request. The contribution was paid by the developer of the commercial sub-division.
- e) MER 2017-00025 was a main extension request to pre-service a commercial sub-division where no committed customers had been identified at the time of request. The contribution was paid by the developer of the commercial sub-division.
- f) MER 2017-00043 was a main extension request to pre-service a commercial sub-division where no committed customers had been identified at the time of request. The contribution was paid by the developer of the commercial sub-division.
- g) MER 2017-00056 was a main extension request to pre-service a commercial sub-division where no committed customers had been identified at the time of request. The contribution was paid by the developer of the commercial sub-division.
- h) MER 2017-00080 was a main extension request to pre-service a commercial sub-division where no committed customers had been identified at the time of request. The contribution was paid by the developer of the commercial sub-division.
- i) MER 2017-00085 was a main extension request to pre-service a commercial sub-division where no committed customers had been identified at the time of request. The contribution was paid by the developer of the commercial sub-division.
- j) MER 2017-00805 was a main extension request to pre-service a light industrial park where no committed customers had been identified at the time of request. The contribution was paid by the developer of the industrial park.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
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- k) MER 2017-00833 was a request by an existing customer for additional capacity. Since the customer already had natural gas service there were no additional firm customers identified. The contribution was paid by the requesting customer.

**Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-160a-b**

REFERENCE:

Tab 13 p. 5 of 14

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Provide Centra's submission of October 22, 2014 regarding the financial viability of the former Swan Valley Gas Corporation distribution system, as well as the Board's response of November 19, 2014.
- b) Provide an update on the results of Centra's marketing program on customer counts and the impacts to the revenue deficiency of the former Swan Valley Gas Corporation distribution system.

RESPONSE:

- a) Please see Attachment 1 for Centra's submission of October 22, 2014, and Attachment 2 for the PUB's response of November 19, 2014.
- b) The following table compares actual customer conversions to natural gas in the Swan Valley Gas area to the projections included in Centra's submission of October 22, 2014.

**Projected and Actual Conversions to
Natural Gas in the Swan Valley Gas Area**

	Residential		Commercial	
	Target	Actual	Target	Actual
Fiscal 2014/15	5	1	2	5
Fiscal 2015/16	22	15	5	3
Fiscal 2016/17	43	8	5	5
Fiscal 2017/18	28	5	4	5
Fiscal 2018/19	22	11	3	1
TOTAL	120	40	19	19

Centra Gas Manitoba Inc. 2019/20 General Rate Application
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At the time of purchase, SVGC served 138 residential, 62 commercial, 35 general service, and 3 institutional customers, per page 6 of 26 of Order 29/14. The 40 additional residential customers attached represents a 31% increase in residential customers (40/138), and the 19 additional commercial customers is an increase of 20% (19/62+35) over a 5 year period.

These additional customer attachments will serve to reduce the revenue deficiency associated with the acquisition; however, as noted in the report filed in response to PUB/CENTRA I-21a of Centra's Application related to the acquisition of the assets of Swan Valley Gas Corporation "to achieve break even position, Centra would need to more than double the existing customer load, which is highly unlikely given the lack of population growth in the Swan River area and Centra's past experience with other similar expansion areas within Manitoba."



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October 22, 2014

THE PUBLIC UTILITIES BOARD OF MANITOBA
400-330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

ATTENTION: Mr. H. M. Singh, Board Secretary and Executive Director

Dear Mr. Singh:

**RE: Directive 3 of Order 29/14
Improving the Financial Viability of the Swan Valley Gas Distribution System**

On March 14, 2014, the Public Utilities Board of Manitoba ("PUB") issued Order 29/14 with respect to Centra Gas Manitoba Inc.'s ("Centra") acquisition of the assets of the Swan Valley Gas Corporation ("SVGC"). In its Order, the PUB directed Centra to provide a plan that details its strategy to improve the financial viability of the Swan Valley Gas distribution system. Enclosed please find Manitoba Hydro's Marketing Plan to increase the use of natural gas for space and water heating in the Swan Valley area, which will in turn improve the financial viability of the distribution system in this region.

Centra is requesting the PUB's confirmation that Directive 3 of Order 29/14 has now been satisfied. Should you have any questions regarding this submission, please contact the writer at 204-360-3257 or Shannon Gregorashuk at 204-360-4270.

Yours truly,

MANITOBA HYDRO LAW DIVISION

Per:

A handwritten signature in blue ink, appearing to read 'B. Czarnecki', written over a horizontal line.

Brent A. Czarnecki
Barrister & Solicitor

Att.

Manitoba Hydro

Increasing Natural Gas Space and Water Heating in the Swan Valley Gas Area

Marketing Plan



2014

1. INTRODUCTION

1.1 Background

The Public Utilities Board (“PUB”), by Order 29/14 approved Centra Gas Manitoba Inc.’s application to purchase the assets of the Swan Valley Gas Corporation subject to certain conditions. In this Order, the PUB directed Centra provide the PUB with a plan or strategy detailing how it will improve the financial viability of the distribution system in the Swan Valley Gas area.

There are currently 257 active natural gas customers in the Swan Valley area, consisting of 151 residential customers and 106 commercial customers. There are another 268 customers with service lines that have never been activated and have no meter installed. This marketing plan details Manitoba Hydro’s strategy to increase the number of customers using natural gas in the Swan Valley Gas area, which will in turn improve the financial viability of the distribution system in this region. In addition to increasing natural gas revenues, by specifically targeting customers in the Swan Valley area with existing services that are not currently being used, Manitoba Hydro will also avoid the operational costs of abandoning these lines, which is estimated to cost approximately \$1,400 per service or a total of \$384,000.

2. MARKETING OBJECTIVE & STRATEGY

In line with Manitoba Hydro’s Heating Education Initiative, Manitoba Hydro seeks to increase the number of customers heating with natural gas as in most circumstances it represents the most economic option for the customer, the utility and the Province.

2.1 Marketing Objective

Manitoba Hydro’s marketing objectives are as follows:

- Promote the benefits of heating with natural gas; and,
- Promote convenient on-bill Power Smart financing options and other programs offered by Manitoba Hydro to help customer with the initial cost of conversion and to manage their energy bill.

2.2 Target Market

2.2.1 Primary Target Market

The primary target market is home owners, property managers, and business owners responsible for space and water heating for premises located on or adjacent to the existing natural gas network in the Swan Valley Gas area. The primary target market strategy is segmented into residential and commercial customers.

Residential Market

There are approximately 2,000 residential customers in Swan River, Benito and Minitonas. This population is reduced by the number of homes that are already natural gas customers to identify the total number of customers who could technically be converted to natural gas heating. Homes that have baseboard electric heat lack ducting required for natural gas furnaces thereby substantially increasing the cost of conversion, leaving a total economic potential for conversions to natural gas of 542 customers.

RESIDENTIAL	SWAN RIVER	BENITO	MINITONAS	TOTAL	% of Total Residential
Total Residential (Sask Energy Application)	1420	230	275	1925	
Active Natural Gas - Residential	118	25	8	151	8%
Homes with Baseboard Electric Heat	909	147	176	1232	64%
Total Potential (Electric Forced Air Furnace)	393	58	91	542	28%

As noted earlier, customers with an existing unused energized service line on their property present the most economically favourable opportunity; 202 residential customers are noted as having existing energized service lines.

Commercial Market

There are 261 commercial customers in Swan River, Benito and Minitonas. This population is reduced by the number of commercial properties whom are already natural gas customers, leaving a technical potential of 155 commercial customers.

Buildings heated electrically with central forced air (rooftop units or furnaces) or hot water boiler systems can be more readily converted to natural gas by changing out the boiler, rooftop unit or furnace. For these types of systems, distribution ductworks, piping and mechanical room space already exist. Shop or warehouse type buildings that are heated with suspended electric forced air unit heaters or radiant heating panels can also be readily converted to natural gas by installing natural gas fired unit heaters or radiant heaters.

Baseboard heaters, wall and entrance heaters that are distributed throughout all rooms of buildings tend to be more costly to convert as distribution ductwork or hot water piping would need to be installed to enable natural gas heating. Buildings heated with distributed electric baseboards would not typically have mechanical rooms large enough to house the boilers of forced air furnaces/air handlers required. The number of commercial customers with distributed baseboard systems is unknown at this time.

COMMERCIAL	SWAN RIVER	BENITO	MINITONAS	TOTAL	% of Total Commercial
Total Commercial (Sask Energy Application)	204	32	25	261	
Active Natural Gas - Commercial	86	15	5	106	41%
Commercial Baseboard Electric Heat	n/a	n/a	n/a	n/a	n/a
Total Potential (Electric Heat)	118	17	20	155	59%

As noted earlier, customers with an existing unused energized service line on their property

present the most economically favourable opportunity; 66 commercial customers are noted as having existing energized service lines.

Overall, customer conversions to natural gas will be influenced by a number of factors as noted below in Section 2.3, Barriers to Conversion.

2.2.2 Secondary Target Market

The secondary target market is retailers, suppliers, contractors, engineers, architects, home builders, and others who assist customers in choosing a heating system to meet their needs. Educating these market stakeholders will aid in promoting the benefits of natural gas heating to homeowners, business owners and property managers.

2.3 Barriers to Conversion

The barriers to conversion listed below are addressed by the marketing strategy outlined later on in this plan:

- i. Lower initial capital cost of electric space and water heating equipment – It is typically less expensive for residential customers to buy electric space and water heating equipment relative to comparable natural gas equipment.
- ii. Continuing perception that electric heating will be less costly to operate than natural gas because of Manitoba Hydro's low and stable electricity rates – Recent surveys indicate that approximately 34% of electrically heated customers believe that heating with electricity costs the same or is lower than the cost of heating with natural gas. With natural gas prices traditionally being higher in the Swan Valley Gas area than in the areas served by Manitoba Hydro, this perception may be more easily changed with market intervention.
- iii. Customers are reluctant to replace a functioning heating system prior to the end of its useful life – Research indicates that only 16% of the electric furnaces in Swan River, Benito and Minitonas are less than 10 years old which presents a potential opportunity to encourage conversion.
- iv. Perception that using electricity instead of natural gas is better for the environment – There is a lack of understanding that hydro-electricity exports offset fossil fuel produced-electricity in export regions, while helping to keep electricity rates in Manitoba among the lowest in North America. Recent surveys indicate that approximately 70% of electrically heated customers believe that heating with electricity is more environmentally friendly than heating with natural gas.
- v. Resonating perception that natural gas prices are volatile – There is a lack of awareness that natural gas prices are predicted to remain relatively stable in future years, and that future supplies are projected to be economically available due to shale gas developments.

2.4 Marketing Strategy

To address the barriers noted in Section 2.3, the campaign will be a multi-faceted approach focusing on the message of significant bill reductions being achieved by converting to natural gas and that Manitoba Hydro is here to help, offering technical support, programs and financing

to reduce or eliminate the capital costs associated with converting to natural gas. Print advertising, website information, bill inserts, brochures, video, billboards, mail/door drops, town halls, and industry ally meetings will be used to reach residential customers. The campaign will also reach customers through retailers, suppliers, contractors, homebuilders and others who play a role in helping customers decide on the best type of heating system to meet their needs.

In addition to educating consumers, or the end-user, efforts will be undertaken to educate industry personnel, who communicate with customers, of the heating options available and the benefits of heating with natural gas.

The efforts in the commercial market will build upon the residential campaign and will include a targeted direct sales approach.

Residential Market

The following summarizes marketing tactics that will be targeted to residential customers:

- *Billboards*

Billboards have been placed in/near the 3 towns served under the Swan Valley Gas franchise. The billboards target local homeowners with the message “Natural Gas: Heat your home for up to \$12,000 less.” The call to action is to contact Manitoba Hydro for more information and assistance.



Billboard installed in Minitonas, MB

- *Print ads*

Newspaper ads specific to the Swan Valley area will run on a weekly basis in the Swan River Star & Times. Newspaper ads will focus on the key messages of bill savings and assistance available through Manitoba Hydro. Attachment A provides a copy of the August 2014 advertisement.

- *Town Hall Meetings*

Manitoba Hydro will host town hall information sessions in Swan River, Minitonas, and Benito. These town hall meetings will provide an opportunity to inform customers of the bill savings possible by converting to natural gas and to promote the Power Smart programs and financing options available. These events will offer customers an opportunity to seek clarification on potential costs and concerns they may have regarding natural gas conversions. Technical staff will be available to respond to equipment and energy end-use related questions.

- *Residential Door Drops - Totes*

In advance of the Town Hall Meetings, Manitoba Hydro will work with local schools in Swan River, Minitonas, and Benito to have tote bags with the message “Natural Gas: Heat your home for up to \$12,000 less” placed at the door of residential homes in the three aforementioned towns. The tote will contain information about: the upcoming town hall meetings, the bill savings achievable when converting to natural gas heating, financing programs and other Power Smart programs available including the Affordable Energy Furnace Replacement Program.



- *Industry Ally Communications*

In addition to being invited to the Town Hall Meetings, meetings will be arranged with local HVAC contractors and home builders to ensure industry allies are effectively equipped with the information and resources needed to guide customers in choosing the fuel source that is most advantageous for their needs and Manitoba Hydro financing and programs available. In addition, Manitoba Hydro will seek feedback from these industry allies in order to gain a greater understanding of market perceptions and practices.

- *Mail Drop*

A letter promoting the key messages will be distributed in residential mailboxes throughout the natural gas service area. The mail drop is currently planned to be distributed in February/March 2015 to coincide with the peak of the heating season to encourage conversion during the following renovation season (spring/summer/fall).

- *Bill inserts*

As part of the larger heating education campaign, a bill insert promoting heating options is planned for twice a year. Bill inserts provide a cost effective opportunity to reach all customers in natural gas available areas.

- *Manitoba Hydro's website*

The heating section on Manitoba Hydro's website will continue to be updated with value-added content and information on the options for and the costs of home heating.

The main feature includes an online calculator which allows customers to select and compare current and potential heating system options. The calculator highlights and compares capital and operating costs of the different systems. This information is updated on a quarterly basis to ensure operating costs are reflective of current energy rates. In addition, customers can also view an educational video highlighting the capital costs, operating costs, and global environmental impacts of their space and water heating fuel choices.

Commercial Market

Building on the efforts in the residential market, the following summarizes marketing tactics that will be specifically targeted to commercial customers:

- *Targeted Customer Meetings*
Due to the significant range of benefits for commercial customers, they will be approached individually under a direct sales approach. Commercial electric consumers have been identified and cross referenced with properties which have service lines installed but who are not currently using natural gas. AnEnergy Service Advisor will arrange meetings with the most viable commercial customers where the merits of natural gas will be presented based on their specific situations. The discussion will include promotion of the various Power Smart Programs available such as Power Smart Pay As You Save (PAYS) Financing and the Power Smart Natural Gas High Efficiency Boiler Program. Direct sales efforts will be targeted to customers with annual electricity consumption greater than 200,000 kW.h as they represent a higher potential heating load.
- *Chamber of Commerce Presentations*
An Energy Service Advisor will arrange to speak at the Chamber of Commerce meetings in the region. The presentation will focus on the costs of heating with natural gas compared to heating with electricity, Power Smart programs and financing available to assist business customers in managing their energy costs, and the process for converting to natural gas service.

3. IMPLEMENTATION TIMELINE

The following table represents a projected timeline for implementation of the Swan Valley Gas marketing strategy:

Swan Valley Gas Media Timing																								
Media Type	2014											2015												
	8/18	8/25	9/1	9/8	9/15	9/22	9/29	10/6	10/13	10/20/14 - 1/12/15	1/19	1/26	2/2	2/9	2/16	2/23	3/2	3/9	3/16	3/23	3/30			
Print Ads																								
Billboards																								
Town Hall Meetings																								
Residential Door Drops																								
Mailbox drop																								
Bill Inserts																								
Industry Ally Meetings																								
Chamber Meeting (date tbd)																								
Commercial Customer Visits																								

For the period following the schedule outlined above, media planning will be completed on an annual basis.

4. BUDGET

Leveraging the ongoing Heating Education Initiative, the marketing strategy for the Swan Valley Gas area also contains specific messaging related to the opportunities presented to customers as a result of the acquisition (i.e. lower energy costs and financing). The budget for the marketing plan is outlined in the table below.

	2014/15	2015/16	2016/17	2017/18	2018/19
Print Ads	\$7,500	\$5,000	\$5,000	\$5,000	\$5,000
Billboards	\$5,300	--	--	--	--
Town Hall Events	\$2,700	--	--	--	--
Door Drops - Totes	\$5,625	--	--	--	--
Mailbox Drop	\$750	\$2,000	\$2,000	\$2,000	\$2,000
Industry Ally Meetings	\$350	--	--	--	--
Labour & Administration	\$35,000	\$16,000	\$16,000	\$16,000	\$16,000
	\$57,225	\$23,000	\$23,000	\$23,000	\$23,000

5. Market Goals

Manitoba Hydro's goal is to convert 120 existing electrically heated homes and 19 existing commercial facilities to natural gas over the next five years, thereby increasing overall penetration of natural gas heating in the Swan Valley area from 8% to 14% of residential customers and from 41% to 48% of commercial customers.

The 2000/01 natural gas expansion project in the Interlake achieved 18% penetration of the residential market and 44% penetration of the commercial market in the first five years. In setting projections for the Swan Valley Gas area, Manitoba Hydro is recognizing that 8% of residential and 41% of commercial customers in the area have already converted to natural gas under the previous natural gas provider. However, as Manitoba Hydro is offering natural gas at a lower cost and offering Power Smart financing and programs to aid in managing customers' conversion costs, Manitoba Hydro is projecting additional conversions in the region.

MARKET	TOTAL REMAINING POTENTIAL	Projected Annual Conversions to Natural Gas Heating					Total at end of Year 5
		Year 1	Year 2	Year 3	Year 4	Year 5	
		% of Total Potential	% of Total Potential	% of Total Potential	% of Total Potential	% of Total Potential	
RESIDENTIAL		1%	4%	8%	5%	4%	22%
Homes with Electric Forced Air Furnace	542	5	22	43	28	22	120
Priority 1 Homes with Unused Energized Service Lines	202						
Priority 2 Remaining Homes with Electric Forced Air Furnaces	340						
COMMERCIAL		1%	3%	3%	2%	2%	12%
Commercial Properties Without Natural Gas	155	2	5	5	4	3	19
Priority 1 Commercial Customers with Unused Energized Service Lines	66						
Commercial Customers > 200,000 kW.h annual load							
Priority 2 without Unused Energized service lines	26						

Manitoba Hydro will initially focus efforts on those customers with existing unused energized services on their properties. For these customers, the only costs to consider are the costs of installing natural gas piping and equipment within their homes and businesses.

In addition, within the residential sector, an estimated 32% of homes with electric forced air furnaces in Swan River, Minitonas and Benito potentially qualify for the Affordable Energy Furnace Replacement Program. Manitoba Hydro will be placing additional emphasis on the opportunities for customers under this program.

For the commercial sector, direct sales efforts will be targeted to customers with higher potential heating loads.

If customer uptake is not meeting objectives, then additional intervention, such as increased outreach or customer incentives, will be assessed.

Attachment A – Swan River Star & Times Weekly Newspaper Advertisement

Natural Gas

Heat your home for up to
\$12,000 less.

More options with Manitoba Hydro

On May 1, 2014, Manitoba Hydro became the natural gas service provider in Swan River, Benito, Minitonas and surrounding area. As a Manitoba Hydro gas customer, you can benefit from lower heating costs when you convert your existing electric furnace to a high-efficiency natural gas furnace.

Manitoba Hydro offers a variety of financing programs so you can upgrade your furnace today. You can finance all or part of the installation of a natural gas furnace, and your loan will be repaid by the energy savings generated by your upgrade.



Call today to learn more:

1-888-624-9376

Or visit us online at hydro.mb.ca/heating
for more information about home heating.



The cost to buy, install and operate indicated above is an average and will vary depending on your home, specific heating needs, and other conditions.

Cost to run is based on a natural gas cost of \$0.2917/m³ and electricity cost of \$0.07381/kWh.



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Site Web : www.pub.gov.mb.ca

November 19, 2014

Brent Czarnecki
Law Department
Manitoba Hydro
22nd Floor
360 Portage Avenue
Winnipeg, MB R3C 0G8

Dear Mr. Czarnecki:

**RE: Directive 3 of Order 29/14 - Improving the Financial Viability of the
Swan Valley Gas Distribution System**

On October 22, 2014, the Board received Manitoba Hydro's marketing plan entitled "Increasing Natural Gas Space and Water Heating in the Swan Valley Area - Marketing Plan". The Board acknowledges the receipt of this document as per Directive 3 of Board Order 29/14.

The Board looks forward to hearing the results of the marketing program and the impacts to the revenue deficiency of the former Swan Valley Gas Corporation distribution system.

Sincerely,

"Original Signed By"

Kurt B. Simonsen, P.Eng.
Associate Secretary

KBS/nac

c.c. Greg Barnlund, Manitoba Hydro
Bob Peters, Board Counsel
Brady Ryall, Board Advisor



REFERENCE:

Tab 14 Attachment 4

PREAMBLE TO IR (IF ANY):

QUESTION:

Please file the report prepared related to the Corporation's potential risk exposure to U.S. Tax Liabilities and explain the exposure issue related to Centra's U.S activities.

RESPONSE:

The Corporation has not yet received a report from the law firm engaged to undertake a comprehensive legal review of Manitoba Hydro and its subsidiaries' business activities with respect to potential liability for U. S. federal and state taxes and any associated reporting and filing obligations. Once the legal opinion has been provided to the Corporation, it will not be filed as it is subject to solicitor client privilege.

REFERENCE:

Tab 14 Attachment 4

PREAMBLE TO IR (IF ANY):

QUESTION:

- a) Provide the 2017 Corporate Strategic Plan Dashboard for Centra.
- b) Explain the reason(s) for the apparent 2017 to 2018 performance decline in all Customer Value performance measures.
- c) Please provide a table which compares Centra-specific gas related measures, the targets from the dashboard with actual results for the fiscal years 2012/13 to 2017/18 and comment on the results relative to target. For targets that have not been met, please indicate how each of the targets will be met in the future.
- d) Please indicate how the targets were established in the Performance Dashboard.
- e) Please provide the financial strength results in (c) with targets established for Gas operations
- f) Please indicate when Centra intends on updating its Corporate Strategic Plan.
- g) Please indicate what Key Performance indicators are used internally for gas operations.

RESPONSE:

- a) Please see Attachment 1 for the 2017 Corporate Strategic Plan Dashboard for Centra.
- b) In the 2017/18 fiscal year, third party damages exceeded recent historical levels. The 2018/19 third party damages have returned to lower values. While Centra remains well below the CGA third-party damage levels, the 2017/18 levels were considerably higher than recent experience.


It is notable customer locate requests increased 39% between 2014/15 to 2017/18. The increased construction activity coincides with increasing third party damages during this period.













Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-162a-g

While each of the key performance indicators degraded during this time, it is notable the Natural Gas Average Response time remained well below the 60 minute target. Considering more gas outages occurred during this time, it also makes sense that the number of customers affected by Unplanned Natural Gas Outages also increased along with the customer hours of outages.

- c) The measures were first defined in August 2014.

Legend: Target met: 

Target not met: 

Measure	Target	Actual 2017/18		Actual 2016/17		Actual 2015/16	
Natural Gas Average Response Time to Outages (minutes)	<60	30		24		23	
Natural Gas System Reliability (customer hours)	<777	1677		897		725	
Average Unplanned Natural Gas Outage Duration Time (hours)	<4.39	6.85		4.23		4.34	
Number of Customers Affected by Unplanned Natural Gas Outages (customers)	<177	314		127		167	

The Damage Prevention program will continue to be applied to achieve these targets.

- d) Centra's targets are based upon historical performance; however, given the passage of time since they were established, documentation with respect to how the targets were set is not available. It is anticipated that all performance measures will be reviewed as part of the strategic planning process (discussed in part f) below).
- e) The following table provides the financial strength actual results compared to budget for each year.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB/CENTRA I-162a-g

Financial Strength

(\$ millions)	CGAAP						IFRS					
	Budget 2012/13	Actual 2012/13	Budget 2013/14	Actual 2013/14	Budget 2014/15	Actual 2014/15	Budget 2015/16	Actual 2015/16	Budget 2016/17	Actual 2016/17	Budget 2017/18	Actual 2017/18
Net income	1.6	7.8	11.9	19.8	6.6	10.2	7.8	(1.4)	8.0	3.9	(0.9)	6.8
O&A expenses	67.3	63.7	68.6	66.8	67.8	67.5	66.7	66.6	67.8	65.4	66.6	63.1
Capital expenditures	26.9	29.8	40.6	32.6	38.3	27.3	54.0	40.4	50.8	54.4	31.0	32.9

- f) Manitoba Hydro is undertaking the development of a 20 year Strategic Business Plan that will set the direction for Manitoba Hydro and its subsidiaries, including Centra. Manitoba Hydro began the process in Spring 2019.
- g) The following Natural Gas Operations Key Performance Indicators are utilized by Centra, the results of which are reviewed at the Quarterly Communication Meetings between Manitoba Hydro and the PUB Staff and Advisors:

Damage Measures including:

- Below Grade Damages per 1000 locates
- Below Grade Damages per 1000 locates excluding “did not call”
- Below Grade Damages per 1000 Customers
- Below Grade Damages per 1000 km of Main
- Below Grade Damages per 1000 km of Main and Services
- Percent of Below Grade Damages that are four party trench area
- Below Grade Damages by Cause and Area
- Above Grade Damages by Cause and Area
- Third Party Damages
- Non-Billable Public Contacts

Performance Measures including:

- Odorization Testing including:
 - Odorant Intensity Testing
- Equipment Testing including:
 - Monthly Inspection and Calibration
 - Flame Ionization Equipment Calibration
 - Emergency Equipment Testing – Squeezers
 - Emergency Equipment Inventory List Review
- Pre-Tested Pipe Inventory
- Cathodic Protection Levels

- Line Marker Signs
- Vegetation Management

Leak Survey Progress including:

- Above and Below Grade Leak Surveys on Transmission and High Pressure Pipe
- Above and Below Grade Leak Surveys on Mains and Services
- Above Grade piping at bridge crossings
- Valve Maintenance
- Wall to Wall Leak Survey
- Public Building Leak Survey

Corporate Strategic Framework



Centra Corporate Performance Dashboard as of March 31, 2017

CENTRA GAS PERFORMANCE DASHBOARD			as at March 31, 2017
	Measure	Target	Actual
Safety in the Workplace	Accident severity rate <i>(consolidated elec&gas)</i>	<12 days per 200,000 hours worked	10.06
	Accident frequency rate <i>(consolidated elec&gas)</i>	<.60 accidents per 200,000 hours worked	0.82
	Serious incidents <i>(consolidated elec&gas)</i>	0	6
Indigenous Relations	Indigenous employment <i>(consolidated elec&gas)</i>	18% overall	18.3%
Demand Side Management	Natural gas energy saved	8.8 million cubic meters	10.4 million cubic meters
Customer Value	Natural Gas Average Response Time to Outages	<60 minutes	24.30 minutes
	Natural Gas System Reliability	< 777 customer hours	897 customer hrs
	Average Unplanned Natural Gas Outage Duration Time	< 4.39 hours	4.23 hours
	Number of Customers Affected by Unplanned Natural Gas Outages	< 177 customers	127 customers
	Measure	2016/17 Forecast (In Millions of Dollars)	
Financial Strength (CGM16)	Net income	(\$0.486)	
	O&A costs	\$68	
	Capital Expenditures - Business Operations	\$51	

REFERENCE:

Tab 9 p. 17, [REDACTED]

PREAMBLE TO IR (IF ANY):

QUESTION:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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RESPONSE:

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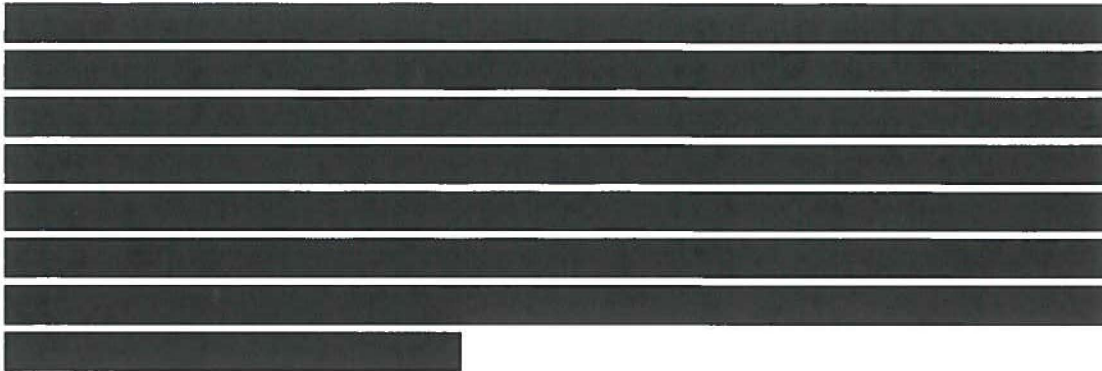
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REFERENCE:

Appendix 9.6 p. 4

PREAMBLE TO IR (IF ANY):

QUESTION:

[REDACTED]

RESPONSE:

[REDACTED]

[REDACTED]

[REDACTED]

