**REFERENCE:**

Appendix 3.1 – Projected operating statement

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

IGU requires more information to understand Centra's projected operating statement

**QUESTION:**

Please provide a schedule that shows amounts included in the projected operating statement for each year from 2019 through 2028:

a) Forecast revenues from Centra's proposed balancing fees for Transportation Service customers.
b) Forecast costs related to fees paid to TCPL for imbalances in excess of tolerances.
c) Please provide billing determinants and rates underlying all calculations in parts (a) and (b) above

**RESPONSE:**

a), b) and c)

Balancing fees have no net impact to Centra's income statement (the referenced Appendix 3.1). Like all other upstream gas costs (including offsetting revenues from Centra's Capacity Management Program and potentially from T-Service balancing fees), any amounts collected from T-Service customers will be refunded to Sales Service customers dollar for dollar, with no margin or profit retained by Centra.

Centra's cost allocation methodology will be unaffected by balancing fees. As is the case today, they will impact the magnitude of the closing balance of the Transportation PGVA at the conclusion of each Gas Year and subsequent rate riders to either refund or collect these balances to or from customers.

Please see the response to PUB/CENTRA I-147b which explains that Centra does not have a forecast of revenues from Centra's proposed balancing fees for T-Service customers. Going forward, actual experience will be the best basis on which to forecast

the net of balancing fees collected from T-Service customers and balancing fees paid to TCPL, which will either be a credit or debit to the Transportation PGVA. Centra's preferred outcome is that it collects little to no revenue from T-Service balancing fees, but rather that T-Service accounts are balanced on a daily basis.

Centra's 2018/19 Gas Year forecast of costs related to balancing fees is $250,000, an estimate based on Centra's historical experience (see below).

| Gas Year | Centra's Balancing Fees[1] |
|---|---|
| 2018/19 forecast | $250,000 |
| 2017/18 | $199,000 |
| 2016/17 | $157,000 |
| 2015/16 | $203,000 |
| 2014/15 | $221,000 |
| 2013/14 | $254,000 |
| 2012/13 | $194,000 |
| 2011/12 | $204,000 |

As described above, there is no calculation per se of balancing fees. Rather, the $250,000 is an estimate based on Centra's historical experience. There are no billing determinants and rates underlying the aforementioned actual and forecast costs related to balancing fees.

Centra's 2019/20 Gas Year forecast of gas costs, including balancing fees, will be filed in July 2019 as part of Centra's pre-hearing update. However, Centra can advise that its 2019/20 forecast of balancing fees in the July update will be $250,000. This figure is a reasonable placeholder for 2019/20 given that Centra cannot know how T-Service customers will react to the financial incentive to balance their accounts. Ideally, T-Service customers and their nominating agents will respond to the introduction of this financial incentive by pro-actively managing their positions and mitigating balancing fees to the extent possible. When actual realized outcomes associated with the new balancing fee structure become available at the end of the 2019/20 Gas Year, Centra will re-assess its forecast of balancing fees at that time.

[1] Net of balancing fees recovered from T-Service customers

**REFERENCE:**

Appendix 3.1 – Projected operating statement

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

IGU requires more information to understand Centra's projected operating statement

**QUESTION:**

Please provide a schedule that shows amounts included in the projected operating statement for each year from 2019 through 2028:

d) All amounts paid to the Province of Manitoba (please separately indicate each type of payment).

**RESPONSE:**

Please see the response to PUB/CENTRA I-48a.

**REFERENCE:**

Appendix 3.5 – Evidence of Drazen Consulting Group, Inc.

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

IGU requests additional information related to the consultant's report.

**QUESTION:**

a) Please provide a copy of the retainer letter, consulting agreement and scope of work for this assignment.

**RESPONSE:**

Please see the attachment to this response which is a copy of the retainer agreement entered into with Drazen Consulting Group Inc. and the scope of work. Centra has redacted the hourly rate to be paid as such is commercial information and confidential in nature.

# CONSULTING SERVICES AGREEMENT

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THIS AGREEMENT dated June 15, 2018·

BETWEEN:

MANITOBA HYDRO

(hereinafter referred to as "**Hydro**"),

- and –

DRAZEN CONSULTING GROUP, INC.

(hereinafter referred to as the "**Consultant**").

Hydro and Consultant agree as follows:

## 1. SERVICES

1.1 Consultant shall perform the Services described in Schedule "A", which is attached and forms part of this Agreement.

1.2 Consultant shall:

(a) perform its obligations in a timely manner;

(b) perform its obligations in a good, skillful, efficient and professional manner;

(c) use due care in the performance of its obligations to ensure that no person is injured or killed, no property is damaged or lost, and no rights are infringed;

(d) provide written reports (in addition to any specified in Schedule "A") with respect to the Services at Hydro's request;

(e) comply with all reasonable instructions and requests made by Hydro concerning the Services and this Agreement;

(f) comply with all applicable federal, provincial, municipal, state, or other laws, by-laws, and regulations; and

(g) comply with Hydro corporate policies and procedures which have been provided by Hydro to Consultant.

## 2. TERM

2.1 The Services shall be provided commencing on the date of this Agreement and continuing until July 1, 2019 (the "**Term**").

## 3. PAYMENTS

3.1 Fees and charges for performance of the Services are described in Schedule "A".

3.2 If pre-approved by Hydro, Consultant's reasonable expenses incurred in performance of the Services will be reimbursed, at actual cost.

3.3 Consultant shall provide itemized invoices to Hydro on a monthly basis. Hydro's purchase order number 4500397177 shall be referenced on the face of each invoice. Taxes payable shall be shown as separate line items on each invoice. All invoices shall be satisfactory to Hydro in form and content. Consultant shall deliver to Hydro any supporting documents and receipts requested by Hydro from time to time.

3.4 Subject to section 3.5, Hydro shall pay Consultant all undisputed compensation due within 30 days following receipt of an invoice and supporting materials pursuant to Section 3.3 hereof. Amounts shall be calculated and paid in Canadian dollars unless otherwise stated in Schedule "A".

3.5 Hydro shall withhold from any and all payments to the Consultant such amounts in respect of non-resident withholding tax as it may be required to withhold under the terms of the *Income Tax Act (Canada)* and shall remit same as required pursuant thereto.

3.6 Consultant may charge interest on overdue accounts, at the annual interest rate of 1.5% above the prime lending rate established by the Royal Bank of Canada, in effect at the time the amount initially became due, calculated and payable monthly. The same applies to the disputed portion of an invoice subsequently found be properly due and payable.

## 4. INDEPENDENT CONTRACTOR

4.1 Consultant is an independent contractor. This Agreement shall not be deemed to create the relationship of employer and employee, principal and agent, partnership, or joint venture between Hydro and Consultant.

4.2 Consultant is responsible for all deductions or remittances required by law and hereby indemnifies Hydro from and against any penalty, charge, cost or expense, including interest and including reasonable legal fees, assessed against or incurred by Hydro arising from Consultant's failure to withhold, report or remit any tax, levy or assessment. Hydro may deduct same from any amount owing to Consultant and remit to the appropriate authority.

4.3 Consultant has no authority to make any representation, enter any commitment, or incur any liability on behalf of Hydro, except with the prior written consent of Hydro.

## 5. APPROVAL OF PERSONNEL AND NON-ASSIGNMENT

5.1 Consultant shall perform the Services personally or using an employee or sub-consultant listed in Schedule "A". Consultant shall not engage any other employee or sub-consultant in performance of the Services without the prior written consent of Hydro.

5.2 Consultant shall ensure that each individual assigned to perform Services in Canada is legally authorized to work in Canada. Consultant shall complete and maintain all permits, visa and documentation for such individual and shall comply with the conditions imposed on employers under the *Immigration and Refugee Protection Regulations*. Consultant shall provide Hydro with verification of each individual's authority to work in Canada, including copies of all work permits and renewals and will not assign any individual prior to confirming that such individual is legally authorized to work in Canada.

5.3 Each individual performing the Services must pass Hydro's personnel risk assessment where required by Hydro, in its sole discretion. Consultant shall, upon request of Hydro, obtain from and submit on behalf of each specified individual, a completed personnel risk assessment form (to be provided by Hydro) at least 30 days before beginning performance of the Services. Consultant shall report to Hydro any material change in the information provided on an individual's personnel risk assessment form, such as a conviction for a criminal offence, immediately upon becoming aware of such change. Hydro, acting reasonably, may require an individual to undergo additional personal risk assessments and may suspend such individual pending completion of the assessment.

5.4 Consultant shall, upon request of Hydro, require all personnel to complete Manitoba Hydro Cyber Security Training and Manitoba Hydro Standards of Conduct Training provided that Hydro shall make such training available at no cost to Consultant.

5.5 At Hydro's request, Consultant shall cease using an employee or sub-consultant for any reasonable cause including unsatisfactory performance, failure to pass a personnel risk assessment to Hydro's satisfaction, or failure to comply with Hydro policies or procedures.

5.6 Consultant shall not assign or transfer this Agreement or any of its rights or obligations under this Agreement, without the prior written consent of Hydro.

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## 6. OWNERSHIP OF SERVICE PRODUCT

6.1 "**Service Product**" means anything created by the Consultant in performing the Services, including, without limitation, information, ideas, know-how, drawings, designs, reports, products, processes, documents, research notes, data, photographs, maps, materials, work in progress, and other tangible or intangible property, in any form, format or medium.

6.2 The Service Product shall be the exclusive property of Hydro upon creation. The Consultant hereby transfers and assigns all rights in the Service Product and waives any moral rights to Service Product and at Hydro's request shall obtain waivers of moral rights. Consultant shall make no use of the Service Product other than to provide the Services, except with the prior written consent of Hydro.

6.3 To the extent that a Service Product contains the Consultant's pre-existing intellectual property, the Consultant does not transfer or assign such property but grants to Hydro a non-exclusive, transferable, sub-licensable, royalty-free, world-wide, irrevocable, and perpetual license to such intellectual property.

6.4 Consultant shall deliver to Hydro the Service Product and a record of all Service Product.

## 7. CONFIDENTIALITY

7.1 "**Confidential Information**" means all information that is supplied by Hydro or otherwise comes into the possession of Consultant during the course of performance of the Services, regardless of format or medium, and the Service Product. Confidential Information does not include:

(a) information that is generally known to the public through no fault of Consultant;

(b) information that was specifically known to Consultant before disclosure by Hydro and was not subject to a confidentiality obligation; and

(c) information from a source other than Hydro so long as such source was not subject to a confidentiality obligation.

7.2 Consultant may only use Confidential Information for the purpose of providing the Services to Hydro. Consultant shall not use or disclose Confidential Information for any other purpose except where required by law or pursuant to a valid subpoena or court order, in which case Consultant shall promptly notify Manitoba Hydro to afford it an opportunity to challenge the order. In any event, Consultant shall only disclose such Confidential Information as is specifically required by the applicable law or order.

7.3 Consultant may share Confidential Information with an employee or sub-consultant who has a need to know for the purpose of the Services. Consultant shall be responsible for any violation of Section 7 hereof by such persons. Consultant shall not disclose Confidential Information to any other person without Hydro's prior written consent.

7.4 Upon completion of the Services, or the termination or expiry of this Agreement, Consultant shall return or destroy all material in any form or medium that contains Confidential Information provided that Consultant may retain one copy if required to comply with legal, regulatory or professional requirements and any automatic backup copies of records containing Confidential Information.

7.5 Consultant shall, at all times, protect Confidential Information from unauthorized access, use and disclosure until the Confidential Information is returned, deleted or destroyed.

7.6 Consultant shall not issue any public statement regarding this Agreement or use Hydro's name, logos or marks in any way, without the written consent of Hydro.

7.7 Consultant acknowledges that any failure to comply with the provisions of Section 7 hereof shall cause irreparable harm to Hydro which cannot be adequately compensated by damages. Accordingly, in addition to any other remedies available to it, Hydro shall be entitled to interlocutory and permanent injunctive relief to restrain any anticipated, present, or continuing breach of Section 7 hereof.

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## 8. PROTECTIONS

8.1 Consultant shall:

(a) secure all of its premises, equipment and systems used in connection with the Services, against damage and unauthorized access;

(b) safeguard all Confidential Information used in connection with the Services including its use, access, transfer and storage, against damage and unauthorized use or disclosure, and;

(c) immediately notify Hydro of the discovery of any damage or unauthorized access, use or disclosure, of Confidential Information, and any threats or attempts to accomplish the same.

8.2 When on Hydro premises, Consultant shall comply with Hydro safety and security policies and with the reasonable directions of Hydro.

## 9. CONFLICT OF INTEREST & ANTI-CORRUPTION

9.1 Consultant shall comply with all laws governing corruption in the performance of contracts with public bodies and shall not engage in any corrupt, fraudulent, collusive, coercive or obstructive practice.

9.2 Consultant warrants and represents that no offer, gift or payment, consideration or benefit of any kind, which constitutes an illegal or corrupt practice, has been or will be made to anyone, either directly or indirectly, as an inducement or reward for the award or execution of this Agreement.

9.3 Consultant acknowledges and agrees that the parties shall perform their obligations in a manner consistent with the spirit and intent of Manitoba Hydro's Code of Conduct. The most current version of the Code is available at https://www.hydro.mb.ca/corporate/code_of_conduct.shtml.

9.4 Consultant shall hold Hydro's interests paramount, without any consideration for future work, and shall avoid conflict with other assignments or Consultant's own interests.

9.5 Consultant agrees that during the term of this Agreement and after its termination, the Consultant, its parent, affiliates and any sub-consultant, shall not offer or provide services to Hydro or any third party which are directly or indirectly related to the Services without the express written consent of Hydro.

## 10. LIABILITY AND INDEMNIFICATION

10.1 Consultant shall indemnify and save harmless Hydro, its directors, officers, employees, and agents from and against any and all claims, demands, losses, costs, damages, expenses, settlements, actions, suits, or proceedings of or by third parties arising from or relating to any breach of contract, negligence or willful misconduct of the Consultant or anyone for whom the Consultant is responsible.

10.2 Neither party shall have any liability to the other for any indirect, incidental, or consequential damages, even if a party has been advised of the possibility of such damages, except to the extent that such damage is covered by the terms of an insurance policy described in section 11 of this Agreement.

## 11. INSURANCE

11.1 Consultant shall maintain comprehensive general liability insurance in the minimum amount of two million dollars CAD per occurrence, for bodily injury, death, and damage to property including loss of use thereof. The policy shall include coverage for premises property and operations, products and completed operations, blanket contractual liability, cross liability, non-owned automobile liability and occurrence property damage. The policy shall be endorsed to provide Hydro with not less than 30 days written notice in advance of cancellation and to show Hydro as an additional insured.

11.2 Consultant shall maintain automobile liability insurance in the minimum amount of two million dollars, at its own cost, for licensed vehicles owned or operated by Consultant in Canada.

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11.3 Upon request, Consultant shall provide certificates of insurance to Hydro.

11.4 Consultant shall pay any assessment or compensation required to be paid pursuant to The Workers Compensation Act (Manitoba). Upon failure to do so, Hydro may pay the assessment or compensation to the Compensation Board and deduct the amount from monies due to Consultant. Hydro may require a declaration from the Compensation Board that assessments or compensation have been paid in full, and may withhold payment to Consultant until the declaration is received. Where Consultant is a non-resident of Canada, Consultant shall provide certificates of employer's liability and workers' compensation insurance for its employees and sub-consultants performing Services in Manitoba

## 12. SUSPENSION AND TERMINATION

12.1 Hydro may, for its convenience, delay or suspend Consultant's performance of any or all of the Services, by giving five business days' notice to Consultant.

12.2 Hydro may, for its convenience, terminate this Agreement by giving ten business days' notice to Consultant.

12.3 Consultant shall cease to perform the Services upon receipt of a notice pursuant to Section 12.1 or 12.2 hereof. At Hydro's request, Consultant shall resume performance of the Services as soon as reasonably possible following a delay or suspension.

12.4 Hydro shall compensate Consultant for direct costs and expenses actually incurred by Consultant that are directly attributable to a delay or suspension pursuant to Section 12.1 hereof, but not for lost profit.

12.5 Hydro shall compensate Consultant for direct costs and expenses actually incurred by Consultant that are directly attributable to a termination pursuant to Section 12.2 hereof, for Services performed to the date of termination, and for any reasonable expenses of Consultant necessary for winding down performance of the Services, but not for lost profit.

12.6 Without prejudice to any other of its rights or remedies, Hydro may immediately terminate this Agreement if Consultant is in breach of this Agreement, or if Consultant becomes bankrupt or insolvent.

12.7 The following provisions shall survive the expiry or termination of this Agreement: Sections 5.3; 6; 7; 8; 10; 11.4; 14; and 15 hereof.

## 13. FORCE MAJEURE

13.1 Neither party shall be in default of this Agreement where the failure to perform an obligation is due wholly to a cause beyond its reasonable control. The party experiencing such a difficulty shall promptly notify the other of its inability to perform its obligation. The parties agree to negotiate in good faith an extension of time for performing the obligation, avenues to resolve the situation and resolution of any financial impacts. Both parties shall mitigate their losses.

## 14. RECORDS AND AUDITS

14.1 Consultant shall maintain and preserve accurate and complete records in respect of the Services. During the term of this Agreement and for a period of seven years after, upon reasonable notice, Consultant shall make such records available to Hydro, its agents and auditors, for inspection and copying during reasonable business hours.

## 15. GOVERNING LAW

15.1 This Agreement shall be subject to, interpreted, performed and enforced in accordance with the laws of Manitoba without regard to Manitoba or Canadian law governing conflicts of law, even if one or more of the parties to this Agreement may be resident of or domiciled in any other province or country. The parties hereby irrevocably attorn to the exclusive jurisdiction of the Court of Queen's Bench of Manitoba, Winnipeg.

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## 16. NOTICES

16.1 Any notice required under this Agreement shall be in writing, and may be delivered by hand, courier, mail, facsimile or other electronic method that provides a paper record confirming delivery, to the address described below during regular business hours. A notice shall be effective upon delivery provided that where the notice is delivered outside of regular business hours, it shall be deemed to be effective on the next business day.

For Consultant:

Drazen Consulting Group, Inc.
225 S. Meramec Ave. Suite 1033T
St. Louis, MO USA 63105-3503
Attention: Mark Drazen
Email: mmd@drazen.com

For Hydro:

Manitoba Hydro
360 Portage Avenue
Winnipeg, Manitoba, R3C 0G8
Attention: Liz Carriere
Email: lcarriere@hydro.mb.ca

## 17. GENERAL

17.1 This is the entire agreement between the parties. There are no other undertakings, representations, or promises, express or implied.

17.2 Each party shall, from time to time, take such actions and execute such documents as may be necessary to give effect to this Agreement.

17.3 If any provision in this Agreement is found to be unenforceable at law, it shall be deemed severed from this Agreement and the remaining provisions shall continue in effect.

17.4 No amendment of this Agreement is valid unless it is in writing, signed by both parties.

17.5 No extension of time for performance of the Services is valid unless it is in writing, signed by Hydro.

17.6 No waiver of any provision of this Agreement, or of a breach hereof, is valid unless it is in writing, signed by waiving party. Waiver of a breach is not a waiver of a subsequent breach.

17.7 This Agreement shall enure to the benefit of and be binding upon, the heirs, executors, administrators, successors and permitted assigns of the parties.

17.8 This Agreement may be signed in counterpart.

**MANITOBA HYDRO**

Signed: _____ Authorized Signing Representative

Name (print): JAMIE MCCALLUM

Title (print): CHIEF FINANCE + STRATEGY OFFICER

Date: July 20, 2018

Signed: _____ Authorized Signing Representative

Name (print): MARK DRAZEN

Title (print): PRESIDENT

Date: 2018-JUL-25

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Schedule "A"

## DESCRIPTION OF THE SCOPE OF THE SERVICES, FEES AND CHARGES

DESCRIPTION OF THE SCOPE OF THE SERVICES, FEES AND CHARGES

The Consultant will provide consulting services, including the preparation of a written report, for Centra's 2019/20 General Rate Application (GRA) to the Manitoba Public Utilities Board (PUB) to be filed on or about October 31, 2018, with respect to the issue found at page 34 of Order 108/15 as follows:

> *The Board notes Centra's improved financial strength since the last General Rate Application, with a debt to equity ratio of 65:35 as of March 31, 2015. In past Orders, the level of net income was established at $3 million based on, in part, Centra's capital strength being above the Board-established debt to equity target of 70:30. Centra's improved financial position is due in part to colder than normal weather experienced during the last three years, as well as other financial factors that have not been reviewed since the 2013/14 General Rate Application. These changed financial circumstances have caused Centra to earn $9.5 million more than what is currently allowed by the Board on a weather-normalized basis.*
>
> *The Board is of the view that the non-gas cost revenue requirement which gives rise to Centra's allowed net income needs to be reviewed in the context of a General Rate Application. Although the Board is approving Centra's gas costs as final in this Order, the Board is of the view that Centra's non-gas earnings must be reviewed, and therefore will not finalize interim rates until the non-gas portions of those rates have been examined.*

In the upcoming GRA, the PUB will want to review reasons for Centra's improved financial strength since the last GRA and whether the portion of its retained earnings over and above what the PUB currently allows Centra to earn on a weather-normalized basis, namely an annual net income of $3 million, should be returned to customers.

Centra will provide the Consultant with information on its earnings (on an actual and weather-normalized basis) as wells details on Centra's ROE formula, background on $3 million net income, and rate base, and request it consider the following topics as part of its evidence:

- Assisting Manitoba Hydro in determining an appropriate Return on Equity (in response to the findings in Order 85/13) as part of and to support the preparation and completion of its GRA application/filing;
    - In Order 85/13, the PUB directed Centra to propose an update to its return on equity that is reflective of an appropriate return on equity to be used in the feasibility test and for the return on rate base determination. This evidence will also inform Centra's response to this directive; and,
- The appropriate level of targeted net income for Centra.

**The above noted deliverables are requested by July 31, 2018.**

- The reasonableness of the PUB's cap on Centra's weather-normalized annual earnings at $3 million (after corporate allocation) based on current circumstances;
- Centra's financial results since it was acquired by Manitoba Hydro in 1999, including historical rate base and rates of return, to determine the appropriateness of Centra's cumulative retained earnings (including consideration as to what local distribution companies of a similar size and rate base, and comparable risks, are allowed to earn); and,
- Canadian regulatory practice/principles regarding appropriate levels of equity (retained earnings) and rates of return for gas distribution utilities.

**The above noted deliverables are requested by August 31, 2018.**

The report will be prepared in a form specified by Centra (e.g., narrative Q&A or text for inclusion in another Centra document).

In addition to the preparation of the report, the Consultant will, upon request, assist with the following items as part of the GRA and proceeding:

1. Reviewing and preparing responses to information requests;
2. Reviewing interveners' evidence;
3. Preparing information requests on interveners' evidence;
4. Assisting with the preparation of any rebuttal evidence;
5. Strategy development for the oral portion of the hearing;
6. Witness training and preparation; and
7. Testimony at the hearing.

DRAZEN CONSULTING GROUP
Energy & Regulatory Economics

# Centra Gas Manitoba 2018-19 General Rate Application

## DCGI Task Outline and Fee Estimate

| | Cost Range (US$) |
|---|---|
| **Review Centra and PUB information** | [redacted] |
| Financial and weather data | |
| Prior case materials (data, transcripts, decisions, etc.) | |
| Centra forecasts | |
| Other background information | |
| **Review alternate methods for equity return** | |
| Survey of Canadian/US practices | |
| Analyze effects of alternatives | |
| Discuss alternatives with Centra | |
| Prepare support for Centra recommendation | |
| **Prepare evidence** | |
| Initial draft of evidence | |
| Discuss with Centra; coordinate positions | |
| Final evidence (plus workpapers) | |
| **Other evidence-related tasks** | |
| Review other parties' evidence | |
| Prepare information requests | |
| Respond to information requests from others | |
| Review other parties' responses | |
| **Hearing tasks (other than attendance)** | |
| Prepare cross-examination materials | |
| Assist in drafting final argument | |
| **Total** | |
| **Attend hearing** | |
| Preparation (1 day) | |
| Attendance | |

**REFERENCE:**

Appendix 3.5 – Evidence of Drazen Consulting Group, Inc.

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

IGU requests additional information related to the consultant's report.

**QUESTION:**

b) With respect to the response to question 15 on page 9, is it Mr. Drazen's understanding that Crown utilities regulated using a ratebase/rate of return model do not ever have capital costs disallowed by their regulator?

c) Is Mr. Drazen aware if Centra has ever had costs disallowed from the calculation of ratebase by the Public Utilities Board either before or after its acquisition by Manitoba Hydro?

d) With respect to the response to question 18 on page 11, please provide a copy of the Minister's Order dated September 26, 2018 setting out the terms of reference to the Saskatchewan Rate Review Panel for the review of SaskEnergy's 2018 application.

**RESPONSE:**

Responses to parts b) & c) were provided by Mr. Drazen.

b) Crown utilities regulated on a rate base/rate of return model may have had capital costs disallowed by their regulators. Note that the disallowance of a budgeted prospective item is not a denial of recovery of spent dollars, but a denial of the spending before it happens.

c) Yes, in cases prior to Hydro's acquisition of Centra. In Order No. 89/95 the Board disallowed some of Centra's proposed rate base.

   In Order No. 79/98 the PUB disallowed a portion of gas supply hedging costs on the basis of imprudence in Centra's price management hedging activities.

d) Please see attachment to this response.

Government of Saskatchewan

**Minister's Order**

**Combined SaskEnergy Natural Gas Commodity Rate Change, Natural Gas Delivery Service Rate Change and Interim Commodity Rate Adjustment Proposal**

**Terms of Reference**

**WHEREAS** by an Order dated December 16, 2015, issued pursuant to Section 15 of *The Executive Government Administration Act*, the Minister of Crown Investments appointed a Ministerial Advisory Committee known as the Saskatchewan Rate Review Panel;

**AND WHEREAS** that Order provides for specific terms of reference for particular Crown Corporation rate change reviews to be attached by further Minister's Order;

**AND WHEREAS** it is desirable to establish terms of reference for a SaskEnergy Commodity and Delivery rate change review and to attach the terms of reference to the previously mentioned Minister's Order;

**NOW THEREFORE**, I hereby amend the said Minister's Order by attaching Appendix A affixed hereto as **"Schedule E: Combined SaskEnergy Natural Gas Commodity Rate Change, Natural Gas Delivery Service Rate Change, Interim Commodity Rate Adjustment Proposal and Terms of Reference"** to the said Minister's Order.

Dated at Regina, Saskatchewan this 26 day of September, 2018

**Minister of Crown Investments**

**Schedule E:**
**Combined SaskEnergy Natural Gas Commodity Rate Change and Natural Gas Delivery Service Rate Change Proposal**

## Terms of Reference

The Saskatchewan Rate Review Panel (the Panel) is requested to conduct a combined review of SaskEnergy's request for a decrease to its natural gas commodity rates, an increase in its delivery service rate and an interim commodity rate.

- A Commodity Rate decrease effective April 1, 2019.
- A Delivery Service Rate increase to the Delivery Charge component of its Delivery Service Rates in each customer class effective April 1, 2019, and
- Comment on an interim Commodity Rate effective November 1, 2018.

The Panel shall function within its mandate and operational terms of reference as specified in the Minister's Order dated December 16, 2015. The Panel shall provide an opinion of the fairness and reasonableness of SaskEnergy's proposed commodity and delivery rate change having consideration for the following:

- The interests of the Crown corporation, its customers and the public;
- Consistency with the Crown corporation's mandate, objectives and methodologies;
- Relevant industry practices and principles; and
- The effect of the proposed delivery rate change on the competiveness of the Crown corporation related to other jurisdictions.

## COMMODITY RATE REVIEW

In conducting its **Commodity Rate Review**, the Panel will consider the following factors:

A) The reasonableness of the proposed changes to the commodity rate in the context of:

(i) SaskEnergy's anticipated cost of gas for the effective term including;
(ii) The gas purchase contracts entered into by SaskEnergy for the supply of gas; and
(iii) The natural gas commodity market conditions at the time of SaskEnergy's contractual commitments.

B) The impact changing market prices will have on SaskEnergy's proposed commodity rate.

C) The Panel shall check to ensure that SaskEnergy's natural gas price management strategy is executed as approved by the SaskEnergy Board of Directors, and its practices are aligned with the SaskEnergy Board of Directors approved policy and procedures for engaging in gas price management activities.

D) In conducting its review, the Panel shall consider the following as given:

(i) The principle that SaskEnergy passes on the cost of gas to consumers without discount or mark-up.

The Panel must include in its report an explanation of how, in its opinion, implementation of the Panel's rate recommendations will allow SaskEnergy to achieve the performance inherent in the

principle outlined in section (D), where the Panel's recommendations differ from SaskEnergy's proposed commodity rate change.

## DELIVERY RATE REVIEW

In conducting its **Delivery Rate Review**, the Panel will consider the following factors:

A) The reasonableness of the proposed changes to the rates in the context of SaskEnergy's forecasted delivery cost of service, comprised of:

(i) load forecast;
(ii) contracted transportation and storage service;
(iii) planned maintenance program;
(iv) operating, maintenance and administrative expenses;
(v) depreciation expense; and,
(vi) corporate capital tax.

B) The revenue requirement resulting from the delivery cost of service.

C) The Panel shall consider the following parameters as given:

(i) the rate structure (i.e. components and classifications);
(ii) the budgeted capital allocation, the rate base, and established corporate policies;
(iii) the long-term target rate of return on equity of 8.3%, as approved in the 2018-2019 business plan, using industry based rate setting methodology and excluding customer contributions for the distribution utility;
(iv) the existing service levels;
(v) the revenue-to-cost ratio target range of 0.95 to 1.05;
(vi) the methodology used to allocate the costs between rate classes; and,
(vii) all transportation and storage rates, including those set by TransGas Limited.

SaskEnergy will provide the Panel with its application package immediately. SaskEnergy will also provide the Panel with any supplementary information as the Panel may require to fulfill its mandate and these Terms of Reference.

The Panel shall determine a public consultation process for this rate change application appropriate and cost effective under the circumstances and within the timeline for the review as established by the Minister of Crown Investments.

The Panel shall provide members of the public with the opportunity to review and comment on SaskEnergy's delivery rate change submission outside any public meeting, to the extent reasonable and within the timeline for the review assigned by the Minister of Crown Investments.

The Panel shall provide an opportunity to SaskEnergy to make a presentation to it and to the public as they consider appropriate to discuss noteworthy rate application issues.

Questions from the public, the Panel members and its technical consultant(s) that require a response from SaskEnergy shall be received and organized by the Panel in a timely and efficient manner and forwarded to SaskEnergy for response.

The Panel shall provide SaskEnergy with the opportunity and reasonable time to review the Panel's technical consultant's preliminary report prior to its finalization to ensure there are no errors in data or in the interpretation of data. The preliminary report shall include the consultant's observations (e.g. outstanding issues and questions), but will not include the consultant's recommendations to the Panel.

The Panel must include in its report an explanation of how, in its opinion, implementation of the Panel's rate recommendations will allow SaskEnergy to achieve the performance inherent in the parameters outlined in section (C), where the Panel's recommendations differ from SaskEnergy's proposed delivery rate change.

## CONFIDENTIALLY

Consistent with the "Confidentiality Guidelines" for the Panel (January 19, 2010), the Panel will not publicly release or require SaskEnergy to publicly release confidential information supplied by the Crown corporation to the Panel during the course of the combined rate change application review.

The Panel will release, as part of its final report, the results of the review of SaskEnergy's delivery rate change request as conducted by an independent third party. By doing so the Panel shall ensure there has been no indirect release of any of SaskEnergy's confidential information.

## CONDUCT OF THE REVIEW

The Panel will present its report to the Minister of Crown Investments no later than February 4, 2019.

**REFERENCE:**

Tab 6 Page Rate Base & Rate of Return

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

IGU requires additional information on the rate base & rate of return model.

**QUESTION:**

a) Is it Centra's view that its rates are regulated using a rate base/rate of return methodology? Please discuss in detail.
b) Please provide Centra's understanding of the differences between a rate base/rate of return methodology for rate regulation and the regulatory framework set out in part 4 of the Crown Corporations Governance and Accountability Act. In particular, please discuss Centra's understanding of any differences that specifically relate to the Public Utilities Board's jurisdiction over capital programs and the calculation and approval of Centra's ratebase.
c) Please explain whether or not it is Centra's position that its rate base as set out in Tab 6 of the application is properly a "factor in determining just and reasonable rates or tolls" within the meaning of section 61 of the Public Utilities Board Act.

**RATIONALE FOR QUESTION:**

**RESPONSE:**

a) Based on current legislation as well as the position of the PUB as set out in its Orders 131/04 and 135/05, Centra's view is that its rates are regulated using a hybrid model that applies both the rate base/rate of return and cost of service methodologies.

   Pursuant to section 127 of *The Public Utilities Board Act*, the PUB shall, in determining just and reasonable rates, determine the rate base and the rate of return on shareholder equity. Section 61 of that Act sets basic elements to be included in the rate

base. As a result of the statutory requirements, Centra's rates are regulated in part using a rate base/rate of return methodology.

However, in Order 131/04, the PUB noted the following:

> *The Board is aware that the current legislation allows the Board to review Centra's rates on a rate base, rate of return basis. However, the legislation may also permit other forms of regulation of the gas utility. The Board notes that Centra is of the view that for an income tax exempt wholly-owned subsidiary of a Crown Corporation, the appropriate methodology should be revenue requirement and cost of service, as is the case with MH. The Board encourages Centra to file its next GRA in a timely fashion and on the basis of both rate base rate of return and revenue requirement, cost of service with emphasis on the latter. This will enable to Board to reach its determination taking into account revenue requirement, cost of service, and comparing such approach with the current rate base, rate of return methodology.*

The PUB also found in Order 135/05 that the cost of service methodology was an appropriate model for Crown and municipal corporations. The PUB held that "while the legislation requires that revenue requirement be determined on the *Rate Base Rate of Return* methodology, it also appears to provide the Board latitude to regulate Centra on a *Cost of Service* basis" (page 68 of Order 135/05).

The Board went on to indicate that it would apply both regulatory approaches:

"Accordingly, the Board will direct that future General Rate Applications by Centra continue to be filed using Cost of Service to calculate revenue requirement and Rate Base Rate of Return to test that result, and continue broad oversight over Centra's operations." (page 69 of Order 135/05).

b) As noted in part a), Centra's understanding of its current regulatory framework is that its rates are regulated using a hybrid model that applies both the rate base/rate of return and cost of service methodologies. Part IV of *The Crown Corporations Governance and Accountability Act*, S.M. 2017, c. 19 sets out the factors the PUB will

consider in reaching a decision under a cost of service methodology. Section 61 of *The Public Utilities Board Act* sets out the basic elements to be included in the rate base, which the PUB considers in its determination of just and reasonable rates. In terms of the differences between these two Acts specifically related to the PUB's jurisdiction over capital programs and the calculation and approval of Centra's ratebase, Centra confirms that the PUB has jurisdiction over its capital projects.

c) Centra confirms that by operation of section 127 of *The Public Utilities Board Act*, its rate base, which is set out in Tab 6 of the Application, is a factor in determining just and reasonable rates.

**REFERENCE:**

Tab 6, Schedule 6.1.0 and Tab 10 page 12 of 14.

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

IGU requires additional information to understand the calculation of Centra's ratebase.

**QUESTION:**

a) For each of the asset categories shown in Schedule 6.1.0, please provide a narrative description of the types of assets included in the category and how those assets are used to provide service to customers.
b) Please list all main diameter sizes that are classified as transmission and for each diameter size, include the length of mains installed (in km) on Centra Gas's system.
c) What is the approximate range of current replacement cost in $/km for each transmission main diameter size installed on Centra Gas's system?

**RESPONSE:**

a) Please see the attachment to this response for descriptions of the types of assets included in Centra's asset accounting categories. Also included is a description of how the assets are used to provide service to customers.

b) Centra classes pipelines with maximum operating pressures above 1900 kPa (275 psi) as transmission pressure. The length of the transmission pressure pipelines in the Centra's system by diameter and material as of April 2019 are as follows:

| **Steel** | | **Aluminum** | |
|---|---|---|---|
| Size (Outside Diameter) mm | Length (km) | Size (Outside Diameter) mm | Length (km) |
| 60.3 | 118 | 48.3 | 3 |
| 88.9 | 330 | 82.6 | 29 |
| 114.3 | 631 | **Total** | **32** |
| 168.3 | 462 | | |
| 219.1 | 115 | | |
| 273.1 | 46 | | |
| 323.9 | 167 | | |
| 406.4 | 41 | | |
| **Total** | **1909** | | |

c) The costs below are used for estimating, comparing and planning future transmission pressure projects. The costs are applicable to projects greater than 10 km in length with a premium to be applied for shorter projects. Costs do not include stations, property, valves or pig launchers/receivers.

NPS 2 - $130,000 / km
NPS 4 - $175,000 / km
NPS 6 - $250,000 / km
NPS 8 - $350,000 / km
NPS 12 - $500,000 / km
NPS 16 - $650,000 / km

# TRANSMISSION PLANT

Pipelines with operating pressures above 1900 kPa and associated transmission pressure pipeline valves and fittings, and all pressure reducing stations with direct interconnection to the TCPL mainline.

**460. LAND**

This account includes the cost of land used for transmission operations.

**463. STRUCTURES AND IMPROVEMENTS - MEASURING AND REGULATING**

This account includes the cost of structure foundations and related facilities used for the measuring and regulating function of natural gas transmission operations. It shall also include the cost of improvements to such structures and related facilities, and the cost of clearing, levelling or grading land, both before and after construction, when such improvements are directly related to the above functions and structures.

**464. STRUCTURES AND IMPROVEMENTS - OTHER**

This account includes the cost of structures and related facilities used for gas transmission operations not recorded elsewhere.

**Examples of Components:** Buildings, Drainage system, Roads, Fencing

**465. MAINS**

This account includes the installed cost of gas transmission mains between a station's discharge valve and the next station's inlet valve, including pipe from receiving meters to delivery meters.

**Examples of Components:** Pipe casing, Pipe line, Clearing and grading, Concrete supports, River weights, Damages to property of others, Saddles, Structural equipment and support, Equipment foundation Surveying, Lightning arrestor, Valve, Manifold fittings. Vents

**465.10 CATHODIC PROTECTION**

This account includes the costs of installing cathodic protection equipment (e.g. sacrificial anodes, rectifiers) on transmission pipelines to prevent corrosion and maintain the integrity of the pipe.

**465.20 GAS IN-LINE INSPECTIONS**

This account includes the cost of In-Line Inspections (ILI) to assess the condition of the natural gas pipelines. This account also includes the cost of pipeline modifications to accommodate inspection tools, cleaning, pig tracking, filters, excavations and pipeline repairs.

**467. MEASURING AND REGULATING EQUIPMENT**

This account includes the installed cost of meters, gauges, regulators and associated equipment used for measuring and regulating natural gas in transmission operations.

**Examples of Components:** Battery, Meter recorder, Meter tube and fittings, Odorizing equipment, Cathodic protection device, Panel, Piping, Circuit breaker, Conduit, Pump, Controller, Regulator, Control panel, Stores equipment, Equipment foundation, Fire-fighting equipment, Gauges, Tank, Telemetering equipment, Header, Thermometer, Line Heater, Tubing, Valve, Valve box, Manometer, Valve operator

## DISTRIBUTION PLANT

Pipelines with operating pressures less than or equal to 1900 kPa, all pressure reducing stations downstream of transmission station plant, all farm taps and farm tap inlet piping and all associated pipeline valves, fittings, service lines and customer meter set assemblies.

**470. LAND**

This account includes the cost of land used for distribution operations.

**472. STRUCTURES AND IMPROVEMENTS- OTHER**

This account includes the cost of structures and related facilities used for distribution operations.

**Examples of Components:** Buildings, Drainage system, Roads, and Fencing

**472.10 STRUCTURES AND IMPROVEMENTS – MEASURING AND REGULATING**

This account includes the cost of structures, foundation and related facilities used for the measuring and regulating function of natural gas distribution operations. It shall also include the cost of improvements to such structures and related facilities, and the cost of clearing, levelling or grading land, both before and after construction, when such improvements are directly related to the above functions and structures

**473. SERVICES**

This account includes the installed cost of service pipes, from the point at which the main is tapped to and including the meter shut off stop.

**Examples of Components:** Curb valves and curb boxes, Excavation, including shoring, bracing, bridging, pumping, backfill, and disposal of excess excavated material, Municipal inspection, Pavement disturbed, including cutting and replacing pavement, pavement base and sidewalks, Permits, Pipe and fittings, including saddle, tee, or other fittings on street main, Pipe coatings, Protection of street openings

**474. REGULATORS AND METER INSTALLATIONS**

This account includes the cost of regulators whether actually installed or held in reserve. It shall further include the cost of labour and materials used, and expenses incurred in the original installation of regulators and meters.

**Examples of Components:** Cocks, Fittings, Locks, Regulators, Labour, Regulator vents, Meter bars, Seals, Pipe, supports, valves, relief valves

**475. MAINS**

This account includes the installed cost of distribution system mains from the transmission line to customer service lines.

**Examples of Components:** Clearing and grading, Damages to property of others, Excavation, including shoring, bracing, bridging, pumping, backfill, and disposal of excess excavated material, Municipal inspection, Pavement disturbed, including cutting and replacing pavement, pavement base and sidewalks, Permits, Pipe, Pipe coating, Pipe fittings, Pipe laying, Pipe supports, Protection of street openings, Surveying, Valves (including manholes or pits) not associated with regulating equipment

**475.10 CATHODIC PROTECTION**

This account includes the costs of installing cathodic protection equipment (e.g. sacrificial anodes, rectifiers) on distribution pipelines to prevent corrosion and maintain the integrity of the pipe.

**477. MEASURING AND REGULATING EQUIPMENT**

This account includes the cost of meters, gauges, regulators and associated equipment used for measuring or regulating gas for distribution operations.

**Examples of Components:** Battery, Meter recorder, Meter tube and fittings, Odorizing equipment, Cathodic protection device, Panel, Piping, Circuit breaker, Conduit, Controller, Regulator, Control panel, Stores equipment, Equipment foundation, Fire-fighting equipment,, Gauges, , Line heater, Tubing, Valve, Manhole, Valve box, Manometer, Valve operator

**477.10 TELEMETRY EQUIPMENT**

This account includes the equipment and installation costs of telemetry communications equipment used for measuring and collecting data at remote or inaccessible sites.

**478. METERS**

This account shall include the cost of meters or devices for use in measuring the quantity of gas delivered to customers, whether actually in service or held in reserve.

The records covering meters shall be maintained so that the utility can furnish information as to the number of meters of various capacities in service and in reserve as well as the location of each meter owned.

**Examples of Components:** Government seals, Meter unit, including badging

**478.10 METER TESTING**

This account includes the costs of exchanging and performing verification/testing of natural gas meters.

**479.10 COMPUTER HARDWARE EQUIPMENT – SCADA**

This account includes the costs of the related hardware and equipment for the Supervisory Control and Data Acquisition System (SCADA) pertaining to the transmission and distribution of natural gas in Manitoba.

## GENERAL PLANT

**Note:** Following the acquisition of Centra Gas by Manitoba Hydro, acquisition of general plant is made by the parent company Manitoba Hydro. The costs associated with such plant assets are allocated to Centra by way of the Integrated Cost Allocation Methodology.

**480. LAND**

This account includes the cost of land not specific to distribution or transmission operations.

**482. STRUCTURES AND IMPROVEMENTS**

This account includes the cost of structures and related facilities used for general utility operations not recorded elsewhere.

**Examples of Components:** Buildings, Drainage system Roads, Fencing

**483. OFFICE FURNITURE AND EQUIPMENT**

This account includes the cost of office equipment, furniture and fixtures, when not built in or permanently attached to buildings.

**Examples of Components:** Workstations, Cabinets and Furniture

**483.20 COMPUTER EQUIPMENT DEVELOPMENT (general plant - Banner)**

This account includes the costs of general computer hardware and equipment (e.g. Banner)

**484. TRANSPORTATION EQUIPMENT**

This account includes the cost of transportation equipment, used in gas operations, including equipment installed on company vehicles.

**Examples of Components:** Automobiles, Snowmobiles, Tractor, Electric vehicle, Truck, Truck trailer, Motor boat, Van and all-terrain vehicles

**485. HEAVY WORK EQUIPMENT**

This account includes the cost of major items of movable equipment used for construction or maintenance in gas operations.

**Examples of Components:** Air compressor, Backhoe, Hoist, Bulldozer, Pipe threading and cutting machine, Welding machine, Generator, Nitrogen cylinders, Fusion equipment, Mini excavator, Excavator, Directional drill, Hydrovac, Skid steer

**Note:** Small tools and equipment and large non-movable equipment shall be included in Account No. 486, "Tools and Work Equipment".

**486. TOOLS AND WORK EQUIPMENT**

This account shall include the cost of tools and other equipment used for gas operations and not included in Account No. 485, "Heavy Work Equipment". It shall also include the cost of garage equipment and large non-movable equipment.

**Examples of Components:** Air drill Lathe, Alcohol injector, Lawn mower, Anvil, Lifting magnet, Barometer, Manometer, Battery charger, Milling machine, Beveling machine

Motor, Blasting machine, Pipe cleaning machine, Boring machine, Pipe coating tester, Pipe cutting and threading machine, Corrosion prevention equipment, Pipe locator, Crane, Pipe pusher, Cutter, Pipe straightening machine, Detector, Pipe threader, Dew point tester, Planer, Pneumatic tool, Drilling machine, Pump, Saw, Fire extinguisher, Surveying and levelling equipment, Tool cabinet, Tool kit, Generator, Tool rack, Grinder, Vise, Greasing tools and equipment, Wheelbarrow, Work bench, Hoist, Wrench

**489. OTHER GENERAL EQUIPMENT**

This account includes the cost of equipment not provided for in other gas accounts.

**INTANGIBLE ASSET ACCOUNTS**

**401. FRANCHISES AND CONSENTS**

This account includes amounts paid to federal, provincial or other governmental authorities in consideration for franchises, consents or certificates running in perpetuity or for a specified term of more than one year. It also includes expenses incidental to acquiring such franchises, consents or certificates of permission and approval.

**461. TRANSMISSION LAND RIGHTS**

This account includes the cost of land rights or easements used for transmission operations.

**471. DISTRIBUTION LAND RIGHTS**

This account includes the cost of land rights or easements used for distribution operations

**479.30 COMPUTER SYSTEM DEVELOPMENT – SCADA**

This account includes the costs of the software related to operating the SCADA system for the transmission and distribution of natural gas in Manitoba.

## TRANSMISSION AND DISTRIBUTION PLANT

The following is a summary of the purpose of various assets in providing service to customers:

**LAND**

Land is necessary for the permanent siting of above grade transmission and distribution assets and to support the related operations. The transmission and distribution assets in this category are typically pressure regulating stations or above grade assemblies used to control the flow of gas.

**LAND RIGHTS**

Land rights or easements allow Centra the right to install and maintain pipelines across land owned by others.

**STRUCTURES AND IMPROVEMENTS**

Structures and improvements primarily pertain to pressure regulating stations or above grade control points. These facilities are used to control pipeline pressures, add odourant and control the flow of gas.

**MAINS**

Mains are used to convey gas to supply service lines and may be a transmission or distribution pipeline.

**CATHODIC PROTECTION**

Cathodic protection is a technique to prevent corrosion of buried steel pipelines and fittings.

**GAS IN-LINE INSPECTIONS**

Gas In-line inspections is a technique to assess the condition of steel natural gas pipelines using electronic instruments and sensors that collect various forms of data during their trip through the pipeline.

**MEASURING AND REGULATING EQUIPMENT**

Measuring equipment is used to measure the volume of gas delivered. Regulating equipment is used to control and maintain pressures within acceptable limits.

**SERVICES**

**Services** are pipelines used to convey gas from a transmission and distribution pipeline to the customer.

**TELEMETRY EQUIPMENT**

Telemetry equipment are electronic communication devices used to transmit measurements such as pipeline pressures at remote points to receiving equipment for monitoring the operation of the natural gas transmission and distribution system.

**METERS**

Meters are used for measuring the quantity of gas delivered to customers for billing purposes.

**METER TESTING**

Meter testing involves exchanging and performing verification/testing of natural gas meters to maintain compliance with Measurement Canada requirements.

**COMPUTER HARDWARE EQUIPMENT – SCADA**

**Supervisory Control and Data Acquisition System (SCADA)** uses computers, networked data communications and graphical user interfaces for monitoring the operation of the natural gas transmission and distribution system.

## GENERAL PLANT

The following is a summary of the purpose of various assets in providing service to customers:

**LAND**

Land is necessary for the permanent siting of office, admin & support buildings. The majority of the investment is specifically for the Sutherland and Wilkes buildings in Winnipeg, but these accounts also include district offices owned by Centra. These are buildings which are not directly involved in the transmission and distribution of natural gas, but provide an essential support function to facilitate operations.

**STRUCTURES AND IMPROVEMENTS**

Structures and improvements pertain to office, admin and support buildings. The majority of the investment is specifically for the Sutherland and Wilkes buildings in Winnipeg, but these accounts also include district offices owned by Centra. These are buildings which are not directly involved in the transmission and distribution of natural gas, but provide an essential support function to facilitate operations.

**OFFICE FURNITURE AND EQUIPMENT**

Office furniture and equipment is used by employees of Centra to support the operation of the natural gas transmission and distribution system.

**COMPUTER EQUIPMENT DEVELOPMENT (general plant - Banner)**

Banner is an enterprise CIS (Customer Information System) comprised of a batch billing system as well as an interface for managing service work orders, customer information, billing and meter information.

**TRANSPORTATION EQUIPMENT**

Transportation equipment is used by Centra employees to support the construction and operation of the natural gas transmission and distribution system.

**HEAVY WORK EQUIPMENT**

Heavy work equipment is used by Centra employees to support the construction and operation of the natural gas transmission and distribution system.

**TOOLS AND WORK EQUIPMENT**

Tools and work equipment are used by Centra employees to support the construction and operation of the natural gas transmission and distribution system.

**OTHER GENERAL EQUIPMENT**

This item pertains to gas materials and equipment in inventory that will be installed in future on gas capital jobs.

**REFERENCE:**

Tab 6, Schedules 6.1.0 and 6.1.8

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

IGU requires additional information to understand the drivers in the increase in Centra's ratebase.

**QUESTION:**

a) Please confirm Centra is forecasting the gross plant value for transmission mains at March 31, 2020 will increase by approximately $65.4 million over March 31, 2011 values ($91.145 million at March 31, 2011 in row 10 of Schedule 6.1.0 compared to $156.497 million at March 31, 2020 in row 10 of Schedule 6.1.8.). If the requested confirmation cannot be provided, please provide an explanation.

b) Please provide a table summarizing all projects and programs added to ratebase or forecast to be added to ratebase from 2011/12 through 2019/20 with transmission mains spending over $0.250 million that indicates:
   i. The name of the project or program
   ii. A description of the project or program
   iii. The final dollar value of the project or program included in rate base each year
   iv. The date the project was placed in service
   v. The service area and location of the project

**RESPONSE:**

a) Confirmed, the increase of transmission mains is $65.4 million over March 31, 2011 compared to March 31, 2020.

b) The following table provides the transmission mains plant addition amount for all projects and programs added to rate base or forecast to be added to rate base from 2011/12 through 2019/20 with transmission mains spending over $0.250 million

| Transmission Mains Plant Additions | ($ Thousands) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Project & Program Item Name** | **2011/12** | **2012/13** | **2013/14** | **2014/15** | **2015/16** | **2016/17** | **2017/18** | **2018/19** | **2019/20** | **Grand Total** |
| CentrePort NPS 16 Natural Gas Transmission Main | 1 084 | 106 | | | | | | | | **1 190** |
| Bunclody Natural Gas Crossing at Souris | 1 446 | | | | | | | | | **1 446** |
| Ile des Chenes Natural Gas Transmission Network Upgrade | | 836 | (3) | | | | | | | **833** |
| Morris Natural Gas Transmission Network Upgrade | | | 1 385 | | | | | | | **1 385** |
| Kenaston Blvd & Bishop Grandin | | | 431 | (101) | | 18 | | | | **349** |
| St. Francois Xavier Transmission Upgrade | | | 2 329 | | | | | | | **2 329** |
| TP Line Relocate - La Salle | | | 1 645 | 965 | 9 | 3 | | | | **2 621** |
| Geotech Site 4, Winkler | | | | 410 | (11) | | | | | **399** |
| Selkirk-Clandboye Valve Install | | | | 375 | 2 | | 1 | | | **378** |
| NE 23-3-5W Deadhorse Creek | | | | | 256 | | 5 | | | **261** |
| Insufficient Cover 1 Pine Creek SW 16-13-11W | | | | | 226 | 7 | 23 | | | **256** |
| Winnipeg North West Phase 1 | | | | | 2 648 | (81) | 5 | | | **2 572** |
| Red River RM of St Clements | | | | | 1 104 | | | | | **1 104** |
| Henderson Highway 1 & Red River | | | | | 270 | 11 | | | | **281** |
| LaSalle NPS TP from GS-001 to GS-015 | | | | | 284 | 1 | | | | **286** |
| Gas In-Line Inspection La Salle | | | | | 389 | | | | | **389** |
| PTH59&1 PTH101 Transmission Mains | | | | | | 752 | 1 | | | **753** |
| Insufficient Cover Wilkes & Fairmont | | | | | | 261 | | | | **261** |
| Winnipeg North West Phase 2 | | | | | | 24 831 | 286 | | | **25 117** |
| Assiniboine Tributary (T1) | | | | | | 352 | | | | **352** |
| Bus Rapid Transit Mall Alterations | | | | | | | 621 | | | **621** |
| Compressed Natural Gas Trailer Filling Station | | | | | | | 508 | | | **508** |
| St. Pierre Transmission Pressure Line Upgrade | | | | | | | 1 953 | 491 | | **2 444** |
| Pleasant Valley Creek in SW 2 | | | | | | | 820 | | | **820** |
| Watt Street and William Newton | | | | | | | 436 | | | **436** |
| PR 201 Red River Transmission Pressure Pipeline Replacements | | | | | | | | | 1 604 | **1 604** |
| Natural Gas Transmission Pressure System In-Line Inspection | | | | | | | | 2 495 | | **2 495** |
| Other Items Less Than $250K | 1 330 | (111) | 907 | 1 568 | 1 078 | 2 124 | 1 833 | 3 217 | 3 302 | **15 249** |
| Retirements & Adjustments | (121) | (72) | (277) | (199) | (59) | (313) | (72) | (136) | (139) | **(1 386)** |
| **Total Transmission Mains Plant Additions** | **3 739** | **759** | **6 417** | **3 019** | **6 196** | **27 966** | **6 419** | **6 068** | **4 767** | **65 352** |

The following table provides in-service dates, service area, location, project description and value references for all projects and programs added to rate base or forecast to be added to rate base from 2011/12 through 2019/20 with transmission mains spending over $0.250 million.

| Transmission Mains Plant Additions | | | | |
|---|---|---|---|---|
| **Project & Program Item Name** | **In-service Date*** | **Service Area** | **Location** | **Project Description/Project Value** |
| CentrePort NPS 16 Natural Gas Transmission Main | 3/6/2011 | Winnipeg Network | PTH 101 and CentrePort Canada Way | Refer to Appendix 6.1 P15 Row 16 |
| Bunclody Natural Gas Crossing at Souris | 1/11/2012 | Brandon Network | Souris River Crossing at Bunclody | Refer to Appendix 6.1 P15 Row 6 |
| Ile des Chenes Natural Gas Transmission Network Upgrade | 8/31/2012 | Winnipeg Network | Floodway between Hunter Rd and Prairie Grove Rd | Refer to Appendix 6.1 P16 Row 19 |
| Morris Natural Gas Transmission Network Upgrade | 10/30/2013 | Southloop Network | St. Joseph to St. Jean Baptiste | Refer to Appendix 6.1 P17 Row 15 |
| Kenaston Blvd & Bishop Grandin | 10/31/2013 | Winnipeg Network | Kenaston Boulevard and Bishop Grandin Boulevard | Refer to Additional Information Attachment 6 , P11 Row 22 |
| St. Francois Xavier Transmission Upgrade | 10/31/2013 | Winnipeg Network | West Winnipeg to St. Francis Xavier | Refer to Appendix 6.1 P17 Row 6 |
| TP Line Relocate - La Salle | 12/31/2013 | Winnipeg Network | PTH 100 - PR 330 Intersection | Refer to Additional Information Attachment 6 , P9 Row 9 |
| Geotech Site 4, Winkler | 6/30/2014 | South Loop Network | Tobacco Creek NE 23-5-SW RM Roland | Refer to Additional Information Attachment 6 , P11 Row 14 |
| Selkirk-Clandboye Valve Install | 1/20/2015 | North of Winnipeg - Interlake Network | Bowser Road at PTH 9 | Refer to Additional Information Attachment 6 , P10 Row 11 |
| NE 23-3-5W Deadhorse Creek | 6/29/2015 | South Loop Network | Dead Horse Creek 23-3-SW | Refer to Additional Information Attachment 6 , P10 Row 1 |
| Insufficient Cover 1 Pine Creek SW 16-13-11W | 10/14/2015 | Gladstone - Austin Network | Pine Creek Crossing | Refer to Additional Information Attachment 6 , P11 Row 1 |
| Winnipeg North West Phase 1 | 11/20/2015 | Winnipeg Network and North of Winnipeg - Interlake Network | Liss Rd to West Selkirk | Refer to Appendix 6.1 P18 Row 15 |
| Red River RM of St Clements | 1/15/2016 | Winnipeg Network and North of Winnipeg - Interlake Network | Red River Crossing at Selkirk, MB | Refer to Additional Information Attachment 6 , P10 Row 5 |
| Henderson Highway 1 & Red River | 3/14/2016 | North of Winnipeg - Interlake Network | Gunns Creek at River Creek Estates | Refer to Additional Information Attachment 6 , P8 Row 1 |
| LaSalle NPS TP from GS-001 to GS-015 | 3/14/2016 | Winnipeg Network | Between GS-001 and GS-015 | Refer to Additional Information Attachment 6 , P10 Row 22 |
| Gas In-Line Inspection La Salle | 3/18/2016 | Winnipeg Network | Between GS-001 and GS-015 | Refer to Additional Information Attachment 6 , P11 Row 32 |
| PTH59&1 PTH101 Transmission Mains | 11/23/2016 | Winnipeg Network and North of Winnipeg - Interlake Network | PTH 59 and PTH 101 | Refer to Additional Information Attachment 6 , P9 Row 1 |
| Insufficient Cover Wilkes & Fairmont | 12/31/2016 | Winnipeg Network | Wilkes Avenue at Fairmont Street | Refer to Additional Information Attachment 6 , P9 Row 16 |
| Winnipeg North West Phase 2 | 1/23/2017 | Winnipeg Network and North of Winnipeg - Interlake Network | West Winnipeg to Stonewall to Selkirk | Refer to Appendix 6.1 P19 Row 3 |
| Assiniboine Tributary (T1) | 3/29/2017 | Virden Network | 6km south of Minota | Refer to Additional Information Attachment 6 , P10 Row 27 |
| Bus Rapid Transit Mall Alterations | 8/31/2017 | Winnipeg Network | Beaumont St, Parker Ave, and Harrow St. | Refer to Additional Information Attachment 6 , P8 Row 26 |
| Compressed Natural Gas Trailer Filling Station | 9/30/2017 | All Distribution Networks | PR 330 just south of PTH 100 | Refer to Appendix 6.1 P21 Row 6 |
| St. Pierre Transmission Pressure Line Upgrade | 11/10/2017 | St. Pierre Network | GS-153 to FT-213 South of St. Pierre-Jolys | Refer to Appendix 6.1 P21 Row 18 |
| Pleasant Valley Creek in SW 2 | 3/9/2018 | Minell Network | Pleasant Valley Creek in SW-22-24-25-W | Refer to Additional Information Attachment 6 , P9 Row 21 |
| Watt Street and William Newton | 3/9/2018 | Winnipeg Network | Watt St. and William Newton Ave., Harbison Ave. W and Brazier St. Harbison Ave. E and Glenwood Cr. | Refer to Additional Information Attachment 6 , P13 Row 4 |
| PR 201 Red River Transmission Pressure Pipeline Replacements | 12/21/2019 | South Loop Network | Red River Crossing at Letellier | Refer to Appendix 6.1 P26 Row 4 |
| Natural Gas Transmission Pressure System In-Line Inspection | 10/31/2018 | All Networks | Multiple Locations | Refer to Appendix 6.1 P25 Row 4 |
| * Represents the first inservice date for projects and program items placed in-service over multiple years. | | | | |

**REFERENCE:**

Tab 6, Schedules 6.1.0 and 6.1.9

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

IGU requires additional information to understand the drivers in the increase in Centra's ratebase.

**QUESTION:**

c) Please provide the Capital Project Justification for each project set out in part (b).

**RATIONALE FOR QUESTION:**

**RESPONSE:**

Please see the response to PUB/Centra I-73 for the Capital Project Justifications for capital projects or programs having a value in excess of $500,000, the threshold requested by the PUB.

**REFERENCE:**

Tab 6, page 16 lines 30 through page 17 to line 4.

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

Centra states on pages 16-17 of Tab 6:

> To assist Centra in determining an appropriate ROE for the Forecast and Test Years, Centra retained DCGI who concluded that an appropriate ROE for Centra was between 8.30% and 8.70%. For this application, the cost of equity has been assumed at 8.30% for the 2019/20 Test Year. As documented in Tab 3, Centra chose to use the low end of the range of 8.30% for this application in the interest of maintaining a 0.0% increase while still aligning with the 30% equity ratio. In doing so Centra is foregoing a 1.20% rate increase that would have been required if rates were set to target an 8.30% ROE. See Appendix 3.5 for DCGI's evidence pertaining to the appropriate ROE for Centra.

**QUESTION:**

Please provide a table showing the calculations supporting Centra's statement that "Centra is foregoing a 1.20% rate increase that would be required if rates were set to target an 8.30% ROE."

**RESPONSE:**

As per Figure 3.1 on page 6 of Tab 3 of the Application, there is a revenue requirement/net income shortfall of $3.1 million in 2019/20. Assuming an August 1st, 2019 rate implementation, a rate increase of approximately 1.2% would be required in order to increase revenues by $3.1 million. The calculation of the 1.2% is provided in the table below.

| | *(In Millions)* | **2019/20** |
|---|---|---|
| **A** | Net Income Shortfall | $ 3.13 |
| **B** | Gas Revenues (Aug - Mar) | $ 270 |
| | Rate Increase required* **(A/B)** | 1.2% |

**effective August 1, 2019*

**REFERENCE:**

Appendix 6.1, page 4 line 13 through page 5 line 2.

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

IGU requires additional information to understand the calculation of Centra's ratebase.

**QUESTION:**

a) Please provide a copy of Centra Gas' Facility Extension Guidelines, including customer contribution calculation methodologies.
b) Please explain why cost recovery for Manitoba Infrastructure is based on a 50/50 share of actual costs, while cost recovery for a private developer or customer is at 100% of the actual cost of the work.
c) Does the 50/50 cost recovery include the cost of undepreciated asset values when Manitoba Infrastructure drives facility changes or relocations of assets prior to end of life?
d) Please provide a continuity schedule showing the dollar value of all projects from 2011/12 through 2019/20 that are subject to the 50/50 sharing of actual costs with Manitoba Infrastructure. Please indicate whether the dollar values in the schedule are shown including or excluding any cost sharing or customer contributions received from Manitoba Infrastructure.

**RESPONSE:**

a) Existing natural gas customers should not be unduly burdened by the extension of natural gas service or addition of new customers. Centra ensures that the revenues from new customers attaching to the system are sufficient to offset (or pay) the cost of constructing dedicated new facilities required to provide service to them.

   Centra evaluates each main extension using the PUB approved financial feasibility test that requires each extension to achieve:

1) A revenue to cost ratio ("R/C") of at least one (1.0) by the end of the 5th year; and
2) A net present value ("NPV") of revenue 0 or positive, discounted over 30 years at a rate equal to the weighted average cost of capital at that point in time.

b) Centra plant relocation projects requested by Manitoba Infrastructure ("MI") are billed on a 50/50 cost share as per "Working Guidelines – Manitoba Infrastructure & Transportation and Manitoba Hydro". MI has jurisdiction over provincial roadways within Manitoba and approves the installation of natural gas and other infrastructure that traverses within the boundaries of provincial roadways.

Centra projects completed for private citizens or companies are billed for differently depending on whether they are classified as System Betterment or New Business. For these customers, System Betterment projects are typically for customer requested pipeline relocations and are not subject to any pre-existing agreements between parties and are billed for on a full cost recovery basis. An example would be a customer wanting a pipeline moved off of their property where Centra has an existing historical easement. New Business may involve a relocation while serving a new customer and is billed for based on the PUB approved feasibility test methodology, referenced in part a) and PUB Orders 109/94, 124/96, 89/97 and 123/98.

c) The 50/50 cost recovery agreement with Manitoba Infrastructure is based on actual material and labour costs. Asset values are not a consideration.

d) Please see the following table which provides the dollar value of all projects from 2011/12 through 2018/19 that were/are subject to the 50/50 sharing of actual costs with Manitoba Infrastructure. The cost recovery/contribution amounts received to date are included for each project. Notably, some projects have just recently been completed or are currently a work in progress and as a result, may not have fully recovered the expected costs. In addition, some project totals may include additional work not subject to Manitoba Infrastructure cost sharing and as such, less than 50% of the total project costs are recovered. Please note: 2019/20 is not included in the table as actual costs have not yet been incurred.

## Manitoba Infrastructure Plant Relocation Projects by Year

## ($000)

| Program Item Name | Cost Type | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|---|---|---|---|---|---|---|---|---|---|
| Morris, PTH 75 Install Abandonment | Net Cost | 79 | | | | | | | |
| | Cost Recovery/Contribution | (42) | | | | | | | |
| **Morris, PTH 75 Install AbandonmentTotal** | | **37** | | | | | | | |
| Parks Creek4 STL Xing | Net Cost | 64 | | | | 1 | | | |
| | Cost Recovery/Contribution | (32) | | | | | | | |
| **Parks Creek4 STL Xing Total** | | **33** | | | | **1** | | | |
| Hespeler Road Relocate | Net Cost | 21 | | | | | | | |
| | Cost Recovery/Contribution | | (10) | | | | | | |
| **Hespeler Road Relocate Total** | | **21** | **(10)** | | | | | | |
| Inkster Blvd PE Relocate | Net Cost | | 17 | 28 | | | | | |
| | Cost Recovery/Contribution | | | (23) | | | | | |
| **Inkster Blvd PE Relocate Total** | | | **17** | **5** | | | | | |
| PTH 1 N Serv Road | Net Cost | | 65 | | 1 | | | | |
| | Cost Recovery/Contribution | | (32) | | | | | | |
| **PTH 1 N Serv Road Total** | | | **32** | | **1** | | | | |
| 4"STL PTH 21 Relocate,Hartney | Net Cost | | 8 | 364 | 2 | | | | |
| | Cost Recovery/Contribution | | | (186) | | | | | |
| **4"STL PTH 21 Relocate,Hartney Total** | | | **8** | **178** | **2** | | | | |
| 4" PE Headingley Relocate | Net Cost | | 3 | 40 | 52 | | | | |
| | Cost Recovery/Contribution | | | | (51) | | | | |
| **4" PE Headingley Relocate Total** | | | **3** | **40** | **1** | | | | |
| MIT Boissevain Service Replacement | Net Cost | | 1 | 11 | | | | | |
| | Cost Recovery/Contribution | | | (6) | | | | | |
| **MIT Boissevain Service Replacement Total** | | | **1** | **5** | | | | | |
| Highway 332 North of Starbuck | Net Cost | | | | | 1 | 5 | 11 | 96 |
| | Cost Recovery/Contribution | | | | | | | | (22) |
| **Highway 332 North of Starbuck Total** | | | | | | **1** | **5** | **11** | **75** |
| PTH59&PTH101 Transmission Mains | Net Cost | | | | | 89 | 662 | 1 | 1 |
| PTH59&PTH101 2" PE Distribution Relocate | | | | | | | 3 | 24 | |
| | Cost Recovery/Contribution | | | | | | (402) | | |
| **PTH59&PTH101 Total** | | | | | | **89** | **263** | **25** | **1** |
| Brandon PTH 1A Bridge Replacement | Net Cost | | | | | 7 | 59 | | |
| | Cost Recovery/Contribution | | | | | | (39) | | |
| **Brandon PTH 1A Bridge Replacement Total** | | | | | | **7** | **20** | | |
| 2"PE Repair & Lowering | Net Cost | | | | | | | | 4 |
| | Cost Recovery/Contribution | | | | | | | (3) | 1 |
| **2"PE Repair & Lowering Total** | | | | | | | | **(3)** | **6** |
| 2" Stl Tie-Over Spatuck Road* | Net Cost | | | | | | 3 | 71 | |
| **2" Stl Tie-Over Spatuck Road Total** | | | | | | | **3** | **71** | |
| McGregor Farm Road Relocate* | Net Cost | | | | | | | 21 | |
| **McGregor Farm Road Relocate Total** | | | | | | | | **21** | |
| PTH 15 and Road 38E Relocate* | Net Cost | | | | | | | | 41 |
| **PTH 15 and Road 38E Relocate Total** | | | | | | | | | **41** |
| Knowles Ave Ditching Conflict* | Net Cost | | | | | | | | 4 |
| **Knowles Ave Ditching Conflict Total** | | | | | | | | | **4** |

* Contribution not yet billed

**REFERENCE:**

Winnipeg North West Project Appendix 6.1, Page 19

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

IGU requires additional information to understand the magnitude of the impact of the project on ratebase.

**QUESTION:**

a) Please provide additional details on how the Winnipeg North West project:
   i. Improves reliability, including the expected benefit of the project on any reliability indicators.
   ii. Protects against an outage.
   iii. Increases capacity including quantifying the previous capacity and an explanation why the expanded capacity was required.
   iv. Provides operational flexibility, in particular related to the maintenance on the Ile des Chenes pipeline.

b) Please provide the business cases and Capital Project Justifications for the Winnipeg North West Project (both Phase 1 and Phase 2). Please ensure each business case includes:
   i. The assessment of any alternatives to the project that were contemplated; and
   ii. The impact of the Project on Centra's revenue requirement, both before and after any customer contributions associated with the project.
   iii. Please ensure to specify the total customer contributions received.

c) Please provide details on the evaluation and approval process undertaken for this Project (both Phase 1 and Phase 2) including timing of review and any external or government directives or reviews.

**RESPONSE:**

a) and b)

Please see the Capital Project Justifications provided as part of the attachment to the response to PUB/CENTRA I-73 on pages 34 to 80 for information requested in:

- Part a) – i. ii. iii. and iv.
- Part b) – i.

b)

ii. The revenue requirement of the Winnipeg North West project (Phases 1 & 2) has been estimated and is provided in the following table. Note that this type of analysis is limited by virtue of treating individual projects on an incremental cost basis. While costs such as Depreciation Expense may be estimated and may be directly attributable to an asset, other costs such as Finance Expense, capital taxes and benefits are not readily estimated on an incremental basis.

**WINNIPEG NORTHWEST PROJECT (PHASE 1 & 2)**
**(In Millions of Dollars)**

| ***For the year ended March 31*** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** |
|---|---|---|---|---|---|---|---|---|---|---|
| Finance Expense | 1.5 | 1.5 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| Depreciation | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Capital Tax | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | 2.1 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |

iii. There were no customer contributions received for this project.

c) The approvals undertaken for this project were consistent with the management approval level required as per the response to PUB/CENTRA I-64. The Capital Project Justifications referenced provide the dates of review and sign off by the different required personnel. There were no external or government directives or reviews.

**REFERENCE:**

Winnipeg North West Project Appendix 6.1, Page 19

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

IGU requires additional information to understand the magnitude of the impact of the project on ratebase.

**QUESTION:**

d) Please provide all materials related to this project filed in past PUB reviews of Centra Gas.

**RESPONSE:**

Please see the attachment to the response to CAC/CENTRA I-3c, page 57, 60, 116, and 120.

**REFERENCE:**

Winnipeg North West Project Appendix 6.1, Page 19

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

IGU requires additional information to understand the magnitude of the impact of the project on ratebase.

**QUESTION:**

e) When deciding to pursue large capital projects, does Centra only consider revenue requirements as a whole, or does Centra complete any analysis of the potential impact to their large customers?
f) When approving the North Winnipeg Loop project, would the postage stamp impact to rates for their large customers have been also considered as part of the capital project?

**RESPONSE:**

e) and f)

For projects identified as required to support and maintain the Centra natural gas system, a financial approval process is used to obtain capital approval for the project. Individual customer bill impacts are not considered as part of this approval process for capital projects.

For customer driven projects, a PUB approved feasibility analysis is used to evaluate the financial feasibility of extending service to that customer.

**REFERENCE:**

Winnipeg North West Project Appendix 6.1, Page 19

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

IGU requires additional information to understand the magnitude of the impact of the project on ratebase.

**QUESTION:**

g) In the current GRA, did Centra change any of the percentage allocations between the large customers in order to satisfy the revenue requirements of the T-Service class?

**RESPONSE:**

No. T-Service is a service offering and not a separate rate class. Customers in the HVF and Mainline classes may choose between Sales Service and T-Service. T-Service allows them to purchase and transport their own gas supply to Centra's distribution system.

**REFERENCE:**

Winnipeg North West Project Appendix 6.1, Page 19

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

IGU requires additional information to understand the magnitude of the impact of the project on ratebase.

**QUESTION:**

h) What have been the historical direct costs to repair and maintain the pipeline that services Koch? Please provide a break down of the last 10 years?

**RESPONSE:**

A records review indicated that there were no leaks, defects or relocations on the two pipelines supplying Koch in the last 10 years.

Specific maintenance costs for these pipelines include approximately:

- Leak surveys: $2,000 per year (every year)
- Close interval survey, depth of cover and DCVG coating survey: $48,000 once in 2010/11
- Water course crossing survey: $3,000 once in 2013/14
- Assiniboine river erosion protection: $150,000 in 2016/17
- Integrity Excavations: $7,000 once in 2018/19

Additionally, there is a major re-build required of the Centra primary station that connects to the TCPL mains and supplies all downstream customers including Koch. The planned in-service date of this work is August 2019. The portion of the work that is associated with the supply to Koch is estimated at $600,000.

There are additional costs to maintain pipelines that are not specifically tracked on a per pipeline basis. Costs for general maintenance cannot be distinguished from the rest of the pipeline system. These costs include:

- Steel valve maintenance;
- Cathodic protection system monitoring;
- Buried plant locate services; and,
- Click Before You Dig/Safety Watch.

Additionally, there are administrative costs associated with a Pipeline Integrity and Safety & Loss Management Systems.

**REFERENCE:**

Winnipeg North West Project Appendix 6.1, Page 19

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

IGU requires additional information to understand the magnitude of the impact of the project on ratebase.

**QUESTION:**

i) Is the methodology of how costs are allocated to the large customer classes done solely by Centra?
j) When was the last time the cost allocation methodology to large customer classes was changed or reviewed?
k) Does Centra Gas consider a 60% increase fair, in accordance to their fairness mandate outlined in the GRA, Tab 2, page 2 or Tab 10 Section 10.1?
l) Did Centra Gas allocate any spending related to Hydro's gas generation of electricity to Centra's asset base?
m) Explain the rationale for the use of postage stamp rates for cost allocation. Please specifically address the relevance of postage stamp rates where Centra operates different service areas with no interconnection or physical relevance to operations in other service areas.
n) Please specify any restrictions or prohibitions regarding the use of non-postage stamp rates, including the source and continued relevance of any such restrictions.
o) Please provide a history of the adoption and use of postage stamp rates, including the source of any regulatory decisions imposing postage stamp rates.

**RESPONSE:**

i) The allocation of costs to all customer classes is performed in Centra's cost allocation study. The cost allocation study and its resulting outputs are subject to review at each General Rate Application.

j) As noted in the response to part i), Centra's cost allocation study is subject to review at each General Rate Application.

The last change in allocation methodology was approved in Centra's 2013/14 GRA. In that Application, Centra received PUB approval to change the functionalization, classification and allocation of DSM amortization expense.

k) Please see the response to CAC/CENTRA I-19a.

l) The cost of operating Manitoba Hydro's natural gas fired generating stations are the responsibility of Manitoba Hydro and are not transferred to Centra.

m), n) and o)

Postage stamp rates, which are also referred to as "uniform rates", are set on an average cost of serving customers within the utilities service territory. Rates for service for each customer class are set without regard for the location of individual customers on its system. The concept has been described as "equal rates for equal service".

Postage stamp rates have been an accepted rate making philosophy in Manitoba for several decades. The PUB also provided it views on the acceptance of postage stamp ratemaking in Manitoba, in Order 158/86 in which it found: "Postage stamp rates present the fairest rates for customers in a similar class" (page 49 of Order 158/86).

At that time two gas distribution companies provided natural gas service in Manitoba; the Greater Winnipeg Gas Company, and ICG Utilities (Manitoba) Ltd. ICG Utilities purchased Greater Winnipeg Gas, and the consolidation of the two utilities involved the combination of two separate rate bases into a single rate base, with the corresponding consolidation and harmonization of natural gas rates for all customer classes.

In Order 142/89, arising from a ICG Utilities (Manitoba) Ltd. General Rate Application, the PUB found "The Board considers it appropriate that all customers of a similar type having similar load characteristics be allocated the same costs. It endorses the company's intent to gradually move all SGS customers on its system to the same rates." (page 59 of 142/89).

**REFERENCE:**

Tab 10 Cost Allocation

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

IGU requires additional information to understand the allocation study.

**QUESTION:**

Please provide a complete, unredacted copy of Centra's 2019/20 cost allocation study and working papers in excel format with formulae intact, including:

i. Complete breakdown of Centra's asset base by the 6 functionalized categories (production, pipeline, storage, transmission, distribution, onsite);
ii. Explanation and calculations of classification ratios for each functionalized category;
iii. Explanation and calculations of allocators used to allocate costs amongst customer classes including underlying allocation data; and
iv. Calculation of Revenue-to-Cost Comparison ratios for each customer class.
v. All necessary information and formulae to confirm the class allocation amounts shown in Figure 10.1.

**RESPONSE:**

The 2019/20 Cost Allocation Study and specific information requested in this IR is confidential information as determined by the PUB in its letter dated February 26, 2019.

Centra invites IGU to pose requests to it to run cost allocation scenarios with specific assumptions.

**REFERENCE:**

Tab 10 Cost Allocation

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

IGU requires additional information to understand the impacts of the proposed changes to the cost allocation study.

**QUESTION:**

Please provide a table that shows, for each individual customer class:

a) the total 2019/20 revenue requirement allocated to the customer class using the cost allocation methods last reviewed and approved by the Public Utilities Board (i.e. before any of the cost allocation methodology changes proposed in the current application).
b) the impact to the total 2019/20 revenue requirement allocated to each customer class, separately for each change proposed in the current cost allocation study. The dollar value impact of each method change should be shown separately.
c) the total 2019/20 revenue requirement allocated to the customer class using the methods proposed in the current application. If this total is not equal to the sum of parts a) and b) above, please provide an explanation.

**RESPONSE:**

a) to c)

Centra is not proposing any changes in its approach to cost allocation in the 2019/20 General Rate Application. As such the 2019/20 revenue requirement is allocated to the customer classes using the cost allocation methods last reviewed and approved by the Public Utilities Board.

Please refer to the Schedule 10.1.0 for a summary of the total 2019/20 Cost of Service allocated by customer classes detailed by cost of service element and classification. The schedule 10.1.1 (upper portion) separates the allocated costs by class and in terms of upstream and downstream costs. Also, the schedule 10.1.5 provides the summary of the allocation of each component of Cost of Service to the various customer classes.

**REFERENCE:**

Tab 10 Page 3 lines 22 through 27

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

IGU requires additional information to understand how unaccounted for gas costs are treated for cost of service purposes.

**QUESTION:**

Please discuss how functionalizing UFG costs to transmission ensures that customers that do not use the distribution system do not pay for unaccounted gas costs arising from the distribution system.

**RATIONALE FOR QUESTION:**

**RESPONSE:**

The cost of UFG is functionalized to the downstream Transmission function in order for it to be allocated to each customer class and to both Sales Service and T-Service customers within a customer class. If it was functionalized to the Distribution function, there would be no allocation to the customer classes served only from the transmission system (Mainline, Power Stations and Special Contract). If it was functionalized to an upstream function such as Production, there would be no allocation to T-Service customers, who procure their own commodity upstream of the Centra system. Therefore, the most appropriate way to functionalize this system related cost is to the downstream Transmission function.

The issue of the appropriate allocation of UFG between transmission-served and distribution-served customers was addressed within Centra's Unaccounted-for-Gas Study, reviewed by the PUB in Centra's 2004/05 Cost of Gas Application and approved (with certain adjustments) in Order 131/04. That study examined the underlying cost causal factors of UFG and the characteristics of each of Centra's customer classes to determine the appropriate level of cost responsibility by customer class.

**REFERENCE:**

Tab 10 Page 4 Section 10.2.2 and Schedule 10.1.3

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

IGU requires additional information to understand the classification ratios

**QUESTION:**

For each of the functions (and/or sub-functions in the event classification ratios differ by sub-function) shown in Schedule 10.1.3, please provide:

a) the classification ratios between energy, customer and capacity/demand;
b) an explanation of the rationale for the classification ratio, including underlying data used to calculate ratios;
c) Please provide the same for parts a) and b) as used in the 2013/14 Non-Gas cost allocation and 2015/16 Cost of Gas approved allocation methods.
d) Please provide an explanation for any changes in methodology since last approved and rationale for the proposed change.

**RESPONSE:**

Response to parts a) and c):

For the purposes of this response Centra will use the 2015/16 Cost of Gas Test Year to compare classification of upstream functionalized costs to the 2019/20 Proposed Test Year. Similarly, Centra will use the 2013/14 Test Year to compare the classification of downstream functionalized costs to the 2019/20 proposed Test Year.

Please see the schedule attached to this response.

Response to parts b) and d):

**Production**:
100% of all gas costs are classified as energy.

**Pipeline**:
100% of all gas costs are classified as demand.

**Storage**:
The classifying factors of gas costs functionalized to Storage are shown below:

| | 2019/20 Test Year | | | 2015/16 Test Year | | |
|---|---|---|---|---|---|---|
| | Total Gas Costs | Demand | Energy | Total Gas Costs | Demand | Energy |
| Gas Costs Functionalized to Storage Ratio | [redacted] | | | | | |

1a,1e

For both 2015/16 and 2019/20 the fixed costs for seasonal storage are classified as capacity related while the variable transportation costs related to storage gas are classified as energy. The costs for seasonal storage and transportation will vary from year to year.

**Transmission**:
The four main classifying factors of Transmission costs are listed below.

| | 2019/20 Test Year | | | 2013/14 Test Year | | |
|---|---|---|---|---|---|---|
| | Total Gas Costs | Demand | Energy | Total Gas Costs | Demand | Energy |
| Gas Costs Functionalized to Transmission Ratio | [redacted] | | | | | |

1a,1e

| | Total Op. Exp. | Demand | Energy | Total Op. Exp. | Demand | Energy |
|---|---|---|---|---|---|---|
| Op. Exp. Functionalized to Transmission | 5,397,486 | 5,394,199 | 3,287 | 3,991,058 | 3,986,761 | 4,296 |
| Ratio | | 99.9% | 0.1% | | 99.9% | 0.1% |
| | Total Depr. Exp. | Demand | Energy | Total Depr. Exp. | Demand | Energy |
| Depr. Exp. Functionalized to Transmission | 13,076,995 | 3,131,658 | 9,945,336 | 8,973,780 | 1,776,098 | 7,197,682 |
| Ratio | | 23.9% | 76.1% | | 19.8% | 80.2% |
| | Total Rate Base | Demand | Energy | Total Rate Base | Demand | Energy |
| Rate Base Functionalized to Transmission | 141,638,863 | 86,785,465 | 54,853,398 | 85,929,744 | 37,396,377 | 48,533,367 |
| Ratio | | 61.3% | 38.7% | | 43.5% | 56.5% |

Gas costs functionalized to Transmission are split between Minell costs (demand) and UFG (energy). Operating Expense costs functionalized to transmission are almost 100% classified as demand except for a small amount of back office/gas accounting costs being classified using the gas cost split. Depreciation and amortization expense is classified using a split of depreciation on transmission plant (demand) and amortization of DSM costs (energy). The remaining non-gas costs are classified using the classification of rate base functionalized to Transmission. Transmission rate base consists of a split between net rate base on transmission plant investment (demand) and Investment in DSM (energy).

**Distribution**:

The four main classifying factors of Distribution costs are listed below.

| | 2019/20 Test Year | | | 2013/14 Test Year | | |
|---|---|---|---|---|---|---|
| | Total Op. Exp. | Demand | Customer | Total Op. Exp. | Demand | Customer |
| Op. Exp. Functionalized to Distribution | 14,136,524 | 9,459,426 | 4,677,098 | 12,974,359 | 8,522,961 | 4,451,398 |
| Ratio | | 66.9% | 33.1% | | 65.7% | 34.3% |
| | Total Depr. Exp. | Demand | Customer | Total Depr. Exp. | Demand | Customer |
| Depr. Exp. Functionalized to Distribution | 6,611,841 | 4,948,354 | 1,663,487 | 6,368,390 | 4,768,387 | 1,600,003 |
| Ratio | | 74.8% | 25.2% | | 74.9% | 25.1% |
| | Total Dist. Plant | Demand | Customer | Total Dist. Plant | Demand | Customer |
| Dist. Plant Functionalized to Distribution | 300,339,893 | 221,483,506 | 78,856,387 | 230,823,209 | 168,728,991 | 62,094,218 |
| Ratio | | 73.7% | 26.3% | | 73.1% | 26.9% |
| | Total Rate Base | Demand | Customer | Total Rate Base | Demand | Customer |
| Rate Base Functionalized to Distribution | 185,445,189 | 132,240,398 | 53,204,790 | 137,976,885 | 96,610,529 | 41,366,356 |
| Ratio | | 71.3% | 28.7% | | 70.0% | 30.0% |

Operating expenses are classified by program to demand, customer or a split between the two. The Customer Inspection Program is 100% classified as customer. Communications system costs are classified 100% as demand. Regulating Station maintenance costs are classified to demand and customer using the Distribution Plant classification split in the above table. Costs in operating expense programs will vary from year to year potentially resulting in varying classification splits between demand and customer categories. The remaining non-gas costs are classified using the split derived from distribution plant, distribution rate base or distribution operating expense depending on the component of the non-gas cost category.

**Onsite**:
All Onsite costs are 100% classified as customer related.

Classification Ratios for Centra's Functionalized Costs

| | Production | | | Pipeline | | | Storage | | | Transmission | | | Distribution | | | Onsite | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Demand | Energy | Customer | Demand | Energy | Customer | Demand | Energy | Customer | Demand | Energy | Customer | Demand | Energy | Customer | Demand | Energy | Customer |
| **2019/20 Proposed Test Year** | | | | | | | | | | | | | | | | | | |
| COST OF GAS | | | | | | | | | | | | | | | | | | |
| OTHER REVENUE | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 90.3% | 9.7% | 0.0% | 99.9% | 0.1% | 0.0% | 66.9% | 0.0% | 33.1% | 0.0% | 0.0% | 100.0% |
| OPERATING EXPENSES | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 90.3% | 9.7% | 0.0% | 99.9% | 0.1% | 0.0% | 66.9% | 0.0% | 33.1% | 0.0% | 0.0% | 100.0% |
| DEPRECIATION & AMORTIZATION | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 90.3% | 9.7% | 0.0% | 23.9% | 76.1% | 0.0% | 74.8% | 0.0% | 25.2% | 0.0% | 0.0% | 100.0% |
| CAPITAL & OTHER TAXES | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 5.5% | 94.5% | 0.0% | 86.4% | 13.6% | 0.0% | 73.5% | 0.0% | 26.5% | 0.0% | 0.0% | 100.0% |
| FINANCE EXPENSE | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 2.0% | 98.0% | 0.0% | 61.3% | 38.7% | 0.0% | 71.3% | 0.0% | 28.7% | 0.0% | 0.0% | 100.0% |
| CORPORATE ALLOCATION | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 2.0% | 98.0% | 0.0% | 61.3% | 38.7% | 0.0% | 71.3% | 0.0% | 28.7% | 0.0% | 0.0% | 100.0% |
| NET INCOME | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 2.0% | 98.0% | 0.0% | 61.3% | 38.7% | 0.0% | 71.3% | 0.0% | 28.7% | 0.0% | 0.0% | 100.0% |
| TOTAL COST OF SERVICE | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | 0.0% | 81.8% | 18.2% | 0.0% | 53.2% | 46.8% | 0.0% | 70.7% | 0.0% | 29.3% | 0.0% | 0.0% | 100.0% |
| **2015/16 Cost of Gas Approved Test Year** | | | | | | | | | | | | | | | | | | |
| COST OF GAS | | | | | | | | | | | | | | | | | | |
| OTHER REVENUE | | | | | | | | | | 99.9% | 0.1% | 0.0% | 65.7% | 0.0% | 34.3% | 0.0% | 0.0% | 100.0% |
| OPERATING EXPENSES | | | | | | | | | | 99.9% | 0.1% | 0.0% | 65.7% | 0.0% | 34.3% | 0.0% | 0.0% | 100.0% |
| DEPRECIATION & AMORTIZATION | | | | | | | | | | 19.8% | 80.2% | 0.0% | 74.9% | 0.0% | 25.1% | 0.0% | 0.0% | 100.0% |
| CAPITAL & OTHER TAXES | | | | | | | | | | 77.9% | 22.1% | 0.0% | 72.9% | 0.0% | 27.1% | 0.0% | 0.0% | 100.0% |
| FINANCE EXPENSE | | | | | | | | | | 43.5% | 56.5% | 0.0% | 70.0% | 0.0% | 30.0% | 0.0% | 0.0% | 100.0% |
| CORPORATE ALLOCATION | | | | | | | | | | 43.5% | 56.5% | 0.0% | 70.0% | 0.0% | 30.0% | 0.0% | 0.0% | 100.0% |
| NET INCOME | | | | | | | | | | 43.5% | 56.5% | 0.0% | 70.0% | 0.0% | 30.0% | 0.0% | 0.0% | 100.0% |
| TOTAL COST OF SERVICE | | | | | | | | | | 44.8% | 55.2% | 0.0% | 69.8% | 0.0% | 30.2% | 0.0% | 0.0% | 0.0% |
| **2013/14 Approved Test Year** | | | | | | | | | | | | | | | | | | |
| COST OF GAS | | | | | | | | | | | | | | | | | | |

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**REFERENCE:**

Tab 10 Page 5 Section 10.2.3 and Schedule 10.1.3

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

IGU requires additional information to understand the allocation factors

**QUESTION:**

a) For this proceeding, has Centra Gas produced or had produced on its behalf, any additional class cost of service studies using main allocators that differ from the Peak & Average allocator? If so, please provide copies of all such studies in electronic format with all formulas intact.
b) For each of the functions and classification categories (including sub-categories as necessary) shown in schedule 10.1.4 please provide the allocation percentages for each customer class, that is, the proportion of total costs in that category that are allocated to each customer class.
c) Please provide the calculation of the "peak and average" allocator for all customer classes in working excel format with formulae intact including all necessary work papers to understand the calculations.
d) Please discuss whether there have been any changes since the last general rate application to:
    i. The allocation method used for capacity related costs.
    ii. The calculation of the peak and average allocator.
    iii. The input data used to calculate the peak and average allocator.
    iv. The functionalized and/or classified costs this allocator is applied to.
    v. Any other changes to allocators used in the cost of service study. Please discuss in detail the rationale for any changes in the above.

**RESPONSE:**

a) No. Centra has not prepared any additional cost of service studies using allocators that differ from the Peak & Average allocators.

b) Please see Attachment 1 to this response.

c) Please see Attachment 2 to this response for the calculation of PAVG and PAVG-T allocators.

d)

i. There have been no changes since the last General Rate Application to the allocation method used for capacity related costs.

ii. The calculation of the Peak & Average allocator is prepared in the same manner as in the previous applications. Only the underlying data has been updated.

iii. The input data used to calculate the peak and average allocator is updated to reflect the 2019 Natural Gas Volume Forecast.

iv. There have been no changes to the method on how the Peak and Average (PAVG) allocator is used in the 2019 Cost of Service Study. PAVG and PAVG-T allocators are used to allocate demand (capacity) related costs to customer classes. Peak and average (PAVG) allocates costs related to Centra's upstream pipeline and storage functions; peak and average transmission (PAVG-T) allocates Centra's transmission system costs. Each of the peak and average allocators have been designed to ensure that customer classes are only allocated costs for components of Centra's system that they use. As an example, the Special Contract and Power Station classes are not allocated distribution demand costs because these customers are served directly through the transmission system.

v. There have been no changes to allocators used in the 2019 Cost of Service Study with the exception of the changes flowing from updates to reflect 2019/20 forecast data. Centra has updated the Functionalization, Classification and Allocation factors to reflect the 2019/20 forecast data in a manner consistent with past GRA practice. The updated forecast data includes volumes, number of customers, coincident peak, rate base and revenue requirement.

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| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Production - Energy** | | | | | | | | | | | | | | |
| F. GENERAL PLANT | | | | | | | | | | | | | | |
| Land | 480 | 2,347 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| Structures & Improvements | 482 | 148,733 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| Leasehold Improvements | 482.1 | - | | | | | | | | | | | | |
| Office Furniture & Equipment | 483 | - | | | | | | | | | | | | |
| Target Adjustments | 483.1 | - | | | | | | | | | | | | |
| Computer Equipment: Software | 483.2 | - | | | | | | | | | | | | |
| Computer System Development | 483.3 | - | | | | | | | | | | | | |
| Transportation Equipment | 484 | - 11 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| Vehicle Conversion Kits | 484.1 | - | | | | | | | | | | | | |
| Heavy Work Equipment | 485 | - | | | | | | | | | | | | |
| Tools & Work Equipment | 486 | - | | | | | | | | | | | | |
| Rental Equipment: Conv. Bur. | 487 | - | | | | | | | | | | | | |
| Deferred Ineligible Overhead | 488 | 66,436 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| Property, Plant & Equipment Gas Inventory | 489 | - | | | | | | | | | | | | |
| Sub-total | 480-490 | 217,505 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| Sub-total Plant-in-Service | | 217,505 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| G. ADDITIONS TO UTILITY PLANT | | | | | | | | | | | | | | |
| Construction Work in Progress | | - | | | | | | | | | | | | |
| Other Additions | | - | | | | | | | | | | | | |
| Sub-total | | - | | | | | | | | | | | | |
| Total Utility Plant | | 217,505 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| II. ACCUMULATED DEPRECIATION | | | | | | | | | | | | | | |
| Intangible Plant | | - | | | | | | | | | | | | |
| Production Plant | | - | | | | | | | | | | | | |
| Local Storage Plant | | - | | | | | | | | | | | | |
| Transmission Plant | | - | | | | | | | | | | | | |
| Distribution Plant | | - | | | | | | | | | | | | |
| General Plant | | - 125,166 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| Retirement Work in Progress | | - | | | | | | | | | | | | |
| Sub-total | | - 125,166 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| Plant Held For Future Use | | - | | | | | | | | | | | | |
| Total Accumulated Depreciation | | - 125,166 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| III. OTHER RATE BASE | | | | | | | | | | | | | | |
| Contributions in Aid of Construction | | - | | | | | | | | | | | | |
| Cash Working Capital | | 3,055,956 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| Security Deposits | | - | | | | | | | | | | | | |
| Gas in Storage | | - | | | | | | | | | | | | |
| Investment in DSM | | - | | | | | | | | | | | | |
| Investment in Regulatory Costs | | 49,131 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| Investment in Site Restoration | | - | | | | | | | | | | | | |
| Total Other Rate Base | | 3,105,087 | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |
| TOTAL RATE BASE | | **3,197,426** | | | | | | | | | 87.38% | 11.82% | 0.76% | 0.04% |

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| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pipeline - Demand** | | | | | | | | | | | | | | |
| F. GENERAL PLANT | | | | | | | | | | | | | | |
| Land | 480 | 2,410 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Structures & Improvements | 482 | 152,756 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Leasehold Improvements | 482.1 | - | | | | | | | | | | | | |
| Office Furniture & Equipment | 483 | - | | | | | | | | | | | | |
| Target Adjustments | 483.1 | - | | | | | | | | | | | | |
| Computer Equipment: Software | 483.2 | - | | | | | | | | | | | | |
| Computer System Development | 483.3 | - | | | | | | | | | | | | |
| Transportation Equipment | 484 | - 12 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Vehicle Conversion Kits | 484.1 | - | | | | | | | | | | | | |
| Heavy Work Equipment | 485 | - | | | | | | | | | | | | |
| Tools & Work Equipment | 486 | - | | | | | | | | | | | | |
| Rental Equipment: Conv. Bur. | 487 | - | | | | | | | | | | | | |
| Deferred Ineligible Overhead | 488 | 68,234 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Property, Plant & Equipment Gas Inventory | 489 | - | | | | | | | | | | | | |
| Sub-total | 480-490 | 223,389 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Sub-total Plant-in-Service | | 223,389 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| G. ADDITIONS TO UTILITY PLANT | | | | | | | | | | | | | | |
| Construction Work in Progress | | - | | | | | | | | | | | | |
| Other Additions | | - | | | | | | | | | | | | |
| Sub-total | | - | | | | | | | | | | | | |
| Total Utility Plant | | 223,389 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| II. ACCUMULATED DEPRECIATION | | | | | | | | | | | | | | |
| Intangible Plant | | - | | | | | | | | | | | | |
| Production Plant | | - | | | | | | | | | | | | |
| Local Storage Plant | | - | | | | | | | | | | | | |
| Transmission Plant | | - | | | | | | | | | | | | |
| Distribution Plant | | - | | | | | | | | | | | | |
| General Plant | | - 128,552 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Retirement Work in Progress | | - | | | | | | | | | | | | |
| Sub-total | | - 128,552 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Plant Held For Future Use | | - | | | | | | | | | | | | |
| Total Accumulated Depreciation | | - 128,552 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| III. OTHER RATE BASE | | | | | | | | | | | | | | |
| Contributions in Aid of Construction | | - | | | | | | | | | | | | |
| Cash Working Capital | | 1,255,232 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Security Deposits | | - | | | | | | | | | | | | |
| Gas in Storage | | - | | | | | | | | | | | | |
| Investment in DSM | | - | | | | | | | | | | | | |
| Investment in Regulatory Costs | | 50,460 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Investment in Site Restoration | | - | | | | | | | | | | | | |
| Total Other Rate Base | | 1,305,692 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| TOTAL RATE BASE | | **1,400,529** | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |

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| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Storage - Demand** | | | | | | | | | | | | | | |
| F. GENERAL PLANT | | | | | | | | | | | | | | |
| Land | 480 | 2,071 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Structures & Improvements | 482 | 131,236 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Leasehold Improvements | 482.1 | - | | | | | | | | | | | | |
| Office Furniture & Equipment | 483 | - | | | | | | | | | | | | |
| Target Adjustments | 483.1 | - | | | | | | | | | | | | |
| Computer Equipment: Software | 483.2 | - | | | | | | | | | | | | |
| Computer System Development | 483.3 | - | | | | | | | | | | | | |
| Transportation Equipment | 484 | - 10 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Vehicle Conversion Kits | 484.1 | - | | | | | | | | | | | | |
| Heavy Work Equipment | 485 | - | | | | | | | | | | | | |
| Tools & Work Equipment | 486 | - | | | | | | | | | | | | |
| Rental Equipment: Conv. Bur. | 487 | - | | | | | | | | | | | | |
| Deferred Ineligible Overhead | 488 | 58,621 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Property, Plant & Equipment Gas Inventory | 489 | - | | | | | | | | | | | | |
| Sub-total | 480-490 | 191,918 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Sub-total Plant-in-Service | | 191,918 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| G. ADDITIONS TO UTILITY PLANT | | | | | | | | | | | | | | |
| Construction Work in Progress | | - | | | | | | | | | | | | |
| Other Additions | | - | | | | | | | | | | | | |
| Sub-total | | - | | | | | | | | | | | | |
| Total Utility Plant | | 191,918 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| II. ACCUMULATED DEPRECIATION | | | | | | | | | | | | | | |
| Intangible Plant | | - | | | | | | | | | | | | |
| Production Plant | | - | | | | | | | | | | | | |
| Local Storage Plant | | - | | | | | | | | | | | | |
| Transmission Plant | | - | | | | | | | | | | | | |
| Distribution Plant | | - | | | | | | | | | | | | |
| General Plant | | - 110,441 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Retirement Work in Progress | | - | | | | | | | | | | | | |
| Sub-total | | - 110,441 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Plant Held For Future Use | | - | | | | | | | | | | | | |
| Total Accumulated Depreciation | | - 110,441 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| III. OTHER RATE BASE | | | | | | | | | | | | | | |
| Contributions in Aid of Construction | | - | | | | | | | | | | | | |
| Cash Working Capital | | 565,487 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Security Deposits | | - | | | | | | | | | | | | |
| Gas in Storage | | - | | | | | | | | | | | | |
| Investment in DSM | | - | | | | | | | | | | | | |
| Investment in Regulatory Costs | | 43,352 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| Investment in Site Restoration | | - | | | | | | | | | | | | |
| Total Other Rate Base | | 608,839 | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |
| TOTAL RATE BASE | | **690,315** | 49.90% | 38.15% | 10.65% | 0.02% | 0.16% | | | 1.12% | | | | |

| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Storage - Commodity** | | | | | | | | | | | | | | |
| F. GENERAL PLANT | | | | | | | | | | | | | | |
| Land | 480 | 221 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| Structures & Improvements | 482 | 14,027 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| Leasehold Improvements | 482.1 | - | | | | | | | | | | | | |
| Office Furniture & Equipment | 483 | - | | | | | | | | | | | | |
| Target Adjustments | 483.1 | - | | | | | | | | | | | | |
| Computer Equipment: Software | 483.2 | - | | | | | | | | | | | | |
| Computer System Development | 483.3 | - | | | | | | | | | | | | |
| Transportation Equipment | 484 | - 1 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| Vehicle Conversion Kits | 484.1 | - | | | | | | | | | | | | |
| Heavy Work Equipment | 485 | - | | | | | | | | | | | | |
| Tools & Work Equipment | 486 | - | | | | | | | | | | | | |
| Rental Equipment: Conv. Bur. | 487 | - | | | | | | | | | | | | |
| Deferred Ineligible Overhead | 488 | 6,266 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| Property, Plant & Equipment Gas Inventory | 489 | - | | | | | | | | | | | | |
| Sub-total | 480-490 | 20,514 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| Sub-total Plant-in-Service | | 20,514 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| G. ADDITIONS TO UTILITY PLANT | | | | | | | | | | | | | | |
| Construction Work in Progress | | - | | | | | | | | | | | | |
| Other Additions | | - | | | | | | | | | | | | |
| Sub-total | | - | | | | | | | | | | | | |
| Total Utility Plant | | 20,514 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| II. ACCUMULATED DEPRECIATION | | | | | | | | | | | | | | |
| Intangible Plant | | - | | | | | | | | | | | | |
| Production Plant | | - | | | | | | | | | | | | |
| Local Storage Plant | | - | | | | | | | | | | | | |
| Transmission Plant | | - | | | | | | | | | | | | |
| Distribution Plant | | - | | | | | | | | | | | | |
| General Plant | | - 11,805 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| Retirement Work in Progress | | - | | | | | | | | | | | | |
| Sub-total | | - 11,805 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| Plant Held For Future Use | | - | | | | | | | | | | | | |
| Total Accumulated Depreciation | | - 11,805 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| III. OTHER RATE BASE | | | | | | | | | | | | | | |
| Contributions in Aid of Construction | | - | | | | | | | | | | | | |
| Cash Working Capital | | 52,807 | 49.20% | 37.40% | 10.84% | 0.01% | 0.20% | | | 2.36% | | | | |
| Security Deposits | | - | | | | | | | | | | | | |
| Gas in Storage | | 33,138,755 | 46.60% | 36.90% | 13.05% | 0.02% | 0.29% | | | 3.13% | | | | |
| Investment in DSM | | - | | | | | | | | | | | | |
| Investment in Regulatory Costs | | 4,634 | 48.87% | 37.34% | 11.12% | 0.01% | 0.21% | | | 2.46% | | | | |
| Investment in Site Restoration | | - | | | | | | | | | | | | |
| Total Other Rate Base | | 33,196,196 | 46.61% | 36.90% | 13.05% | 0.02% | 0.29% | | | 3.13% | | | | |
| TOTAL RATE BASE | | **33,204,905** | 46.61% | 36.90% | 13.05% | 0.02% | 0.29% | | | 3.13% | | | | |

| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Transmission - Demand** | | | | | | | | | | | | | | |
| I. GAS PLANT IN SERVICE | | | | | | | | | | | | | | |
| A. INTANGIBLE PLANT | | | | | | | | | | | | | | |
| Franchises & Consents | 401 | 4,475 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Other Intangible Plant | 402 | 2,721,534 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Sub-total | 401-402 | 2,726,008 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| B. PRODUCTION PLANT | | | | | | | | | | | | | | |
| (Reserved) | - | - | | | | | | | | | | | | |
| Sub-total | 420-424 | - | | | | | | | | | | | | |
| C. LOCAL STORAGE PLANT | | | | | | | | | | | | | | |
| Land | 440 | - | | | | | | | | | | | | |
| Structures & Improvements | 442 | - | | | | | | | | | | | | |
| Sub-total | 440-449 | - | | | | | | | | | | | | |
| D. TRANSMISSION PLANT | | | | | | | | | | | | | | |
| Land | 460 | 1,027,343 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Structures & Improvements | 461 | 76,420 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Structures & Improvements - M&R | 463 | 1,363,403 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Mains | 465 | 155,008,042 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Measuring & Reg. Equipment | 467 | 14,466,096 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Other Transmission Equipment | 469 | - | | | | | | | | | | | | |
| Sub-total | 460-469 | 171,941,305 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| E. DISTRIBUTION PLANT | | | | | | | | | | | | | | |
| Land | 470 | - | | | | | | | | | | | | |
| Computer Equipment - Hardware | 471 | - | | | | | | | | | | | | |
| Structures & Improvements | 472 | - | | | | | | | | | | | | |
| Structures & Improvements: M & R | 472.1 | - | | | | | | | | | | | | |
| Services | 473 | - | | | | | | | | | | | | |
| Regulators | 474 | - | | | | | | | | | | | | |
| Regulators & Meters Installations | 474.1 | - | | | | | | | | | | | | |
| Mains | 475 | - | | | | | | | | | | | | |
| Measuring & Reg. Equipment | 477 | - | | | | | | | | | | | | |
| Telemetry Equipment | 477.1 | - | | | | | | | | | | | | |
| Meters | 478 | - | | | | | | | | | | | | |
| AMR/ERT Modules | 479 | - | | | | | | | | | | | | |
| Other Distribution Equipment | - | - | | | | | | | | | | | | |
| Sub-total | 470-479 | - | | | | | | | | | | | | |

| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Transmission - Demand** | | | | | | | | | | | | | | |
| F. GENERAL PLANT | | | | | | | | | | | | | | |
| Land | 480 | 12,116 | 36.96% | 28.30% | 10.14% | 0.01% | 8.21% | 14.34% | 1.14% | 0.89% | | | | |
| Structures & Improvements | 482 | 767,841 | 36.96% | 28.30% | 10.14% | 0.01% | 8.21% | 14.34% | 1.14% | 0.89% | | | | |
| Leasehold Improvements | 482.1 | - | | | | | | | | | | | | |
| Office Furniture & Equipment | 483 | - | | | | | | | | | | | | |
| Target Adjustments | 483.1 | - | | | | | | | | | | | | |
| Computer Equipment: Software | 483.2 | - | | | | | | | | | | | | |
| Computer System Development | 483.3 | - | | | | | | | | | | | | |
| Transportation Equipment | 484 | - 58 | 36.96% | 28.30% | 10.14% | 0.01% | 8.21% | 14.34% | 1.14% | 0.89% | | | | |
| Vehicle Conversion Kits | 484.1 | - | | | | | | | | | | | | |
| Heavy Work Equipment | 485 | 42,760 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Tools & Work Equipment | 486 | 43 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Rental Equipment: Conv. Bur. | 487 | - | | | | | | | | | | | | |
| Deferred Ineligible Overhead | 488 | 342,981 | 36.96% | 28.30% | 10.14% | 0.01% | 8.21% | 14.34% | 1.14% | 0.89% | | | | |
| Property, Plant & Equipment Gas Inventory | 489 | 59,376 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Sub-total | 480-490 | 1,225,059 | 37.14% | 28.43% | 10.06% | 0.01% | 7.99% | 14.38% | 1.09% | 0.90% | | | | |
| Sub-total Plant-in-Service | | 175,892,373 | 39.07% | 29.91% | 9.19% | 0.01% | 5.63% | 14.78% | 0.45% | 0.95% | | | | |
| G. ADDITIONS TO UTILITY PLANT | | | | | | | | | | | | | | |
| Construction Work in Progress | | - | | | | | | | | | | | | |
| Other Additions | | - | | | | | | | | | | | | |
| Sub-total | | - | | | | | | | | | | | | |
| Total Utility Plant | | 175,892,373 | 39.07% | 29.91% | 9.19% | 0.01% | 5.63% | 14.78% | 0.45% | 0.95% | | | | |
| II. ACCUMULATED DEPRECIATION | | | | | | | | | | | | | | |
| Intangible Plant | | - 1,043,624 | 39.05% | 29.90% | 9.20% | 0.01% | 5.66% | 14.78% | 0.46% | 0.94% | | | | |
| Production Plant | | - | | | | | | | | | | | | |
| Local Storage Plant | | - | | | | | | | | | | | | |
| Transmission Plant | | - 41,188,180 | 39.05% | 29.90% | 9.20% | 0.01% | 5.66% | 14.78% | 0.46% | 0.94% | | | | |
| Distribution Plant | | - | | | | | | | | | | | | |
| General Plant | | - 699,561 | 39.05% | 29.90% | 9.20% | 0.01% | 5.66% | 14.78% | 0.46% | 0.94% | | | | |
| Retirement Work in Progress | | - | | | | | | | | | | | | |
| Sub-total | | - 42,931,365 | 39.05% | 29.90% | 9.20% | 0.01% | 5.66% | 14.78% | 0.46% | 0.94% | | | | |
| Plant Held For Future Use | | - | | | | | | | | | | | | |
| Total Accumulated Depreciation | | - 42,931,365 | 39.05% | 29.90% | 9.20% | 0.01% | 5.66% | 14.78% | 0.46% | 0.94% | | | | |
| III. OTHER RATE BASE | | | | | | | | | | | | | | |
| Contributions in Aid of Construction | | - 47,617,231 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Cash Working Capital | | 866,716 | 44.73% | 29.18% | 8.95% | 0.01% | 6.67% | 10.71% | -0.83% | 0.57% | | | | |
| Security Deposits | | - | | | | | | | | | | | | |
| Gas in Storage | | - | | | | | | | | | | | | |
| Investment in DSM | | - | | | | | | | | | | | | |
| Investment in Regulatory Costs | | 253,643 | 36.96% | 28.30% | 10.14% | 0.01% | 8.21% | 14.34% | 1.14% | 0.89% | | | | |
| Investment in Site Restoration | | 321,329 | 39.08% | 29.92% | 9.19% | 0.01% | 5.62% | 14.79% | 0.44% | 0.95% | | | | |
| Total Other Rate Base | | - 46,175,543 | 38.99% | 29.95% | 9.19% | 0.01% | 5.58% | 14.86% | 0.46% | 0.95% | | | | |
| TOTAL RATE BASE | | **86,785,465** | 39.12% | 29.90% | 9.19% | 0.01% | 5.65% | 14.74% | 0.44% | 0.94% | | | | |

| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Transmission - Commodity** | | | | | | | | | | | | | | |
| III. OTHER RATE BASE | | | | | | | | | | | | | | |
| Contributions in Aid of Construction | | - | | | | | | | | | | | | |
| Cash Working Capital | | 1,293,201 | 57.41% | 37.68% | 3.18% | | 1.19% | 0.08% | 0.17% | 0.29% | | | | |
| Security Deposits | | - | | | | | | | | | | | | |
| Gas in Storage | | - | | | | | | | | | | | | |
| Investment in DSM | | 53,559,521 | 58.00% | 38.00% | 3.00% | | 1.00% | | | | | | | |
| Investment in Regulatory Costs | | 155 | 38.40% | 27.50% | 8.80% | | 7.30% | 2.80% | 5.50% | 9.70% | | | | |
| Investment in Site Restoration | | 196 | 38.40% | 27.50% | 8.80% | | 7.30% | 2.80% | 5.50% | 9.70% | | | | |
| Total Other Rate Base | | 54,853,073 | 57.99% | 37.99% | 3.00% | | 1.00% | 0.00% | 0.00% | 0.01% | | | | |
| TOTAL RATE BASE | | **54,853,398** | 57.99% | 37.99% | 3.00% | | 1.00% | 0.00% | 0.00% | 0.01% | | | | |

| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Distribution - Demand** | | | | | | | | | | | | | | |
| I. GAS PLANT IN SERVICE | | | | | | | | | | | | | | |
| A. INTANGIBLE PLANT | | | | | | | | | | | | | | |
| Franchises & Consents | 401 | 5,674 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| Other Intangible Plant | 402 | 3,450,988 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| Sub-total | 401-402 | 3,456,662 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| B. PRODUCTION PLANT | | | | | | | | | | | | | | |
| (Reserved) | - | - | | | | | | | | | | | | |
| Sub-total | 420-424 | - | | | | | | | | | | | | |
| C. LOCAL STORAGE PLANT | | | | | | | | | | | | | | |
| Land | 440 | - | | | | | | | | | | | | |
| Structures & Improvements | 442 | - | | | | | | | | | | | | |
| Sub-total | 440-449 | - | | | | | | | | | | | | |
| D. TRANSMISSION PLANT | | | | | | | | | | | | | | |
| Land | 460 | - | | | | | | | | | | | | |
| Structures & Improvements | 461 | - | | | | | | | | | | | | |
| Structures & Improvements - M&R | 463 | - | | | | | | | | | | | | |
| Mains | 465 | - | | | | | | | | | | | | |
| Measuring & Reg. Equipment | 467 | - | | | | | | | | | | | | |
| Other Transmission Equipment | 469 | - | | | | | | | | | | | | |
| Sub-total | 460-469 | - | | | | | | | | | | | | |
| E. DISTRIBUTION PLANT | | | | | | | | | | | | | | |
| Land | 470 | 558,903 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| Computer Equipment - Hardware | 471 | 373,954 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| Structures & Improvements | 472 | 1,377,038 | 49.53% | 37.87% | 11.49% | | | | | 1.11% | | | | |
| Structures & Improvements: M & R | 472.1 | 5,596,871 | 46.25% | 35.38% | 10.77% | 0.02% | 6.52% | | | 1.06% | | | | |
| Services | 473 | - | | | | | | | | | | | | |
| Regulators | 474 | - | | | | | | | | | | | | |
| Regulators & Meters Installations | 474.1 | - | | | | | | | | | | | | |
| Mains | 475 | 154,587,108 | 49.53% | 37.87% | 11.49% | | | | | 1.11% | | | | |
| Measuring & Reg. Equipment | 477 | 50,169,633 | 46.25% | 35.38% | 10.77% | 0.02% | 6.52% | | | 1.06% | | | | |
| Telemetry Equipment | 477.1 | 5,363,336 | 46.25% | 35.38% | 10.77% | 0.02% | 6.52% | | | 1.06% | | | | |
| Meters | 478 | - | | | | | | | | | | | | |
| AMR/ERT Modules | 479 | - | | | | | | | | | | | | |
| Other Distribution Equipment | - | - | | | | | | | | | | | | |
| Sub-total | 470-479 | 218,026,844 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |

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| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Distribution - Demand** | | | | | | | | | | | | | | |
| F. GENERAL PLANT | | | | | | | | | | | | | | |
| Land | 480 | 21,247 | 47.47% | 36.31% | 11.04% | 0.01% | 4.09% | | | 1.08% | | | | |
| Structures & Improvements | 482 | 1,346,508 | 47.47% | 36.31% | 11.04% | 0.01% | 4.09% | | | 1.08% | | | | |
| Leasehold Improvements | 482.1 | - | | | | | | | | | | | | |
| Office Furniture & Equipment | 483 | - | | | | | | | | | | | | |
| Target Adjustments | 483.1 | - | | | | | | | | | | | | |
| Computer Equipment: Software | 483.2 | - | | | | | | | | | | | | |
| Computer System Development | 483.3 | - | | | | | | | | | | | | |
| Transportation Equipment | 484 | - 102 | 47.47% | 36.31% | 11.04% | 0.01% | 4.09% | | | 1.08% | | | | |
| Vehicle Conversion Kits | 484.1 | - | | | | | | | | | | | | |
| Heavy Work Equipment | 485 | 47,171 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| Tools & Work Equipment | 486 | 48 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| Rental Equipment: Conv. Bur. | 487 | - | | | | | | | | | | | | |
| Deferred Ineligible Overhead | 488 | 601,462 | 47.47% | 36.31% | 11.04% | 0.01% | 4.09% | | | 1.08% | | | | |
| Property, Plant & Equipment Gas Inventory | 489 | 68,360 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| Sub-total | 480-490 | 2,084,693 | 47.54% | 36.36% | 11.05% | 0.01% | 3.96% | | | 1.08% | | | | |
| Sub-total Plant-in-Service | | 223,568,199 | 48.60% | 37.16% | 11.29% | 0.00% | 1.86% | | | 1.10% | | | | |
| G. ADDITIONS TO UTILITY PLANT | | | | | | | | | | | | | | |
| Construction Work in Progress | | - | | | | | | | | | | | | |
| Other Additions | | - | | | | | | | | | | | | |
| Sub-total | | - | | | | | | | | | | | | |
| Total Utility Plant | | 223,568,199 | 48.60% | 37.16% | 11.29% | 0.00% | 1.86% | | | 1.10% | | | | |
| II. ACCUMULATED DEPRECIATION | | | | | | | | | | | | | | |
| Intangible Plant | | - 1,349,796 | 48.42% | 37.03% | 11.25% | 0.01% | 2.21% | | | 1.09% | | | | |
| Production Plant | | - | | | | | | | | | | | | |
| Local Storage Plant | | - | | | | | | | | | | | | |
| Transmission Plant | | - | | | | | | | | | | | | |
| Distribution Plant | | - 81,351,730 | 48.42% | 37.03% | 11.25% | 0.01% | 2.21% | | | 1.09% | | | | |
| General Plant | | - 1,333,386 | 48.42% | 37.03% | 11.25% | 0.01% | 2.21% | | | 1.09% | | | | |
| Retirement Work in Progress | | - | | | | | | | | | | | | |
| Sub-total | | - 84,034,912 | 48.42% | 37.03% | 11.25% | 0.01% | 2.21% | | | 1.09% | | | | |
| Plant Held For Future Use | | - | | | | | | | | | | | | |
| Total Accumulated Depreciation | | - 84,034,912 | 48.42% | 37.03% | 11.25% | 0.01% | 2.21% | | | 1.09% | | | | |
| III. OTHER RATE BASE | | | | | | | | | | | | | | |
| Contributions in Aid of Construction | | - 9,555,777 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| Cash Working Capital | | 1,448,145 | 47.77% | 36.54% | 11.11% | 0.01% | 3.49% | | | 1.08% | | | | |
| Security Deposits | | - | | | | | | | | | | | | |
| Gas in Storage | | - | | | | | | | | | | | | |
| Investment in DSM | | - | | | | | | | | | | | | |
| Investment in Regulatory Costs | | 444,796 | 47.47% | 36.31% | 11.04% | 0.01% | 4.09% | | | 1.08% | | | | |
| Investment in Site Restoration | | 369,946 | 48.60% | 37.17% | 11.29% | 0.00% | 1.84% | | | 1.10% | | | | |
| Total Other Rate Base | | - 7,292,889 | 48.84% | 37.35% | 11.34% | 0.00% | 1.37% | | | 1.10% | | | | |
| TOTAL RATE BASE | | **132,240,398** | 48.69% | 37.23% | 11.31% | 0.00% | 1.66% | | | 1.10% | | | | |

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| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Distribution - Customer** | | | | | | | | | | | | | | |
| I. GAS PLANT IN SERVICE | | | | | | | | | | | | | | |
| A. INTANGIBLE PLANT | | | | | | | | | | | | | | |
| Franchises & Consents | 401 | 2,020 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| Other Intangible Plant | 402 | 1,228,680 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| Sub-total | 401-402 | 1,230,701 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| B. PRODUCTION PLANT | | | | | | | | | | | | | | |
| (Reserved) | - | - | | | | | | | | | | | | |
| Sub-total | 420-424 | - | | | | | | | | | | | | |
| C. LOCAL STORAGE PLANT | | | | | | | | | | | | | | |
| Land | 440 | - | | | | | | | | | | | | |
| Structures & Improvements | 442 | - | | | | | | | | | | | | |
| Sub-total | 440-449 | - | | | | | | | | | | | | |
| D. TRANSMISSION PLANT | | | | | | | | | | | | | | |
| Land | 460 | - | | | | | | | | | | | | |
| Structures & Improvements | 461 | - | | | | | | | | | | | | |
| Structures & Improvements - M&R | 463 | - | | | | | | | | | | | | |
| Mains | 465 | - | | | | | | | | | | | | |
| Measuring & Reg. Equipment | 467 | - | | | | | | | | | | | | |
| Other Transmission Equipment | 469 | - | | | | | | | | | | | | |
| Sub-total | 460-469 | - | | | | | | | | | | | | |
| E. DISTRIBUTION PLANT | | | | | | | | | | | | | | |
| Land | 470 | 198,990 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| Computer Equipment - Hardware | 471 | 133,142 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| Structures & Improvements | 472 | - | | | | | | | | | | | | |
| Structures & Improvements: M & R | 472.1 | - | | | | | | | | | | | | |
| Services | 473 | - | | | | | | | | | | | | |
| Regulators | 474 | - | | | | | | | | | | | | |
| Regulators & Meters Installations | 474.1 | - | | | | | | | | | | | | |
| Mains | 475 | 77,293,554 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| Measuring & Reg. Equipment | 477 | - | | | | | | | | | | | | |
| Telemetry Equipment | 477.1 | - | | | | | | | | | | | | |
| Meters | 478 | - | | | | | | | | | | | | |
| AMR/ERT Modules | 479 | - | | | | | | | | | | | | |
| Other Distribution Equipment | - | - | | | | | | | | | | | | |
| Sub-total | 470-479 | 77,625,686 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |

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| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Distribution - Customer** | | | | | | | | | | | | | | |
| F. GENERAL PLANT | | | | | | | | | | | | | | |
| Land | 480 | 10,505 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Structures & Improvements | 482 | 665,765 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Leasehold Improvements | 482.1 | - | | | | | | | | | | | | |
| Office Furniture & Equipment | 483 | - | | | | | | | | | | | | |
| Target Adjustments | 483.1 | - | | | | | | | | | | | | |
| Computer Equipment: Software | 483.2 | - | | | | | | | | | | | | |
| Computer System Development | 483.3 | - | | | | | | | | | | | | |
| Transportation Equipment | 484 | - 51 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Vehicle Conversion Kits | 484.1 | - | | | | | | | | | | | | |
| Heavy Work Equipment | 485 | 16,795 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| Tools & Work Equipment | 486 | 17 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| Rental Equipment: Conv. Bur. | 487 | - | | | | | | | | | | | | |
| Deferred Ineligible Overhead | 488 | 297,386 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Property, Plant & Equipment Gas Inventory | 489 | 33,800 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| Sub-total | 480-490 | 1,024,216 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Sub-total Plant-in-Service | | 79,880,603 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| G. ADDITIONS TO UTILITY PLANT | | | | | | | | | | | | | | |
| Construction Work in Progress | | - | | | | | | | | | | | | |
| Other Additions | | - | | | | | | | | | | | | |
| Sub-total | | - | | | | | | | | | | | | |
| Total Utility Plant | | 79,880,603 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| II. ACCUMULATED DEPRECIATION | | | | | | | | | | | | | | |
| Intangible Plant | | - 444,728 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Production Plant | | - | | | | | | | | | | | | |
| Local Storage Plant | | - | | | | | | | | | | | | |
| Transmission Plant | | - | | | | | | | | | | | | |
| Distribution Plant | | - 26,803,579 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| General Plant | | - 439,321 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Retirement Work in Progress | | - | | | | | | | | | | | | |
| Sub-total | | - 27,687,628 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Plant Held For Future Use | | - | | | | | | | | | | | | |
| Total Accumulated Depreciation | | - 27,687,628 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| III. OTHER RATE BASE | | | | | | | | | | | | | | |
| Contributions in Aid of Construction | | - | | | | | | | | | | | | |
| Cash Working Capital | | 608,976 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Security Deposits | | - | | | | | | | | | | | | |
| Gas in Storage | | - | | | | | | | | | | | | |
| Investment in DSM | | - | | | | | | | | | | | | |
| Investment in Regulatory Costs | | 219,924 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| Investment in Site Restoration | | 182,915 | 97.07% | 2.89% | 0.04% | | | | | 0.01% | | | | |
| Total Other Rate Base | | 1,011,815 | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |
| TOTAL RATE BASE | | **53,204,790** | 97.07% | 2.89% | 0.04% | 0.00% | 0.00% | | 0.00% | 0.01% | | | | |

Centra Gas Manitoba Inc.
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| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Onsite - Customer** | | | | | | | | | | | | | | |
| I. GAS PLANT IN SERVICE | | | | | | | | | | | | | | |
| A. INTANGIBLE PLANT | | | | | | | | | | | | | | |
| Franchises & Consents | 401 | 10,215 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| Other Intangible Plant | 402 | 6,213,198 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| Sub-total | 401-402 | 6,223,413 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| B. PRODUCTION PLANT | | | | | | | | | | | | | | |
| (Reserved) | - | - | | | | | | | | | | | | |
| Sub-total | 420-424 | - | | | | | | | | | | | | |
| C. LOCAL STORAGE PLANT | | | | | | | | | | | | | | |
| Land | 440 | - | | | | | | | | | | | | |
| Structures & Improvements | 442 | - | | | | | | | | | | | | |
| Sub-total | 440-449 | - | | | | | | | | | | | | |
| D. TRANSMISSION PLANT | | | | | | | | | | | | | | |
| Land | 460 | - | | | | | | | | | | | | |
| Structures & Improvements | 461 | - | | | | | | | | | | | | |
| Structures & Improvements - M&R | 463 | - | | | | | | | | | | | | |
| Mains | 465 | - | | | | | | | | | | | | |
| Measuring & Reg. Equipment | 467 | - | | | | | | | | | | | | |
| Other Transmission Equipment | 469 | - | | | | | | | | | | | | |
| Sub-total | 460-469 | - | | | | | | | | | | | | |
| E. DISTRIBUTION PLANT | | | | | | | | | | | | | | |
| Land | 470 | 1,006,256 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| Computer Equipment - Hardware | 471 | 673,271 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| Structures & Improvements | 472 | - | | | | | | | | | | | | |
| Structures & Improvements: M & R | 472.1 | - | | | | | | | | | | | | |
| Services | 473 | 284,239,631 | 90.88% | 8.67% | 0.34% | | 0.04% | | | 0.07% | | | | |
| Regulators | 474 | 56,621,401 | 62.62% | 34.96% | 1.87% | | 0.17% | | | 0.38% | | | | |
| Regulators & Meters Installations | 474.1 | - | | | | | | | | | | | | |
| Mains | 475 | - | | | | | | | | | | | | |
| Measuring & Reg. Equipment | 477 | 2,113,687 | | | | 0.52% | | 14.82% | 84.66% | | | | | |
| Telemetry Equipment | 477.1 | - | | | | | | | | | | | | |
| Meters | 478 | 46,179,936 | 62.62% | 34.96% | 1.87% | | 0.17% | | | 0.38% | | | | |
| AMR/ERT Modules | 479 | 1,703,806 | 100.00% | | | | | | | | | | | |
| Other Distribution Equipment | - | - | | | | | | | | | | | | |
| Sub-total | 470-479 | 392,537,989 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |

Centra Gas Manitoba Inc.
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| | Acct. Code | Total $ | SGS% | LGS% | HVF% | CO-OP% | ML% | SC% | PS% | INT% | PG% | FSP% | ISP% | FPO% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Onsite - Customer** | | | | | | | | | | | | | | |
| F. GENERAL PLANT | | | | | | | | | | | | | | |
| Land | 480 | 85,076 | 85.59% | 11.09% | 2.53% | 0.01% | 0.21% | 0.02% | 0.05% | 0.45% | | | | |
| Structures & Improvements | 482 | 5,391,696 | 85.59% | 11.09% | 2.53% | 0.01% | 0.21% | 0.02% | 0.05% | 0.45% | | | | |
| Leasehold Improvements | 482.1 | - | | | | | | | | | | | | |
| Office Furniture & Equipment | 483 | - | | | | | | | | | | | | |
| Target Adjustments | 483.1 | - | | | | | | | | | | | | |
| Computer Equipment: Software | 483.2 | - | | | | | | | | | | | | |
| Computer System Development | 483.3 | - | | | | | | | | | | | | |
| Transportation Equipment | 484 | - 410 | 85.59% | 11.09% | 2.53% | 0.01% | 0.21% | 0.02% | 0.05% | 0.45% | | | | |
| Vehicle Conversion Kits | 484.1 | - | | | | | | | | | | | | |
| Heavy Work Equipment | 485 | 78,409 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| Tools & Work Equipment | 486 | 80 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| Rental Equipment: Conv. Bur. | 487 | - | | | | | | | | | | | | |
| Deferred Ineligible Overhead | 488 | 2,408,378 | 85.59% | 11.09% | 2.53% | 0.01% | 0.21% | 0.02% | 0.05% | 0.45% | | | | |
| Property, Plant & Equipment Gas Inventory | 489 | 135,637 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| Sub-total | 480-490 | 8,098,866 | 85.52% | 11.21% | 2.48% | 0.01% | 0.21% | 0.02% | 0.06% | 0.44% | | | | |
| Sub-total Plant-in-Service | | 406,860,269 | 83.05% | 15.41% | 0.77% | 0.00% | 0.08% | 0.08% | 0.45% | 0.16% | | | | |
| G. ADDITIONS TO UTILITY PLANT | | | | | | | | | | | | | | |
| Construction Work in Progress | | - | | | | | | | | | | | | |
| Other Additions | | - | | | | | | | | | | | | |
| Sub-total | | - | | | | | | | | | | | | |
| Total Utility Plant | | 406,860,269 | 83.05% | 15.41% | 0.77% | 0.00% | 0.08% | 0.08% | 0.45% | 0.16% | | | | |
| II. ACCUMULATED DEPRECIATION | | | | | | | | | | | | | | |
| Intangible Plant | | - 2,382,590 | 84.81% | 13.63% | 0.63% | 0.00% | 0.06% | 0.11% | 0.63% | 0.13% | | | | |
| Production Plant | | - | | | | | | | | | | | | |
| Local Storage Plant | | - | | | | | | | | | | | | |
| Transmission Plant | | - | | | | | | | | | | | | |
| Distribution Plant | | - 120,715,433 | 84.81% | 13.63% | 0.63% | 0.00% | 0.06% | 0.11% | 0.63% | 0.13% | | | | |
| General Plant | | - 4,634,554 | 85.53% | 11.19% | 2.49% | 0.01% | 0.21% | 0.02% | 0.05% | 0.45% | | | | |
| Retirement Work in Progress | | - | | | | | | | | | | | | |
| Sub-total | | - 127,732,577 | 84.83% | 13.54% | 0.70% | 0.00% | 0.07% | 0.11% | 0.61% | 0.14% | | | | |
| Plant Held For Future Use | | - | | | | | | | | | | | | |
| Total Accumulated Depreciation | | - 127,732,577 | 84.83% | 13.54% | 0.70% | 0.00% | 0.07% | 0.11% | 0.61% | 0.14% | | | | |
| III. OTHER RATE BASE | | | | | | | | | | | | | | |
| Contributions in Aid of Construction | | - 4,440,204 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| Cash Working Capital | | 4,786,871 | 83.29% | 13.68% | 2.22% | 0.01% | 0.19% | 0.04% | 0.14% | 0.40% | | | | |
| Security Deposits | | - 900,000 | 86.03% | 11.44% | 1.95% | 0.02% | 0.16% | 0.02% | 0.04% | 0.35% | | | | |
| Gas in Storage | | - | | | | | | | | | | | | |
| Investment in DSM | | - | | | | | | | | | | | | |
| Investment in Regulatory Costs | | 1,781,056 | 85.59% | 11.09% | 2.53% | 0.01% | 0.21% | 0.02% | 0.05% | 0.45% | | | | |
| Investment in Site Restoration | | 734,034 | 83.00% | 15.50% | 0.74% | 0.00% | 0.07% | 0.08% | 0.46% | 0.15% | | | | |
| Total Other Rate Base | | 1,961,756 | 84.66% | 8.92% | 5.42% | 0.00% | 0.45% | -0.05% | -0.49% | 0.95% | | | | |
| TOTAL RATE BASE | | **281,089,448** | 82.25% | 16.22% | 0.84% | 0.00% | 0.08% | 0.07% | 0.37% | 0.17% | | | | |

**Centra Gas Manitoba Inc.**
**2019/20 General Rate Application**
**PAVG & PAVG-T Allocation Factors**

**IGU/CGM I - 13 c)**
**Attachment**

| | | Total | SGS-R | SGS-C | LGS | HVF | CO-OP | ML | SC | GS | INT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **PAVG (peak & average excluding T-Service)** | | | | | | | | | | |
| | PAVG (peak & average excluding T-Service | | | | | | | | | | |
| 1 | Volumes | $10^3M^3$ | [redacted] | | | | | | | | |
| 2 | % of Total Volumes | | | [redacted] | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | Coincident Peak-Day | $10^3M^3$ | [redacted] | | | | | | | | |
| 5 | % of Total Coincident Peak | | | [redacted] | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | System Load Factor | | [redacted] | | | | | | | | |
| 8 | 1 - System Load Factor | | | | | | | | | | |
| 9 | Note: System load factor = total volumes/365/coincident peak day | | | | [redacted] | | | | | | |
| 10 | | | | | | | | | | | |
| 11 | % of Total Volumes | | | | | [redacted] | | | | | |
| 12 | System Load Factor | | | | | | | | | | |
| 13 | Average Component | | | | | | | | | | |
| 14 | | | | | | | | | | | |
| 15 | % of Total Coincident Peak | | | | | [redacted] | | | | | |
| 16 | 1 - System Load Factor | | | | | | | | | | |
| 17 | Peak Component | | | | | | | | | | |
| 18 | | | | | | | | | | | |
| 19 | PAVG allocator (row 13 + row 17) | | [redacted] | | | | | | | | |
| 20 | | | | | | | | | | | |
| 21 | | | | | | | | | | | |
| 22 | **PAVG-T (peak & average including T-Service)** | | | | | | | | | | |
| 23 | Volumes | $10^3M^3$ | [redacted] | | | | | | | | |
| 24 | % of Total Volumes | | | [redacted] | | | | | | | |
| 25 | | | | | | | | | | | |
| 26 | Coincident Peak-Day | $10^3M^3$ | [redacted] | | | | | | | | |
| 27 | % of Total Coincident Peak | | | [redacted] | | | | | | | |
| 28 | | | | | | | | | | | |
| 29 | System Load Factor | | [redacted] | | | | | | | | |
| 30 | 1 - System Load Factor | | | | | | | | | | |
| 31 | Note: System load factor = total volumes/365/coincident peak day | | | | [redacted] | | | | | | |
| 32 | | | | | | | | | | | |
| 33 | % of Total Volumes | | | | | [redacted] | | | | | |
| 34 | System Load Factor | | | | | | | | | | |
| 35 | Average Component | | | | | | | | | | |
| 36 | | | | | | | | | | | |
| 37 | % of Total Coincident Peak | | | | | [redacted] | | | | | |
| 38 | 1 - System Load Factor | | | | | | | | | | |
| 39 | Peak Component | | | | | | | | | | |
| 40 | | | | | | | | | | | |
| 41 | PAVG allocator (row 35 + row 39) | | [redacted] | | | | | | | | |

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**REFERENCE:**

Tab 10 Page 11

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

IGU requires additional information to understand the changes in the cost allocation results.

**QUESTION:**

a) Please quantify and explain the rationale for the changes in forecast demand levels for each customer class.

**RATIONALE FOR QUESTION:**

**RESPONSE:**

The following table displays the changes between 2013/14 GRA and 2019/20 Proposed forecast demand levels for each customer class:

| | Annual Volume ($10^3m^3$) | | |
|---|---|---|---|
| | 2013/14 GRA (2013/14) | 2019/20 Proposed (2019/20) | Increase/ (Decrease) |
| SGS | 680,452 | [redacted] | [redacted] |
| LGS | 499,887 | | |
| High Volume Firm | 163,447 | | |
| Mainline | 134,962 | | |
| Special Contract | 421,289 | | |
| Power Stations | 15,197 | | |
| Interruptible | 112,050 | | |
| Total | 2,027,284 | | |

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[redacted]

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**REFERENCE:**

Tab 10 Page 12

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

IGU requires additional information to understand the changes in the cost allocation results.

**QUESTION:**

b) Please explain why there has been a migration of interruptible customers to the HVF class.

**RESPONSE:**

It is Centra's understanding that customers who have chosen to migrate from Interruptible service to Firm service have done so because Firm service better matches their organizations' operational requirements and risk tolerances.

**REFERENCE:**

Tab 10

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

IGU requires additional information to understand the cost allocation results.

**QUESTION:**

Please provide a table showing the 2019/20 revenue to cost comparison ratios by customer class at:

i. Existing rates;
ii. Proposed rates

**RESPONSE:**

Please see the attachment to this response.

**2019/20 Revenue to Cost ratios for all classes (Revenue at Existing Non-Gas Rates)**

| | Total | Small Gen. Service SGS-Total | 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 | FRPGS Fixed Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue at Existing Non-Gas Rates (per Schedule 10.1.6, line 35) | 152,524,872 | 109,941,344 | 30,132,872 | 6,274,676 | 8,024 | 1,484,485 | 1,385,423 | 236,483 | 845,414 | 2,112,524 | 77,672 | 8,340 | 17,615 |
| Cost of Service (Non-Gas) (per Schedule 10.1.2, line 43) | 148,519,256 | 102,632,670 | 32,455,799 | 6,824,301 | 8,233 | 2,057,841 | 2,246,833 | 157,798 | 769,561 | 1,175,851 | 158,980 | 10,232 | 21,155 |
| Non-Gas Revenue Sufficiency/(Deficiency) | 4,005,616 | 7,308,674 | -2,322,927 | -549,625 | -209 | -573,357 | -861,410 | 78,685 | 75,853 | 936,673 | -81,307 | -1,893 | -3,540 |
| Revenue to Cost Ratio (Revenue at Existing Non-Gas Rates) | 103% | 107% | 93% | 92% | 97% | 72% | 62% | 150% | 110% | 180% | 49% | 82% | 83% |

**2019/20 Revenue to Cost ratios for all classes (Revenue at Proposed Non-Gas Rates)**

| | Total | Small Gen. Service SGS-Total | 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 | FRPGS Fixed Price |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non-Gas Rates (per schedule 11.4.1)** | | | | | | | | | | | | | |
| BMC | | 14.00 | 77.00 | 1,008.09 | 264.05 | 1,080.75 | 187,222.83 * | 6,559.41 | 1,035.29 | | | | |
| Demand Transportation | | | | 10.62 | 16.94 | 15.20 | 0.00 | 0.00 | 5.37 | | | | |
| Demand Distribution | | | | 182.70 | 166.22 | 232.34 | 0.00 | 0.01 | 88.40 | | | | |
| Commodity Transportation | | 3.27 | 3.21 | 2.02 | 1.55 | 1.56 | 0.00 | 0.00 | 1.76 | | | | |
| Commodity Distribution | | 78.36 | 42.64 | 9.37 | 0.00 | 0.85 | 0.00 | 0.07 | 3.24 | 0.91 | 1.60 | 1.59 | 37.67 |
| **Billing determinants (per schedule 10.1.1, line 16 to 22)** | | | | | | | | | | | | | |
| Upstream Demand ($10^3m^3$-day) | [redacted] | | | | | | | | | | | | |
| Upstream Commodity ($10^3m^3$) | | | | | | | | | | | | | |
| Upstream Customer (customers) | | | | | | | | | | | | | |
| Downstream Demand ($10^3m^3$-day) | [redacted] | | | | | | | | | | | | |
| Downstream Commodity ($10^3m^3$) | | | | | | | | | | | | | |
| Downstream Customer (customers) | | | | | | | | | | | | | |
| **Non-Gas Revenue** | | | | | | | | | | | | | |
| BMC | 58,718,928 | [redacted] | | | | | | | | | | | |
| Demand Transportation | 180,282 | | | | | | | | | | | | |
| Demand Distribution | 5,016,453 | [redacted] | | | | | | | | | | | |
| Commodity Transportation | 5,806,226 | | | | | | | | | | | | |
| Commodity Distribution | 78,797,365 | [redacted] | | | | | | | | | | | |
| Total Revenue at Proposed Non-Gas Rates | 148,519,256 | 102,632,670 | 32,455,799 | 6,824,301 | 8,233 | 2,057,842 | 2,246,833 | 157,798 | 769,561 | 1,175,851 | 158,980 | 10,232 | 21,155 |
| Cost of Service (Non-Gas) (per Schedule 10.1.2, line 43) | 148,519,256 | 102,632,670 | 32,455,799 | 6,824,301 | 8,233 | 2,057,841 | 2,246,833 | 157,798 | 769,561 | 1,175,851 | 158,980 | 10,232 | 21,155 |
| Non-Gas Revenue Sufficiency/(Deficiency) | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Revenue to Cost Ratio (Revenue at Proposed Non-Gas Rates) | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |

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*Special Contract BMC in the amount of $187,222.83 represents the Non-Gas portion of BMC

**REFERENCE:**

Cost Allocation & Rate Design, Tab 10, page 12 of 14

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

IGU requires additional information to understand the cost allocation results.

**QUESTION:**

a) Does Centra Gas agree that the Company's transmission system must be designed using its expected customer aggregate Design Day Demand to ensure that its transmission system has enough capacity to meet its customers' aggregate demand? Please explain the response.
b) Does Centra Gas use total customer usage as a design criterion for the installed capacity of its transmission system? Please explain the response.
c) Does Centra Gas use load factor as a design criterion for the installed capacity of its transmission system? Please explain the response.
d) Does Centra Gas agree that a transmission system designed to meet the average demand of its customers would not have adequate capacity to meet the aggregate Design Day Demand of its customers? Please explain the response.

**RESPONSE:**

a) Yes, the natural gas transmission pressure piping system is required to fully meet the highest system load. Centra uses a peak design hour approach that parallels the Design Day approach but provides more suitable results for the smaller diameter pipelines in the Centra system. To reliably meet the requirements of all customers, the transmission pressure system must be able to supply the peak demand on the system.

b) Yes, Centra determines the load on a transmission pressure pipeline using customer usage as an input. The load estimation process is performed using DNV GL's Synergi Customer Management Model ("CMM"). This process uses individual customer meter information to determine a non-heat dependent base load and a temperature

dependent load component. Base and temperature dependent load components are calculated and stored in a database that includes customer information from 1999 to the present. The information is statistically compared each year for each customer and to all other customers within the rate class and outliers reviewed and adjusted. The load from all customers on a pipeline are combined and used to load a hydraulic model by Degree Day ("DD"), for any design or capacity condition. [redacted] SCADA flow information for major customers is also used as an input. 1d

c) No, Centra does not use a load factor (coincidence factor of a rated connected load). As described in response b) above, Centra uses an approach based on actual consumption which permits the system loading to be estimated for any temperature condition.

d) Yes, for the Centra transmission system, the peak demand exceeds the average demand. A system that can only supply the average demand would not be able to supply the peak demand.

**REFERENCE:**

Tab 10

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

IGU requires additional information to understand the cost allocation results.

**QUESTION:**

Does Centra Gas agree that there is a cost associated with the length of transmission mains installed on its system that is independent of both capacity and usage? Please explain the response.

**RESPONSE:**

Notionally, Centra would agree that the length of a transmission line is an influence on its cost. However, Centra does not agree that the cost associated with length and capacity are mutually exclusive. Consider the example of two identical loads, one situated close to the primary gate station and the other situated many kilometers from the same station. The load located at a longer distance from the primary gate station may drive an increase in the required diameter of the transmission line and therefore the cost in order to overcome pressure drop due to friction losses within the pipe over that distance.

**REFERENCE:**

Tab 10

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

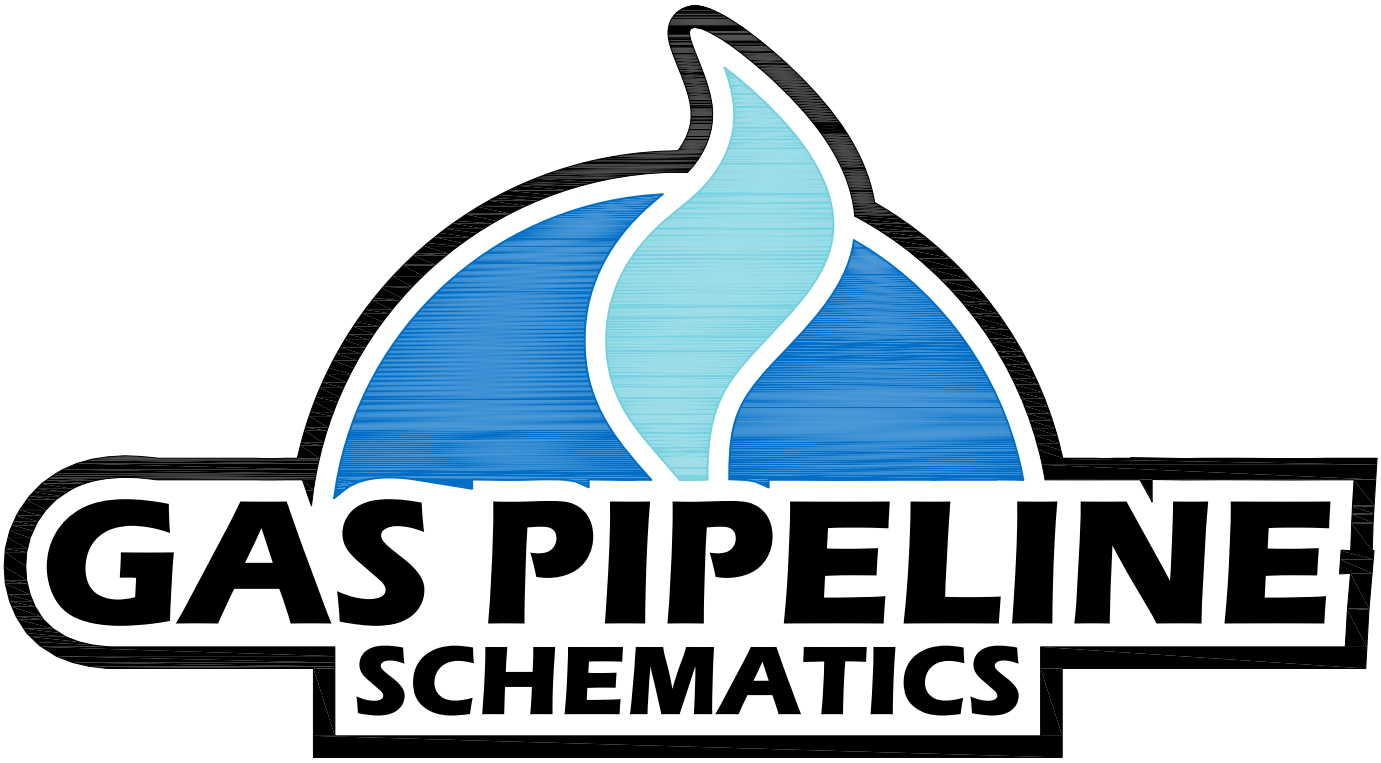
IGU requires additional information to understand the cost allocation results.

**QUESTION:**

Please provide a current map of the entire Centra Gas transmission system which clearly shows the type of transmission construction, the diameter of the transmission main, the pressure at which the transmission system operates, the location of customers directly connected to the transmission system, and the location of pipeline interconnections.

**RESPONSE:**

Please see the attachment to this response.




Manitoba Hydro

## Manitoba Hydro
# Gas Pipeline System
# Flow & Control Schematics

The Flow and Control Schematics show information about pipeline systems required to understand how the gas is transported and identified points of controlling the gas flow. These schematics apply to transmission on high pressure systems only. The distribution piping systems that are supplied by these transmission and high pressure systems are not shown on the schematics.

These schematics contain only information appropriate to a schematic. EGIS should be consulted for full information.

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9. LaSalle (Winnipeg) – LaSalle / St. Norbert
10. Landmark (Selkirk GS) - Lorette
11. MacGregor
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13. Minnedosa – Shilo
14. Minnedosa (Ethanol plant)
15. Neepawa
16. Niverville
17. Pineland Nurseries
18. Portage La Prairie
19. Portage La Prairie West (Simplot)
20. Rivers
21. Oakbluff (Winnipeg) – Sanford
22. South Loop (Oakville – Dominion City)
23. Ile Des Chenes (Winnipeg) – St. Adolphe
24. St. Agathe – Hanover
25. Sungro Perlite
26. St. Pierre – St. Malo
27. Starbuck
28. Ste. Anne – Steinbach
29. Swan Valley N.G.
30. Virden
31. North of Winnipeg – Interlake

The hard copy (binder) set of Gas Pipeline Schematics is a **controlled document**.

It is supported by Distribution Standards and updates will be sent to all registered users.

For a hard copy (binder) of the Gas Pipeline Schematics contact Distribution Standards.

A PDF copy can be downloaded from the Distribution Standards Sharepoint Site.

Any errors, omissions, clarifications or additional detail required should be directed to Distribution Standards.

## Manitoba Hydro
# Supplementary Resources

The following is a list of supplementary resources for the Manitoba Hydro Gas Pipeline Schematics:

- Winnipeg Downtown Sectionalization Valve Book – Available through Safety Procedures and Standards (Bucket truck icon)

- Winnipeg HP Segmentation Valve Book – Available through Safety Procedures and Standards (Bucket truck icon)

- HP/TP Maps – Available in eGIS (Turn on HP/TP map objects in eGIS to view a proportional layout of all Manitoba Hydro HP and TP pressure class pipeline systems.

Manitoba Hydro

# Town and Pipeline System Listing

This list presents selected Manitoba towns, the pipeline system from which they are served and the associated primary gate station.

This listing is not fully comprehensive. There may be some small towns that are not on this listing.

| Town/City | Pipeline System | Primary Station(s) |
|---|---|---|
| Altona | South Loop | Oakville PGS / Dominion City PGS |
| Arborg | Winnipeg North | Ile Des Chenes PGS |
| Austin | Gladstone - Austin | North Norfold PGS |
| Beausejour | Winnipeg North | Ile Des Chenes PGS |
| Binscarth | Minell | McAuley PGS |
| Blumenort | Steinbach | Ste. Anne PGS |
| Boissevain | Brandon | Brandon PGS |
| Brandon | Brandon | Brandon PGS |
| Carberry | Carberry | Carberry PGS |
| Carman | South Loop | Oakville PGS / Dominion City PGS |
| Dauphin | Minell | McAuley PGS |
| Deloraine | Brandon | Brandon PGS |
| Dominion City | South Loop | Dominion City PGS |
| Dugald | Winnipeg | La Salle / Ile Des Chene / Oak Bluff |
| East Selkirk | Winnipeg | La Salle / Ile Des Chene / Oak Bluff |
| Elie | South Loop | Oakville PGS |
| Elkhorn | Virden | Miniota PGS |
| Elm Creek | South Loop | Oakville PGS / Dominion City PGS |
| Emerson | South Loop | Oakville PGS / Dominion City PGS |
| Garson | Winnipeg North | Ile Des Chenes PGS |
| Gilbert Plains | Minell | McAuley PGS |
| Gimli | Winnipeg North | Ile Des Chenes PGS |
| Gladstone | Gladstone - Austin | North Norfold PGS |
| Grandview | Minell | McAuley PGS |
| Gretna | South Loop | Oakville PGS / Dominion City PGS |
| Grunthal | St Pierre | St. Pierre PGS |
| Hamiota | Hamitota | Hamiota PGS |
| Hartney | Brandon | Brandon PGS |
| Ile Des Chene | | Ile des Chenes PGS |
| Killarney | Brandon | Brandon PGS |
| La Broquerie | Steinbach | Ste. Anne PGS |
| La Salle | La Salle | La Salle PGS |
| Landmark | | Landmark PGS |
| Letellier | South Loop | Oakville PGS / Dominion City PGS |
| Lockport | Winnipeg North | Ile Des Chenes PGS |
| Lorette | Lorette | Landmark PGS |
| Mac Gregor | MacGregor | MacGregor PGS |
| Melita | Brandon | Brandon PGS |

| Town/City | Pipeline System | Primary Station(s) |
|---|---|---|
| Miniota | Virden | Miniota PGS |
| Minnedosa | Minnedosa - Shilo | Moore Park PGS |
| Minnedosa | Minnedosa (Ethanol Plant) | Brandon PGS |
| Morden | South Loop | Oakville PGS / Dominion City PGS |
| Morris | South Loop | Oakville PGS / Dominion City PGS |
| Neepawa | Neepawa | Neepawa PGS |
| New Bothwell | Niverville | Niverville PGS |
| Niverville | Niverville | Niverville PGS |
| Oakbank | Winnipeg | La Salle / Ile Des Chene / Oak Bluff |
| Oakville | South Loop | Oakville PGS / Dominion City PGS |
| Otterburne | St Pierre | St. Pierre PGS |
| Plum Coulee | South Loop | Oakville PGS / Dominion City PGS |
| Portage la Prairie | Portage la Prairie | Portage PGS |
| Rivers | Rivers | Rivers PGS |
| Riverton | Winnipeg North | Ile Des Chenes PGS |
| Roblin | Minell | McAuley PGS |
| Russell | Minell | McAuley PGS |
| Sanford | Sanford | Oak Bluff |
| Selkirk | Winnipeg North | Ile Des Chenes PGS |
| Shilo | Minnedosa - Shilo | Moore Park PGS |
| Shoal Lake | Hamitota | Hamiota PGS |
| Sidney | Gladstone - Austin | North Norfold PGS |
| Souris | Brandon | Brandon PGS |
| St Adolphe | St Adolphe | Ile des Chenes PGS |
| St Claude | Portage la Prairie | Portage PGS |
| St Jean Baptiste | South Loop | Oakville PGS / Dominion City PGS |
| St Lazare | Minell | McAuley PGS |
| St Joseph | South Loop | Oakville PGS / Dominion City PGS |
| St Malo | St. Malo | St. Malo PGS |
| St Pierre | St Pierre | St. Pierre PGS |
| St Pierre Jolys | South Loop | Oakville PGS / Dominion City PGS |
| Starbuck | Starbuck | Starbuck PGS |
| Ste Agathe | Ste Agathe | Ste. Agathe PGS |
| Ste Anne | Steinbach | Ste. Anne PGS |
| Steinbach | Steinbach | Ste. Anne PGS |
| Stonewall | Winnipeg North | Ile Des Chenes PGS |
| Swan Valley | Swan Valley | Benito PGS |
| Teulon | Winnipeg North | Ile Des Chenes PGS |
| Tyndall | Winnipeg North | Ile Des Chenes PGS |
| Virden | Virden | Miniota PGS |
| Warren | Winnipeg North | Ile Des Chenes PGS |
| Winkler | South Loop | Oakville PGS / Dominion City PGS |
| Winnipeg | Winnipeg | La Salle / Ile Des Chene / Oak Bluff / St Norbert |

## Manitoba Hydro

# Primary Gate Station Listing & TCPL Line Taps

Primary Station listing with identification of the TCPL line taps supplying the station

| Number | Manitoba Hydro Primary Station Name | TCPL Primary Station Name | TCPL Line # | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 100-2 | 100-3 | 100-5 | 100-6 | 400-1 | 400-3 |
| GS-100 | McAuley | Moosomin | | | X | X | | |
| GS-111 | Virden/Miniota | Miniota | | | X | X | | |
| GS-114 | Hamiota | Hamiota | | | X | X | | |
| GS-117 | Rivers | Rivers-Wheatland | | | X | X | | |
| GS-123 | Brandon | Brandon | | | X | X | | |
| GS-119 | Moore Park | Shilo | | | X | X | | |
| GS-121 | Neepawa | Neepawa | | | X | X | | |
| GS-127 | Carberry | Carberry | | | X | X | | |
| GS-195 | Gladstone/Austin | Austin | X | X | | | | |
| GS-130 | MacGregor | MacGregor | | | X | X | | |
| GS-193 | Portage (Simplot) | Assiniboine | | | X | X | | |
| GS-132 | Portage | Portage La Prairie | | | X | X | | |
| GS-136 | Oakville | Carmen | X | X | | | | |
| GS-165 | Starbuck | Starbuck | | | X | X | | |
| GS-030 | Oak Bluff | Oak Bluff | | | X | X | | |
| GS-015 | LaSalle | Winnipeg | | | X | X | | |
| GS-002 | St. Norbert | St. Norbert | | | X | X | | |
| GS-017 | Ile Des Chenes | Transcona | | | X | X | | |
| GS-018 | Landmark | Landmark and Selkirk | X | X | | | | |
| GS-159 | Ste Anne | Steinbach | X | X | | | | |
| GS-177 | Pineland | Hadashville | X | X | | | | |
| GS-150 | Niverville | Niverville | | | | | X | X |
| GS-180 | St. Agathe | St. Agathe | | | | | X | X |
| GS-153 | St.Pierre | St. Pierre | | | | | X | X |
| GS-167 | St.Malo/Dufrost | St. Malo | | | | | X | X |
| GS-146 | Dominion city | Altona | | | | | X | X |

Line Taps to Systems Other Than TCPL:

| Line Connected To | Manitoba Hydro's Pipeline System |
|---|---|
| MIPL (TranGas) | Swan Valley Pipeline System |
| EFG (Centra Gas Transmission) | RM of Piney (Sungro Perlite) |

Manitoba Hydro

# Drawing Nomenclature and Conventions

In addition to the Legend shown on the schematics, the nomenclature and drawing conventions adopted for the production of the Flow and Control Schematics are:

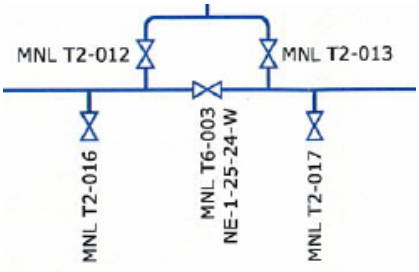
Gate stations shown as a rectangle will have an inlet isolation valve, an outlet isolation valve and a bypass valve.

Gate stations with piping shown has necessary details added such as:

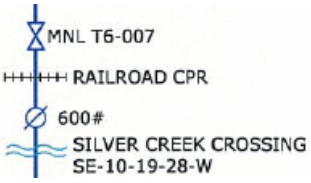
- A primary station that supplies more than one system where each system can be isolated will have the pipeline system isolation valves identified
- A station with a single valve and regulator denotes the absence of a second isolation valve and absence of a bypass
- A pressure control valve indicates pressure control equipment which may include multiple runs in a multiple cut and/or lead lag configuration and will also include regulator run isolation valves.

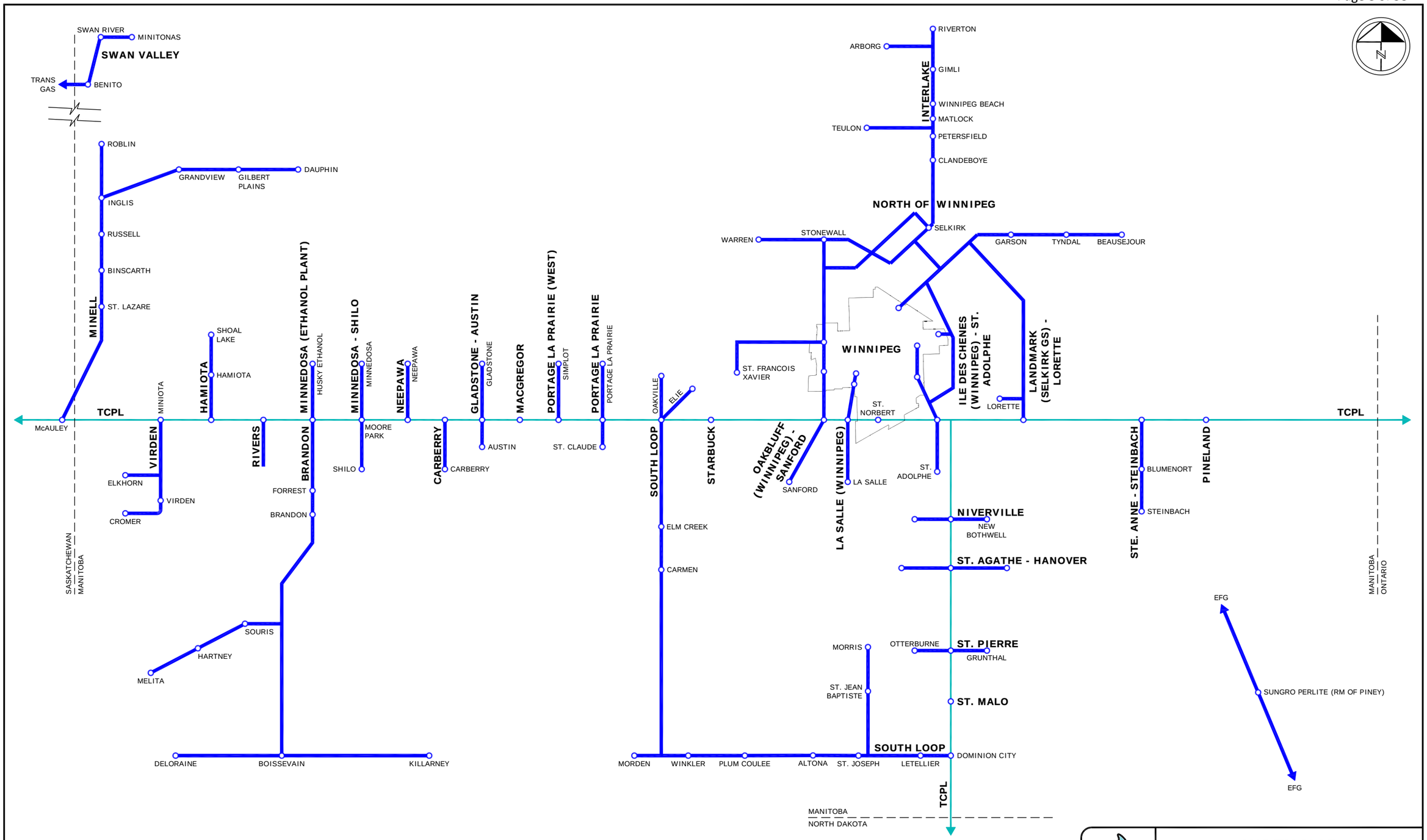
Some line stopping fittings are shown as “Stopple” and may be a spherical fitting. Not all line stop fittings on the pipelines are shown. For detailed information on line stop fittings, eGIS should be referenced. The condition of line stopping fittings, shown or not shown is unknown.

Line access valves may be shown where such information is available. Gate stations may or may not have line access (blowdown) valves.




While the schematics are true schematics and not to scale, they are generally drawn in a manner that represents the orientation of the pipeline system. Landmarks such as rivers, highways, etc. are shown to aid in a general geographic understanding of the pipeline system.





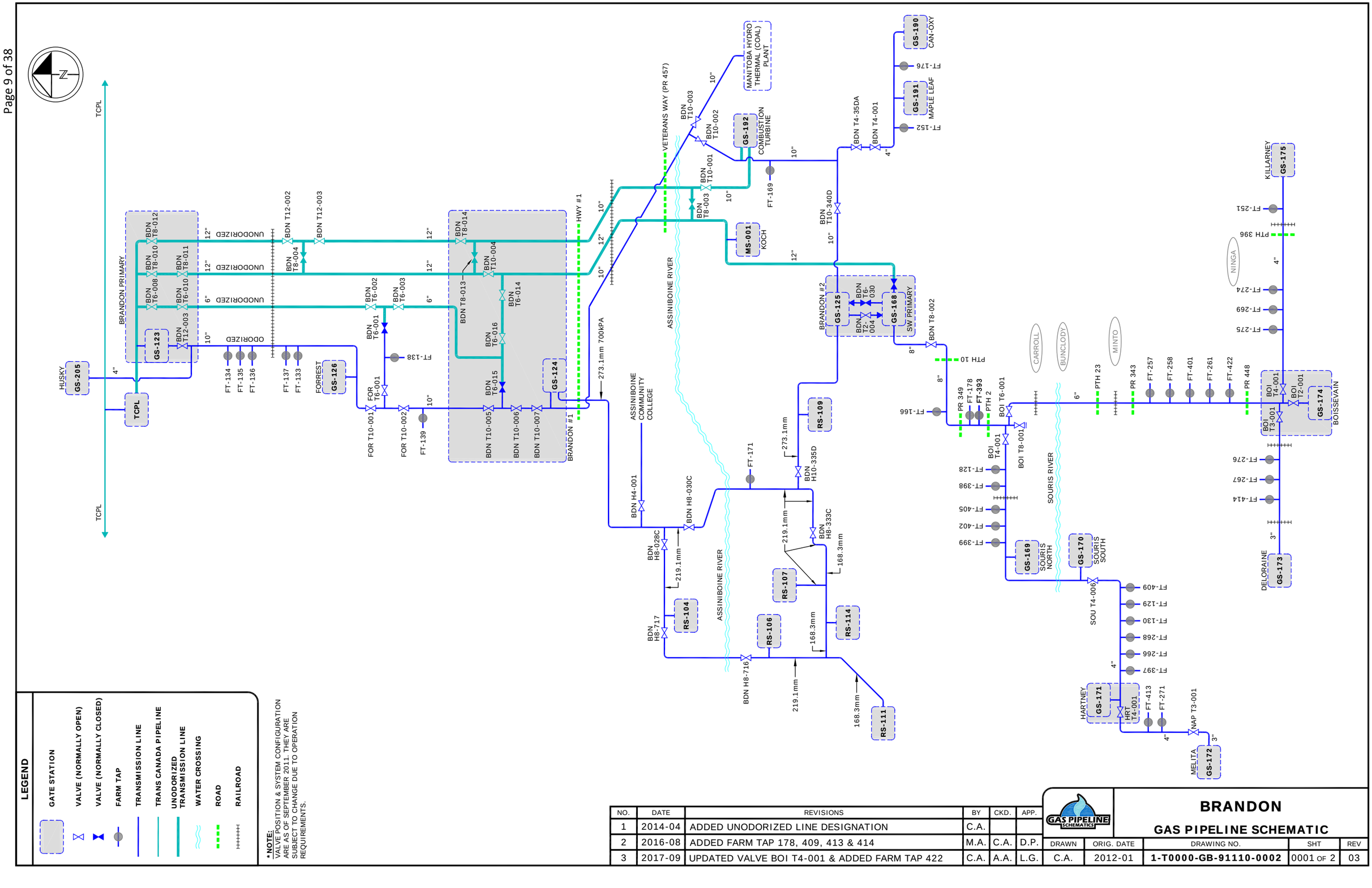

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2014-05 | ADDED SWAN VALLEY | C.A. | | |
| 2 | 2017-04 | UPDATED MAP | C.A. | K.M. | K.M. |

GAS PIPELINE SCHEMATICS

# INDEX MAP

## GAS PIPELINE SCHEMATIC

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GB-91110-0001 | 0001 OF 1 | 02 |




**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- UNODORIZED TRANSMISSION LINE
- WATER CROSSING
- ROAD
- RAILROAD

***NOTE:**
VALVE POSITION & SYSTEM CONFIGURATION ARE AS OF SEPTEMBER 2011. THEY ARE SUBJECT TO CHANGE DUE TO OPERATION REQUIREMENTS.

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2014-04 | ADDED UNODORIZED LINE DESIGNATION | C.A. | | |
| 2 | 2016-08 | ADDED FARM TAP 178, 409, 413 & 414 | M.A. | C.A. | D.P. |
| 3 | 2017-09 | UPDATED VALVE BOI T4-001 & ADDED FARM TAP 422 | C.A. | A.A. | L.G. |

GAS PIPELINE SCHEMATICS

# BRANDON

## GAS PIPELINE SCHEMATIC

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GB-91110-0002 | 0001 OF 2 | 03 |

| GATE STATION | DESCRIPTION |
|---|---|
| GS-123 | BRANDON PRIMARY GATE STATION, NW-6-13-18-W, FROM PTH 1, NORTH 20.6km ON PTH 10 ON EAST SIDE OF ROAD |
| GS-124 | BRANDON #1 GATE STATION, SW-6-11-18-W, NORTH PTH 1 SERVICE ROAD, 0.8km EAST OF PTH 10 |
| GS-125 | BRANDON #2 GATE STATION, SW-18-10-18-W, 17th ST E, 820m SOUTH OF VICTORIA, ON EAST SIDE OF ROAD |
| GS-126 | FORREST GATE STATION, SW-31-11-18-W, FROM PTH 1, NORTH 8.4km ON PTH 10 ON EAST SIDE OF ROAD |
| GS-168 | SOUTHWEST PRIMARY GATE STATION, SW-18-10-18-W, 17th ST E, 820m SOUTH OF VICTORIA, ON EAST SIDE OF ROAD, ON SAME SITE AS GS-125 |
| GS-169 | SOURIS NORTH GATE STATION, NE-34-7-21-W, PTH 2, 1.6km EAST OF PR 250 (1 ST N), SOUTH 75m ON SECTION ROAD, ON EAST SIDE OF ROAD |
| GS-170 | SOURIS SOUTH GATE STATION, SW-34-7-21-W, PTH 22, 330m SOUTH OF BRINOLE AVE E, ON EAST SIDE OF ROAD |
| GS-171 | HARTNEY GATE STATION, SW-22-6-23-W, FROM JCT OF E RAILWAY ST AND SECTION ROAD NORTH OF HARTNEY, 210m EAST, 40m NORTH, ON EAST SIDE OF ROAD |
| GS-172 | MELITA GATE STATION, NE-6-4-26-W, PTH 83, 1.4km EAST OF MELITA, ON SOUTH SIDE OF E-W SECTION ROAD ADJACENT TO WIDE CURVE IN PTH 83 |
| GS-173 | DELORAINE GATE STATION, SW-11-3-23-W, N RAILWAY AVE, 170m EAST OF GOVERNMENT ROAD, ON NORTH SIDE |
| GS-174 | BOISSEVAIN GATE STATION, NE-26-3-20-W, FROM PTH 10 & N RAILWAY ST, BOISSEVAIN, NORTH ON PTH 10, 1.5km TO WEST SERVICE ROAD (WILLIAM ST), ON WEST SIDE OF ROAD |
| GS-175 | KILLARNEY GATE STATION, SW-11-3-17, LAKEVIEW AVE, 860m NORTH OF S RAILWAY ST, ON EAST SIDE OF ROAD |
| GS-190 | BRANDON RICHMOND (CAN-OXY) GATE STATION, NE-10-10-18-W, RICHMOND AVE E, 2.9km EAST OF PTH 110, ON SOUTH SIDE OF ROAD |
| GS-191 | BRANDON MAPLE LEAF GATE STATION, SE-16-10-18-W, RICHMOND AVE E, 1.1km EAST OF PTH 110, ON NORTH SIDE OF ROAD |
| GS-192 | BRANDON COMBUSTION TURBINE GATE STATION, SW-20-10-18-W, 33rd ST E, 170m NORTH OF VICTORIA AVE, ON EAST SIDE OF ROAD |
| RS-104 | KIRKCALDY DR RS, KIRKCALDY DR AT CONSERVATION DR, NORTH SIDE |
| RS-106 | LOUISE AVE RS, LANE BETWEEN 20th & 21st ST, 50m N OF LOUISE AVE, EAST SIDE |
| RS-107 | VICTORIA AVE RS, LANE BETWEEN 10th & 11th ST, 12m N OF VICTORIA, WEST SIDE |
| RS-109 | PARK ST RS, PARK ST & VAN HORNE, SE CORNER |
| RS-111 | 34th ST RS, 34th ST & ELVISS CR SE CORNER, JUST NORTH OF CNR ALONG LANE |
| RS-114 | KEYSTONE COMPLEX RS, 18th ST, 150m SOUTH OF PARK AVE, EAST SIDE, IN EXHIBITION GROUNDS |

| VALVE | DESCRIPTION |
|---|---|
| BDN T8-002 | BRANDON, 17th ST E, 3.5km SOUTH OF PTH 110, ON EAST SIDE OF ROAD |
| BOI T4-001<br>BOI T8-001<br>BOI T6-001 | NE-36-7-20-W, PR 348, 60m SOUTH OF PTH 2, ON THE WEST SIDE |
| BOI T4-001<br>BOI T3-001<br>BOI T2-001 | AT BOISSEVAIN GATE STATION |
| SOU T4-006 | AT SOURIS SOUTH GATE STATION |
| HRT T4-001 | AT HARTNEY GATE STATION |
| NAP T3-001 | NAPINKA, RAILWAY AVE, 420m EAST OF BROADWAY ST, ON SOUTH SIDE OF ROAD |
| BDN T12-003<br>BDN T8-010<br>BDN T8-011<br>BDN T8-012<br>BDN T6-008<br>BDN T6-010 | AT GS-123, BRANDON PRIMARY GATE STATION |
| BDN T10-004<br>BDN T10-005<br>BDN T10-006<br>BDN T10-007<br>BDN T8-013<br>BDN T8-014<br>BDN T6-014<br>BDN T6-015<br>BDN T6-016 | AT GS-124, BRANDON #1 GATE STATION |
| BDN T12-002<br>BDN T12-003<br>BDN T8-004 | NW-6-12-18-W, PTH 10, NORTH 11.6km ON PTH 10, 650m EAST, ON NORTH SIDE OF ROAD |
| BDN T6-001<br>BDN T6-002<br>BDN T6-003 | |
| FOR T10-001<br>FOR T6-001 | SW-31-11-18-W, FROM PTH 1, NORTH 8.4km ON PTH 10 ON EAST SIDE OF ROAD (100m NORTH OF SECTION ROAD) |
| FOR T10-002 | NW-30-11-18-W, FROM PTH 1, NORTH 8.3km ON PTH 10 ON EAST SIDE OF ROAD (SOUTH OF SECTION ROAD) |
| BDN T10-001<br>BDN T8-003 | SE-19-10-18-W, 2505 VICTORIA AVE E & BRANDON SERVICE CENTRE DELIVERY ENTRANCE, 460m NORTH OF VICTORIA AVE E |
| BDN T10-002<br>BDN T10-003 | SW-20-10-18-W, 510m NORTH OF VICTORIA AVE E, 150m EAST OF 33rd ST E, ON NORTH SIDE OF BRANDON COMBUSTION TURBINE SITE |
| BDN T10-340D | SW-18-10-18-W, 500m EAST OF GS-125, ON KOCH PROPERTY, ADJACENT TO MS-001 |
| BDN T4-35DA<br>BDN T4-001 | SW-17-10-18-W, 33rd ST E, 830m SOUTH OF VICTORIA AVE E |
| BDN T6-030<br>BDN T2-004 | AT BRANDON #2 GATE STATION |
| BDN H4-001 | NORTH SIDE OF ASSINIBOINE COMMUNITY COLLEGE NORTH ENTRANCE BRANDON, 50m EAST OF 1st ST (40m NORTH OF KIRKHAM CR & 1st ST) |
| BDN H8-028C | 1st ST & KIRKCALDY DR, NE SIDE |
| BDN H8-717 | AT RS-104, KIRKCALDY DR AT CONSERVATION DR |
| BDN H8-716 | MCDONALD AVE, 30m WEST OF 18th ST, NORTH SIDE |
| BDN H8-333C | VAN HORNE AVE, 70m WEST OF 1st ST, ON NORTH SIDE OF ROAD |
| BDN H10-335D | 1st ST & VAN HORNE AVE, SE SIDE (NORTH OF TRACKS) |
| BDN H8-030C | 1st ST, 310m NORTH OF ASSINIBOINE RIVER, ON EAST SIDE OF ROAD |

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2017-09 | UPDATED VALVE BOI T10-001 TO BOI T4-001 | C.A. | A.A. | L.G. |

GAS PIPELINE SCHEMATICS

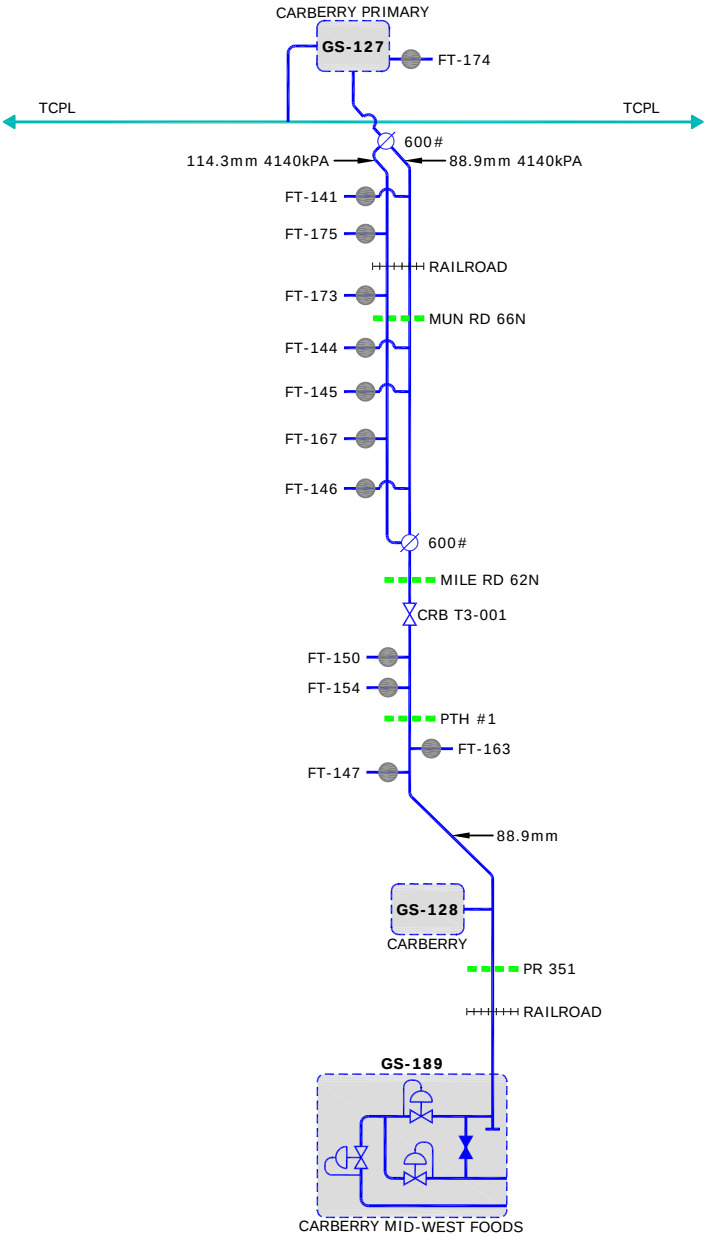
**BRANDON**

**GAS PIPELINE SCHEMATIC**

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | **1-T0000-GA-91110-0002** | 0002 OF 2 | 01 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-127 | CARBERRY PRIMARY GATE STATION, NW-17-12-14-W, PTH 5 APPROX 8 MILES NORTH OF PTH 1, ON EAST SIDE OF ROAD |
| GS-128 | CARBERRY TBS, SW-32-10-14-W, EAST SIDE OF CARBERRY, ON NORTH SIDE OF PR 391, APPROX 220m EAST OF PTH 5 |
| GS-189 | CARBERRY MID-WEST FOODS TBS, NW-20-10-14-W, ON EAST SIDE OF PTH 5 APPROX 1.5 MILES SOUTH OF PR 391 |

| VALVE | DESCRIPTION |
|---|---|
| CRB T3-001 | NW-8-11-14-W, PTH 5, 1 MILE NORTH OF PTH 1, 220m EAST ON ROAD 62N ON SOUTH SIDE OF ROAD |

GAS PIPELINE SCHEMATICS

TITLE

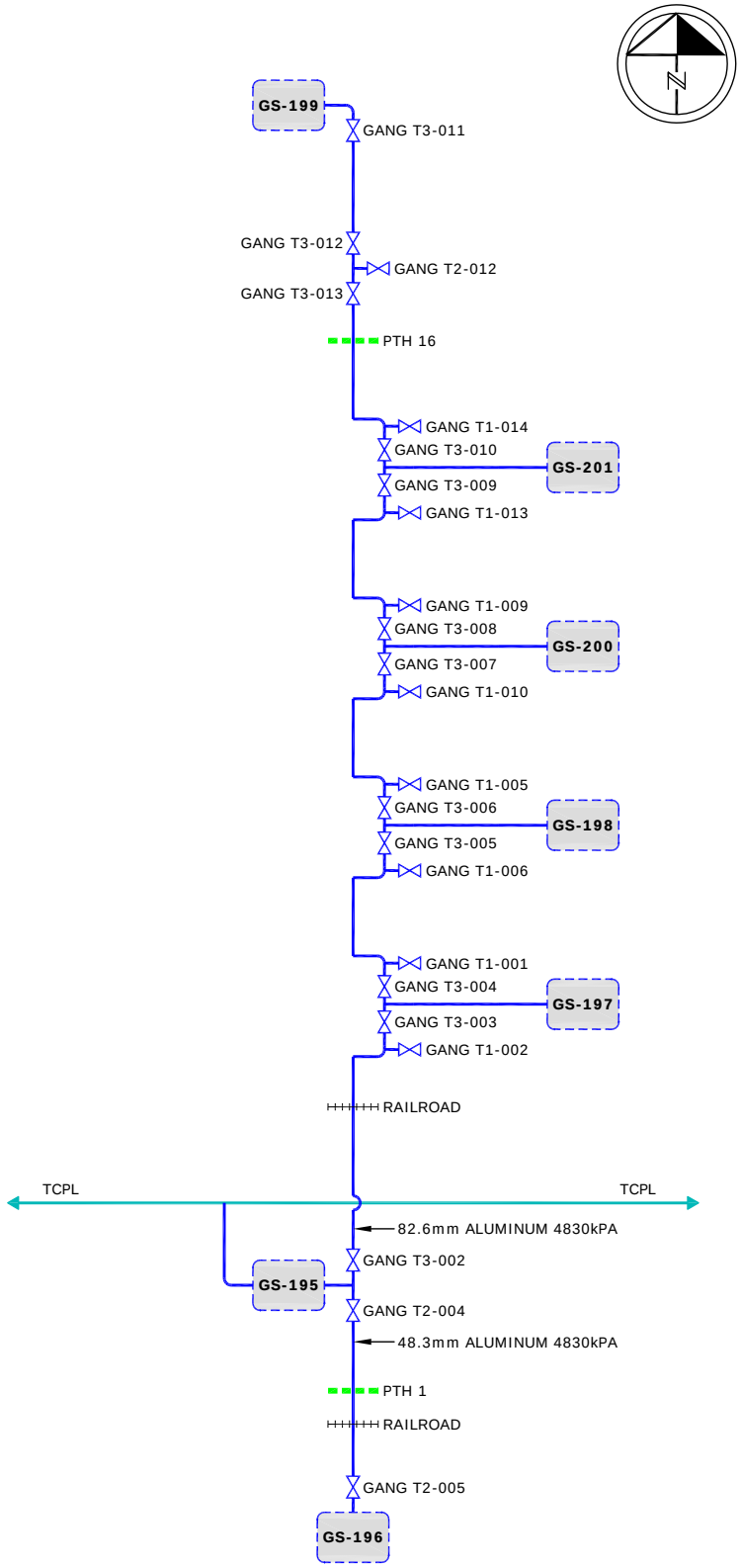
# CARBERRY

## GAS PIPELINE SCHEMATIC

| DRAWN | DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0003 | 0001 OF 1 | 00 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-195 | NORTH NORFOLK PRIMARY STATION, NW-33-11-11-W, FROM JCT OF PTH 1 AND PTH 34, 1.8km EAST ON PTH 1, NORTH 1.2km, ON EAST SIDE OF ROAD |
| GS-196 | AUSTIN GATE STATION, NW-21-11-11-W, AUSTIN, FROM JCT OF TOWER RD, AND CARROTHERS AVE, 80m SOUTH, 50m WEST, IN FIELD |
| GS-197 | CIBULA GATE STATION, NE-20-12-11-W, FROM PTH 1 NORTH 9.0km ON PTH 34, EAST 1.6km, ON SOUTH SIDE OF ROAD |
| GS-198 | NOVAK GATE STATION, NE-5-13-11-W, FROM PTH 1 NORTH 13.9km ON PTH 34, EAST 1.6km, ON SOUTH SIDE OF ROAD |
| GS-199 | GLADSTONE GATE STATION, SW-29-14-11-W, FROM JCT OF LORNE ST AND DAUPHIN AVE, 170m SOUTH AND 440m EAST |
| GS-200 | NEAUSCHWANDER GATE STATION, NE-29-13-11-W, FROM PTH 16, SOUTH 8.9km ON PTH 34, (FROM PTH 1 NORTH 20.4km ON PTH 34), EAST 1.6km, ON SOUTH SIDE OF ROAD |
| GS-201 | JARVIS GATE STATION, NE-8-14-11-W, FROM JCT OF PTH 16 AND PTH 34, EAST ON PTH 16 2.0km, SOUTH ON SECTION ROAD 4.1km, ON WEST SIDE OF ROAD |

| VALVE | DESCRIPTION |
|---|---|
| GANG T3-012<br>GANG T3-013<br>GANG T2-012 | SW-29-14-11-W, APPROX 100m SE OF GLADSTONE GATE STATION GS-199 |

GAS PIPELINE SCHEMATICS

TITLE

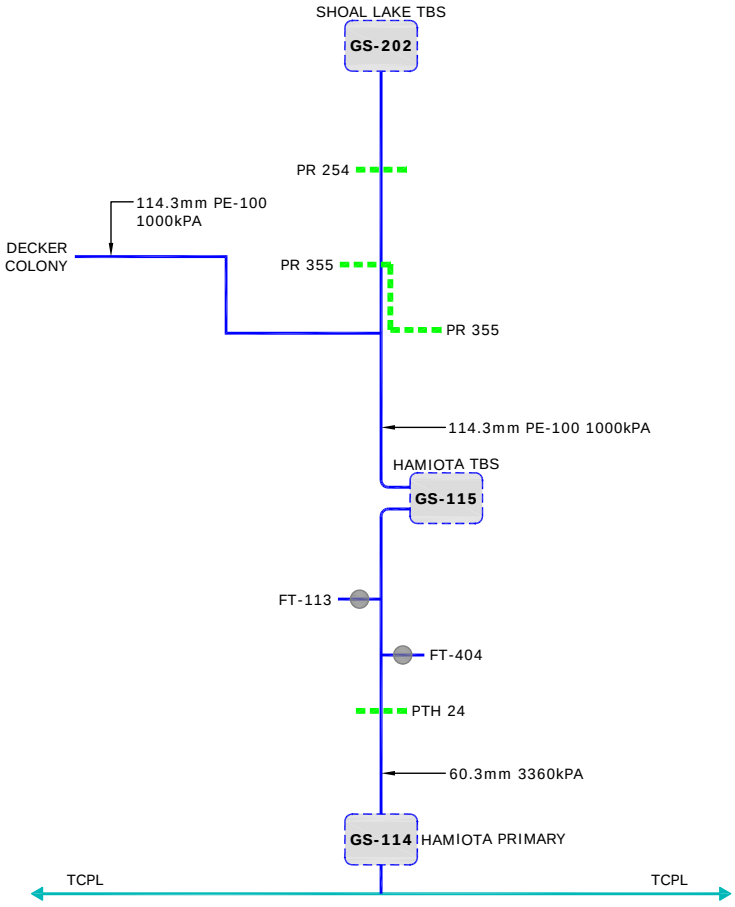
# GLADSTONE - AUSTIN

## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2016-08 | UPDATED GAS TRANSMISSION | M.A. | C.A. | D.P. | C.A. | 2012-01 | **1-T0000-GA-91110-0004** | 0001 OF 1 | 01 |

**LEGEND**

- GATE STATION
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- ROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-114 | HAMIOTA PRIMARY GATE STATION, SW-29-13-23-W, FROM PTH 1, NORTH 13 MILES (21km) ON PTH 10, ON EAST SIDE OF ROAD |
| GS-115 | HAMIOTA TBS, IN HAMIOTA AT JCT OF FIRST ST (PTH 21) AND SPRUCE AVE |
| GS-202 | SHOAL LAKE TBS, SW-4-17-23-W, IN SHOAL LAKE, SCOTTS AVE (PTH 21), 900m SOUTH OF 1 AVE, ON EAST SIDE OF STREET |

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2017-09 | ADDED LINE TO DECKER COLONY | C.A. | A.A. | L.G. |

GAS PIPELINE SCHEMATICS

**HAMIOTA**

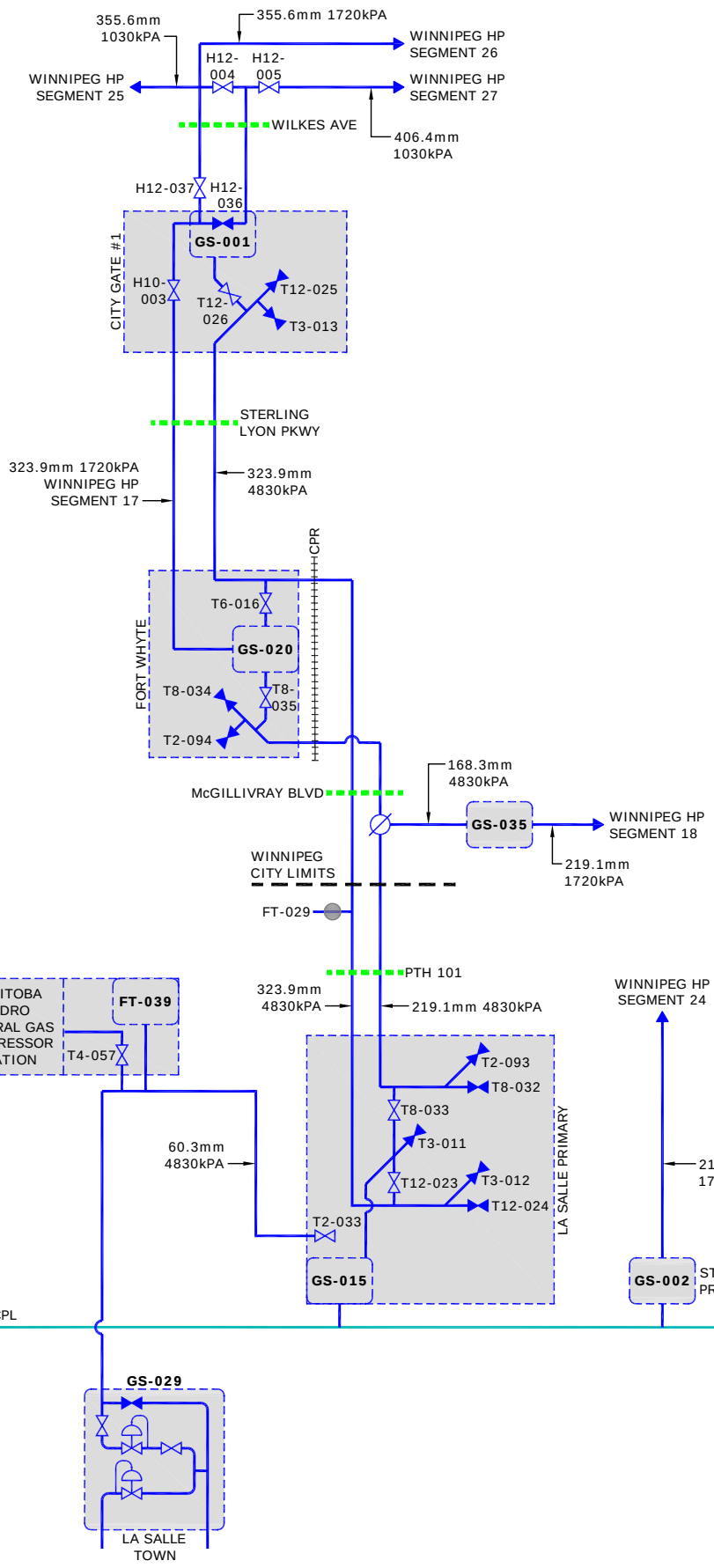
**GAS PIPELINE SCHEMATIC**

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | **1-T0000-GA-91110-0005** | 0001 OF 1 | 01 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- ROAD
- RAILROAD

SEE WINNIPEG HP SEGMENTATION VALVE BOOK FOR GREATER DETAIL FOR HP SEGMENTS: 18, 24, 25, 26 & 27.




| GATE STATION | DESCRIPTION |
|---|---|
| GS-001 | CITY GATE #1, 1284 WILKES AVE |
| GS-002 | ST. NORBERT PRIMARY GATE STATION, SOUTH OF ST. NORBERT ON PTH 75, 1.6km SOUTH OF TURNBULL DR ON WEST SIDE |
| GS-015 | LASALLE PRIMARY GATE STATION, SW-23-9-2-E, FROM JCT OF PTH 100 (PERIMETER) AND PR 330, STRAIGHT SOUTH 1.3km, ON THE EAST SIDE OF ROAD |
| GS-020 | FORT WHYTE GATE STATION, 700m NORTH OF MCGILLIVRAY BLVD ON WEST SIDE OF CNR ROW, 900m WEST OF KENASTON |
| GS-029 | LASALLE GATE STATION, SE-4-9-2-E, APPROX. 1.2km NORTH OF LASALLE ON PR 330 TO SECTION ROAD, ON THE WEST SIDE OF ROAD |
| GS-035 | ON EAST SIDE OF BRADY RD, 1.3km SOUTH OF FLEETWOOD RD |
| FT-039 | 1.1km SOUTH OF PTH 101 (SOUTH PERIMETER) ON EAST SIDE OF PR 330 (LA SALLE TANK SITE) |

| VALVE | DESCRIPTION |
|---|---|
| T2-033<br>T2-093<br>T3-011<br>T3-012<br>T8-032<br>T8-033<br>T12-023<br>T12-024 | AT GS-015, LASALLE PRIMARY |
| T2-094<br>T6-016<br>T8-034<br>T8-035 | AT GS-020, FORT WHYTE |
| T3-013<br>T12-025<br>T12-026<br>H10-003<br>H12-036<br>H12-037 | AT GS-001, CITY GATE #1 |
| T4-057 | AT FT-039 |
| H12-004 | NORTH SIDE OF WILKES AVE AT GS-001 |
| H12-005 | NORTH SIDE OF WILKES AVE AT GS-001 |

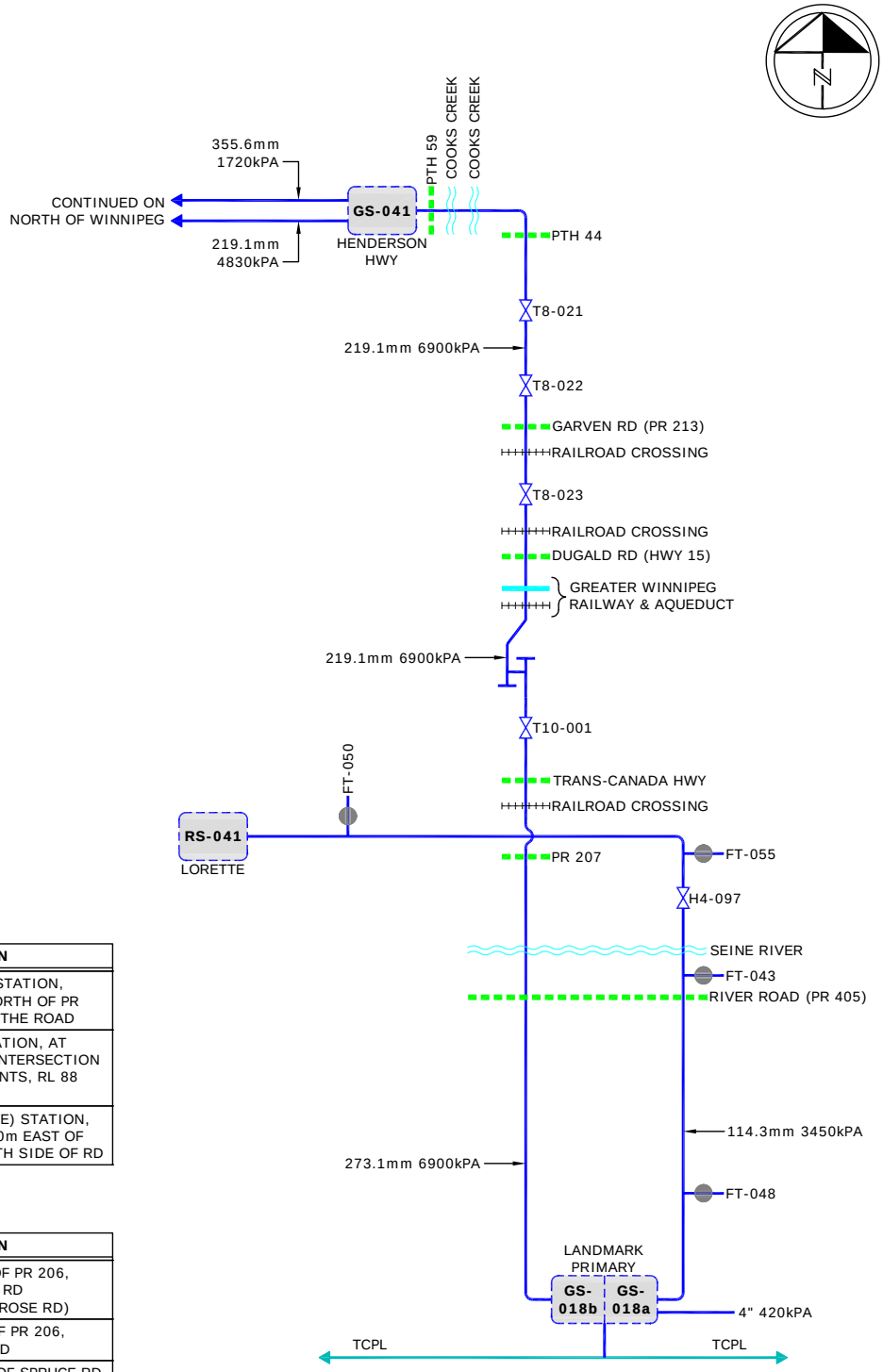
| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2017-04 | UPDATED SCHEMATIC, TITLE & SHEET SIZE | C.A. | K.M. | K.M. |
| 2 | 2018-02 | ADDED VALVE T8-035 | C.A. | M.B. | K.M. |

**LA SALLE (WINNIPEG) - LA SALLE/ST. NORBERT**
**GAS PIPELINE SCHEMATIC**

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GB-91110-0006 | 0001 OF 1 | 02 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD
- AQUEDUCT




| GATE STATION | DESCRIPTION |
|---|---|
| GS-018a<br>GS-018b | LANDMARK PRIMARY GATE STATION, 35-8-5-E, PR206, 2.2 KM NORTH OF PR 210, ON THE EAST SIDE OF THE ROAD |
| GS-041 | HENDERSON HWY GATE STATION, AT HENDERSON HWY AND NE INTERSECTION OF PR509, RM OF ST CLEMENTS, RL 88 PARISH ST CLEMENTS |
| RS-041 | LORETTE REGULATION (GATE) STATION, FROM LORETTE, PR 207, 680m EAST OF CARSON PARK DR, ON NORTH SIDE OF RD |

| VALVE | DESCRIPTION |
|---|---|
| T8-021 | NE 34-12-5-E, 830M EAST OF PR 206, SOUTH SIDE OF BOUNDARY RD (BETWEEN PTH 44 AND MELROSE RD) |
| T8-022 | NW 3-12-5-E, 560M EAST OF PR 206, SOUTH SIDE OF HILLSIDE RD |
| T8-023 | SE-10-11-5-E, 440M WEST OF SPRUCE RD, ON NORTH SIDE OF CORBETT RD |
| T10-001 | NE 27-9-5-E, 250M WEST OF SPRUCE RD, SOUTH SIDE OF RD 53N |
| H4-097 | 260M NORTH OF SEINE RIVER CROSSING ON PR 206, ON WEST SIDE OF PR 206 |

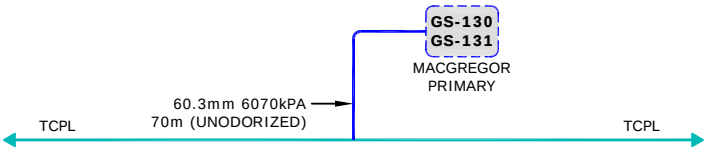
# LANDMARK (SELKIRK GS) - LORETTE
## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2017-04 | UPDATED SCHEMATIC & TTILE | C.A. | K.M. | K.M. |
| 2 | 2017-09 | UPDATED SCHEMATIC | C.A. | P.R. | L.G. |

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0007 | 0001 OF 1 | 02 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-130<br>GS-131 | MACGREGOR PRIMARY GATE STATION, MACGREGOR TBS, (ONE LOCATION, ONE FACILITY) NW-28-11-10-W, FROM THE WEST SIDE OF MACGREGOR, ON SECTION ROAD 1.2km SOUTH OF RAILWAY TRACKS, ON EAST SIDE OF ROAD |

TITLE

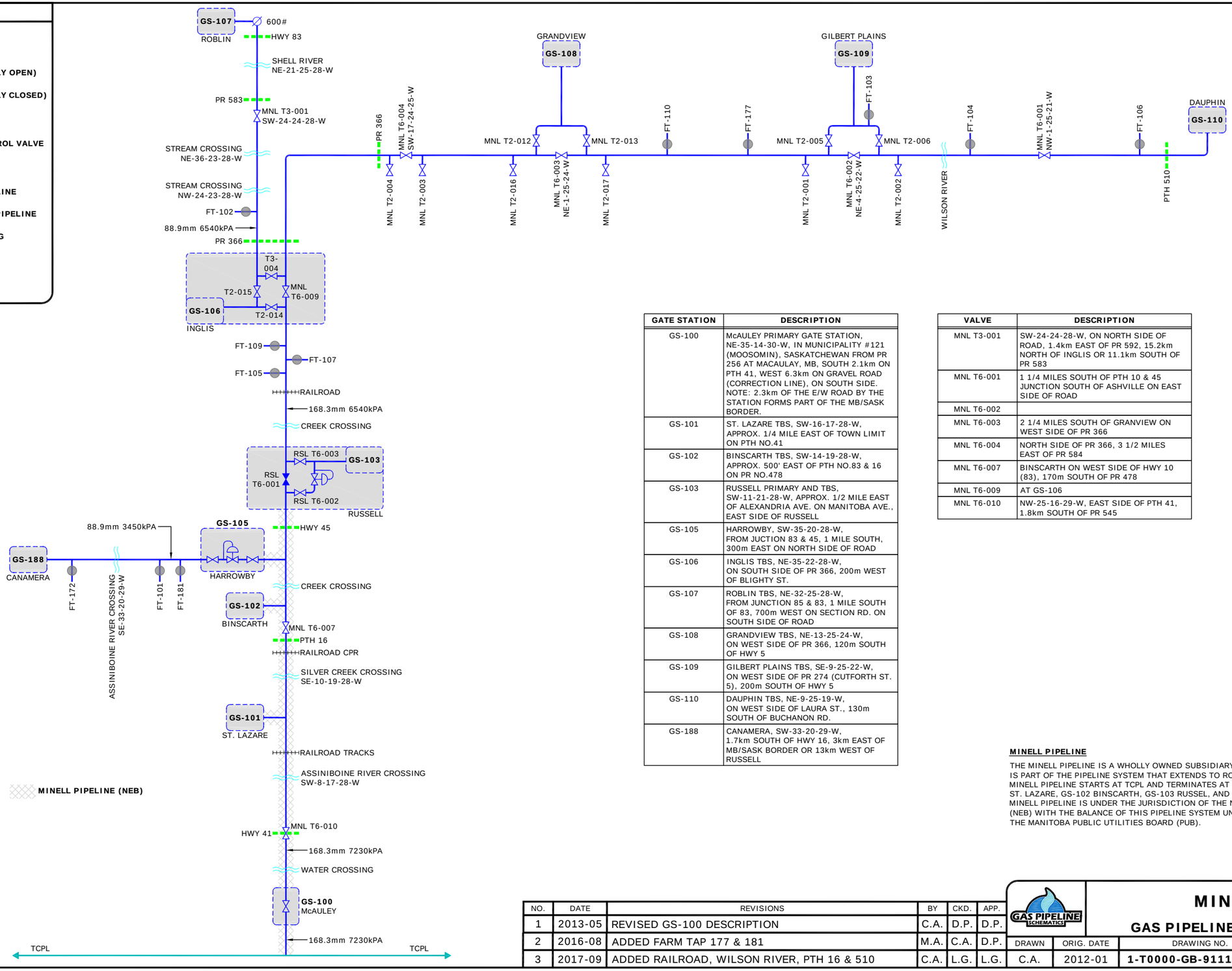
# MACGREGOR

## GAS PIPELINE SCHEMATIC

| DRAWN | DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0008 | 0001 OF 1 | 00 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-100 | McAULEY PRIMARY GATE STATION, NE-35-14-30-W, IN MUNICIPALITY #121 (MOOSOMIN), SASKATCHEWAN FROM PR 256 AT MACAULAY, MB, SOUTH 2.1km ON PTH 41, WEST 6.3km ON GRAVEL ROAD (CORRECTION LINE), ON SOUTH SIDE. NOTE: 2.3km OF THE E/W ROAD BY THE STATION FORMS PART OF THE MB/SASK BORDER. |
| GS-101 | ST. LAZARE TBS, SW-16-17-28-W, APPROX. 1/4 MILE EAST OF TOWN LIMIT ON PTH NO.41 |
| GS-102 | BINSCARTH TBS, SW-14-19-28-W, APPROX. 500' EAST OF PTH NO.83 & 16 ON PR NO.478 |
| GS-103 | RUSSELL PRIMARY AND TBS, SW-11-21-28-W, APPROX. 1/2 MILE EAST OF ALEXANDRIA AVE. ON MANITOBA AVE., EAST SIDE OF RUSSELL |
| GS-105 | HARROWBY, SW-35-20-28-W, FROM JUCTION 83 & 45, 1 MILE SOUTH, 300m EAST ON NORTH SIDE OF ROAD |
| GS-106 | INGLIS TBS, NE-35-22-28-W, ON SOUTH SIDE OF PR 366, 200m WEST OF BLIGHTY ST. |
| GS-107 | ROBLIN TBS, NE-32-25-28-W, FROM JUNCTION 85 & 83, 1 MILE SOUTH OF 83, 700m WEST ON SECTION RD. ON SOUTH SIDE OF ROAD |
| GS-108 | GRANDVIEW TBS, NE-13-25-24-W, ON WEST SIDE OF PR 366, 120m SOUTH OF HWY 5 |
| GS-109 | GILBERT PLAINS TBS, SE-9-25-22-W, ON WEST SIDE OF PR 274 (CUTFORTH ST. 5), 200m SOUTH OF HWY 5 |
| GS-110 | DAUPHIN TBS, NE-9-25-19-W, ON WEST SIDE OF LAURA ST., 130m SOUTH OF BUCHANON RD. |
| GS-188 | CANAMERA, SW-33-20-29-W, 1.7km SOUTH OF HWY 16, 3km EAST OF MB/SASK BORDER OR 13km WEST OF RUSSELL |

| VALVE | DESCRIPTION |
|---|---|
| MNL T3-001 | SW-24-24-28-W, ON NORTH SIDE OF ROAD, 1.4km EAST OF PR 592, 15.2km NORTH OF INGLIS OR 11.1km SOUTH OF PR 583 |
| MNL T6-001 | 1 1/4 MILES SOUTH OF PTH 10 & 45 JUNCTION SOUTH OF ASHVILLE ON EAST SIDE OF ROAD |
| MNL T6-002 | |
| MNL T6-003 | 2 1/4 MILES SOUTH OF GRANVIEW ON WEST SIDE OF PR 366 |
| MNL T6-004 | NORTH SIDE OF PR 366, 3 1/2 MILES EAST OF PR 584 |
| MNL T6-007 | BINSCARTH ON WEST SIDE OF HWY 10 (83), 170m SOUTH OF PR 478 |
| MNL T6-009 | AT GS-106 |
| MNL T6-010 | NW-25-16-29-W, EAST SIDE OF PTH 41, 1.8km SOUTH OF PR 545 |

**MINELL PIPELINE**

THE MINELL PIPELINE IS A WHOLLY OWNED SUBSIDIARY OF MANITOBA HYDRO AND IS PART OF THE PIPELINE SYSTEM THAT EXTENDS TO ROBLIN AND DAUPHIN. THE MINELL PIPELINE STARTS AT TCPL AND TERMINATES AT THE INLET VALVE AT GS-101 ST. LAZARE, GS-102 BINSCARTH, GS-103 RUSSEL, AND GS-105 HARROWBY. THE MINELL PIPELINE IS UNDER THE JURISDICTION OF THE NATIONAL ENERGY BOARD (NEB) WITH THE BALANCE OF THIS PIPELINE SYSTEM UNDER THE JURISDICTION OF THE MANITOBA PUBLIC UTILITIES BOARD (PUB).

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2013-05 | REVISED GS-100 DESCRIPTION | C.A. | D.P. | D.P. |
| 2 | 2016-08 | ADDED FARM TAP 177 & 181 | M.A. | C.A. | D.P. |
| 3 | 2017-09 | ADDED RAILROAD, WILSON RIVER, PTH 16 & 510 | C.A. | L.G. | L.G. |

GAS PIPELINE SCHEMATICS

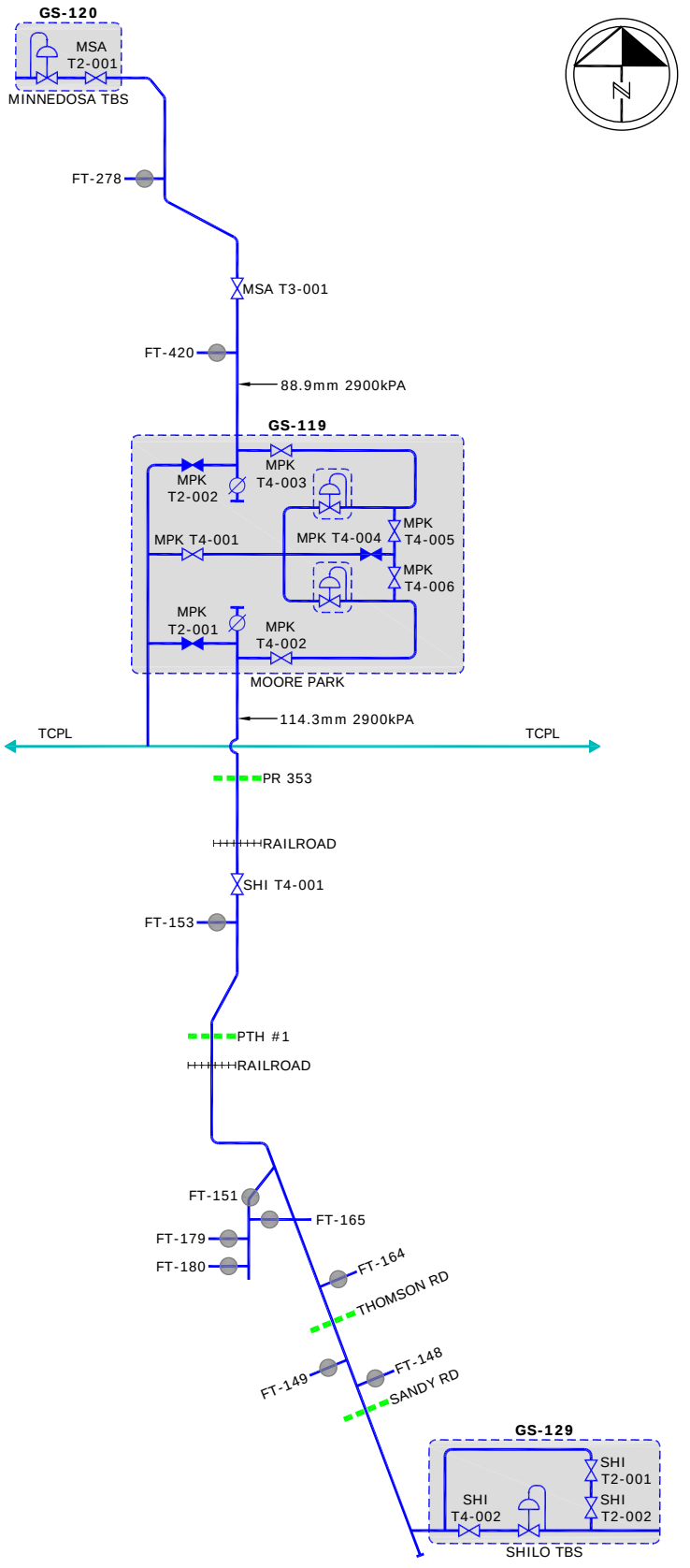
# MINELL

## GAS PIPELINE SCHEMATIC

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GB-91110-0009 | 0001 OF 1 | 03 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- ROAD
- RAILROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-119 | MOORE PARK PRIMARY GATE STATION & ODORIZATION, NE-31-12-17-W, 1km SOUTH OF MOORE PARK, FROM PTH 1, NORTH 11 MILES ON PTH 10, EAST 7 MILES ON PR 353, NORTH 0.8 km, ON WEST SIDE OF ROAD |
| GS-120 | MINNEDOSA TBS, NW-35-14-18-W, ON SOUTH SIDE OF MINNEDOSA AT 9 AVE SW AND 1 ST, ON THE SOUTH SIDE OF 9 AVE SW |
| GS-129 | SHILO TBS, NW-12-10-17-W, FROM PTH 1, 10.3km SOUTH ON PR 340, ON THE WEST SIDE OF THE ROAD, ON THE NW SIDE THE TOWN OF SHILO |

| VALVE | DESCRIPTION |
|---|---|
| MSA T2-001 | AT GS-120, MINNEDOSA TBS |
| MSA T3-001 | NE-6-14-17-W, FROM MOORE PARK, 7.5 MILES NORTH ON PR 368 MILES (2 MILES NORTH OF PR 466), 100m WEST, ON SOUTH SIDE OF THE ROAD |
| MPK T2-001<br>MPK T2-002<br>MPK T4-001<br>MPK T4-002<br>MPK T4-003<br>MPK T4-004<br>MPK T4-005<br>MPK T4-006 | AT GS-119, MOORE PARK PRIMARY STATION |
| SHI T2-001<br>SHI T2-002<br>SHI T4-002 | AT GS-129, SHILO TBS |
| SHI T4-001 | 31-11-17-W, ON ELTON RD |

# MINNEDOSA - SHILO

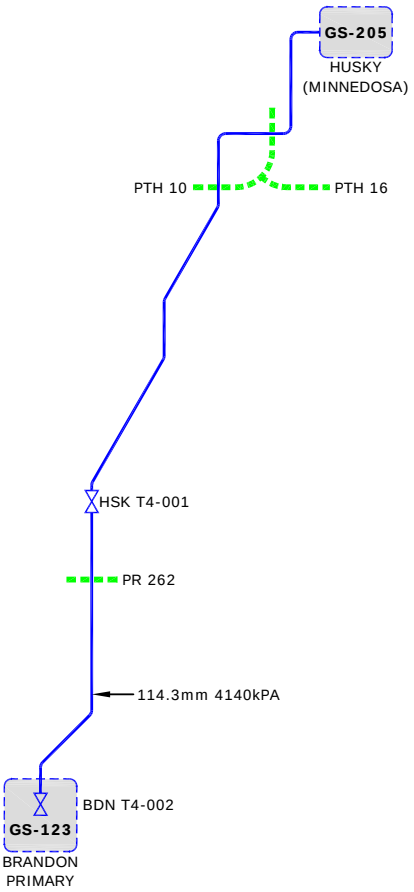
## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2016-11 | ADDED VALVE SHI T4-001 | C.A. | M.B. | |
| 2 | 2017-09 | ADDED FT-179,180,420 | C.A. | L.C. | L.G. |

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0010 | 0001 OF 1 | 02 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-123 | BRANDON PRIMARY GATE STATION & ODORIZATION, NW-6-13-18-W, FROM PTH 1, NORTH 13 MILES (21km) ON PTH 10, ON EAST SIDE OF ROAD |
| GS-205 | HUSKY STATION, NW-3-15-18-W, FROM PTH 16(10), 185m EAST ON PR 355 (6TH AVE NW), 90m SOUTH ON 1 AVE, ON THE SOUTH SIDE OF THE ROAD |

| VALVE | DESCRIPTION |
|---|---|
| HSK T4-001 | NW-5-14-18-W, FROM JCT OF PTH 10 AND PR 262, NORTH 3 MILES ON PTH 10, EAST 1 MILE, ON THE SOUTH SIDE OF THE ROAD |

GAS PIPELINE SCHEMATICS

TITLE

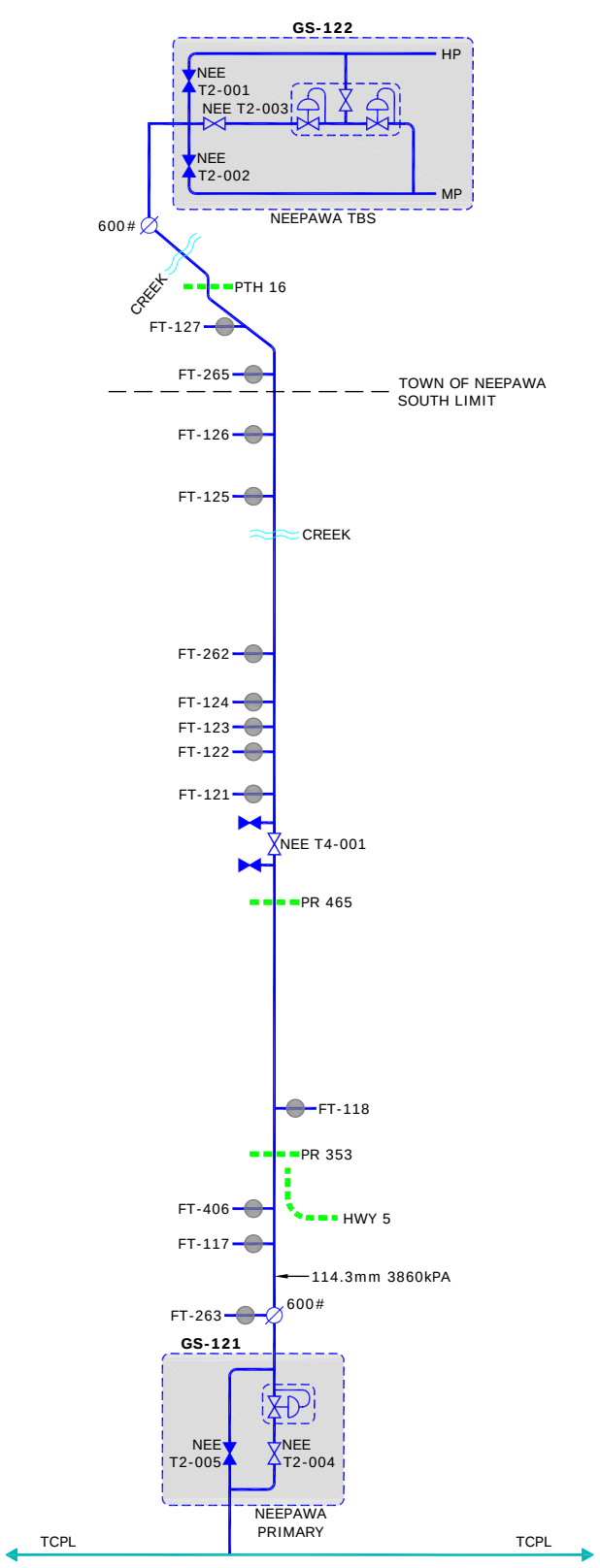
# MINNEDOSA (ETHANOL PLANT)

## GAS PIPELINE SCHEMATIC

| DRAWN | DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0011 | 0001 OF 1 | 00 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-121 | NEEPAWA PRIMARY GATE STATION & ODORIZATION, SE-21-12-15-W, FROM PTH 1, APPROX 13 MILES NORTH ON PTH 5, ONE MILE SOUTH AT CURVE WHERE PTH TURNS E-W TO N-S, 22.3km (14 MILES) SOUTH OF NEEPAWA |
| GS-122 | NEEPAWA TBS, SE-33-14-15-W, NEEPAWA, FROM PTH 16, NORTH ON WALKER AVE TO ELLEN ST, EAST ON ELLEN TO TUPPER AVE, ON THE EAST SIDE OF TUPPER AVE |

| VALVE | DESCRIPTION |
|---|---|
| NEE T2-001<br>NEE T2-002<br>NEE T2-003 | AT GS-122, NEEPAWA TBS |
| NEE T2-004<br>NEE T2-005 | AT GS-121, NEEPAWA PRIMARY STATION |
| NEE T4-001 | SE-28-13-15-W, FROM PTH 16, SOUTH 7 MILES ON PTH 5, ON THE WEST SIDE OF THE ROAD |

GAS PIPELINE SCHEMATICS

# NEEPAWA

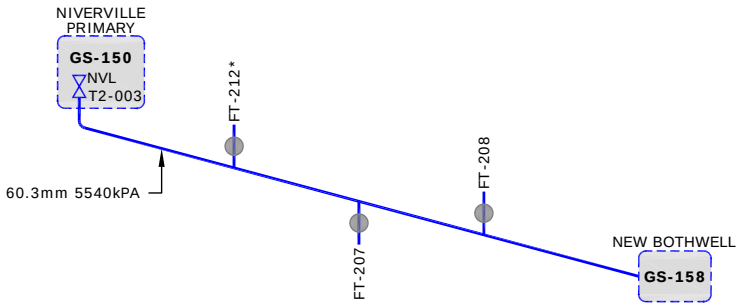
## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017-09 | ADDED CREEK AND VALVES | C.A. | G.B. | L.G. | C.A. | 2012-01 | 1-T0000-GA-91110-0012 | 0001 OF 1 | 01 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- FARM TAP

*** TO BE REMOVED**




| GATE STATION | DESCRIPTION |
|---|---|
| GS-150 | NIVERVILLE PRIMARY GATE STATION, NE-29-7-4-E, NIVERVILLE MAIN STREET (PR 311), 1 MILE EAST ON SOUTH SIDE OF ROAD (OR PR 311, 1 MILE WEST OF PTH 59) |
| GS-158 | NEW BOTHWELL GATE STATION, SE-30-7-5-E, MAIN STREET (PR 216), 300m NORTH OF CROWN VALLEY RD, ON WEST SIDE |

| VALVE | DESCRIPTION |
|---|---|
| NVL T2-003 | IN NIVERVILLE PRIMARY STATION |

**NIVERVILLE**

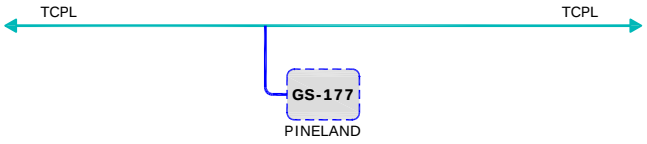
**GAS PIPELINE SCHEMATIC**

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017-09 | FT-212 TO BE REMOVED | C.A. | A.G. | L.G. | C.A. | 2012-01 | **1-T0000-GA-91110-0013** | 0001 OF 1 | 01 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD

| GATE STATION | DESCRIPTION |
|---|---|
| GS-177 | PINELAND PRIMARY GATE STATION, NE-9-8-12-E, FROM JCT OF PTH 1 AND PTH 11 (HADASHVILLE), 1.2km EAST ON PTH 1, SOUTH 350m, WEST 400m, ON SOUTH SIDE |

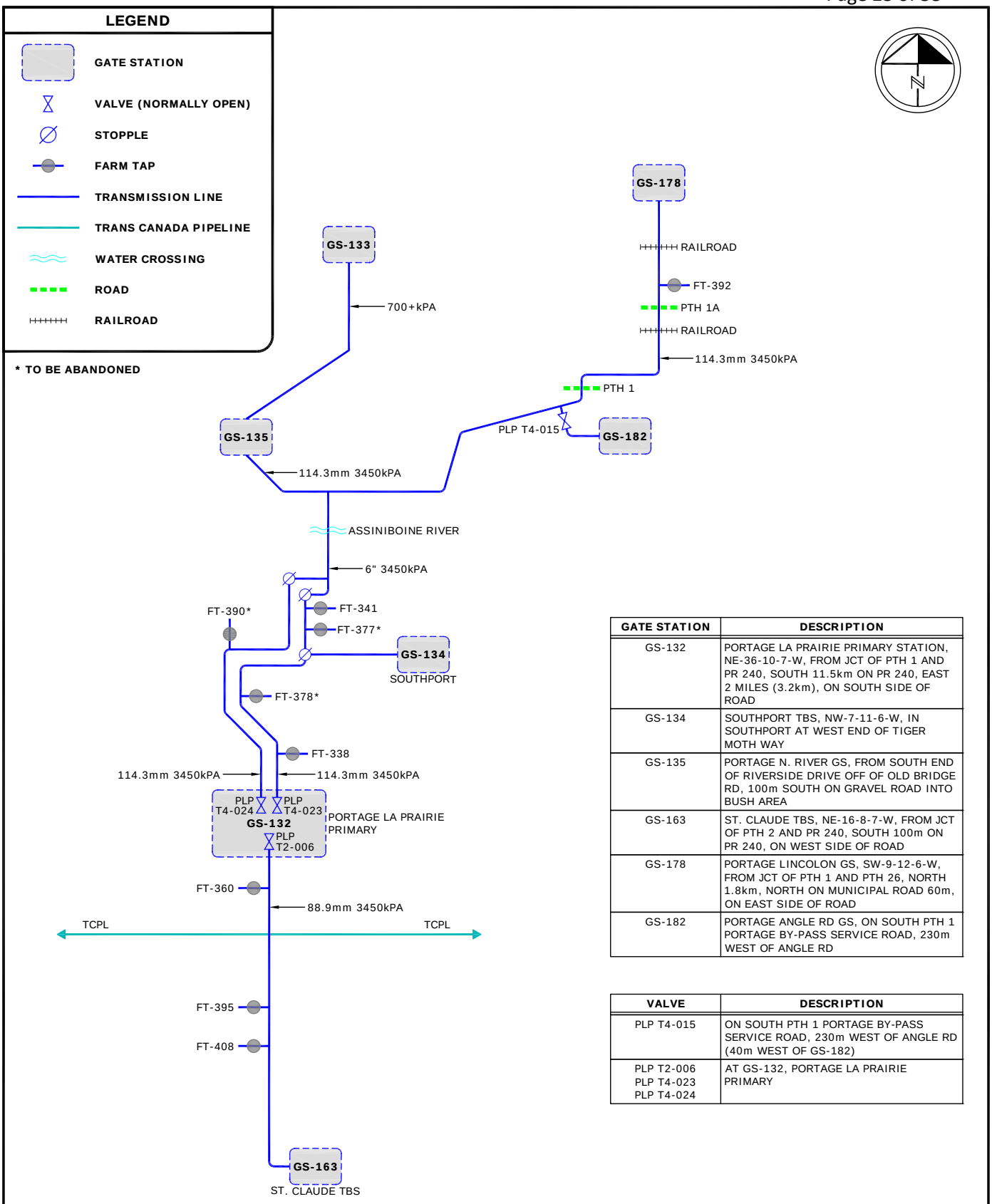



TITLE

# PINELAND

## GAS PIPELINE SCHEMATIC

| DRAWN | DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0014 | 0001 OF 1 | 00 |




| GATE STATION | DESCRIPTION |
|---|---|
| GS-132 | PORTAGE LA PRAIRIE PRIMARY STATION, NE-36-10-7-W, FROM JCT OF PTH 1 AND PR 240, SOUTH 11.5km ON PR 240, EAST 2 MILES (3.2km), ON SOUTH SIDE OF ROAD |
| GS-134 | SOUTHPORT TBS, NW-7-11-6-W, IN SOUTHPORT AT WEST END OF TIGER MOTH WAY |
| GS-135 | PORTAGE N. RIVER GS, FROM SOUTH END OF RIVERSIDE DRIVE OFF OF OLD BRIDGE RD, 100m SOUTH ON GRAVEL ROAD INTO BUSH AREA |
| GS-163 | ST. CLAUDE TBS, NE-16-8-7-W, FROM JCT OF PTH 2 AND PR 240, SOUTH 100m ON PR 240, ON WEST SIDE OF ROAD |
| GS-178 | PORTAGE LINCOLON GS, SW-9-12-6-W, FROM JCT OF PTH 1 AND PTH 26, NORTH 1.8km, NORTH ON MUNICIPAL ROAD 60m, ON EAST SIDE OF ROAD |
| GS-182 | PORTAGE ANGLE RD GS, ON SOUTH PTH 1 PORTAGE BY-PASS SERVICE ROAD, 230m WEST OF ANGLE RD |

| VALVE | DESCRIPTION |
|---|---|
| PLP T4-015 | ON SOUTH PTH 1 PORTAGE BY-PASS SERVICE ROAD, 230m WEST OF ANGLE RD (40m WEST OF GS-182) |
| PLP T2-006<br>PLP T4-023<br>PLP T4-024 | AT GS-132, PORTAGE LA PRAIRIE PRIMARY |

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2016-08 | ADDED FARM TAP 408 | M.A. | C.A. | D.P. |
| 2 | 2017-09 | ADDED GS-133 & FT-377, ABANDONED FT-390,378,377 | C.A. | A.A. | L.G. |

GAS PIPELINE SCHEMATICS

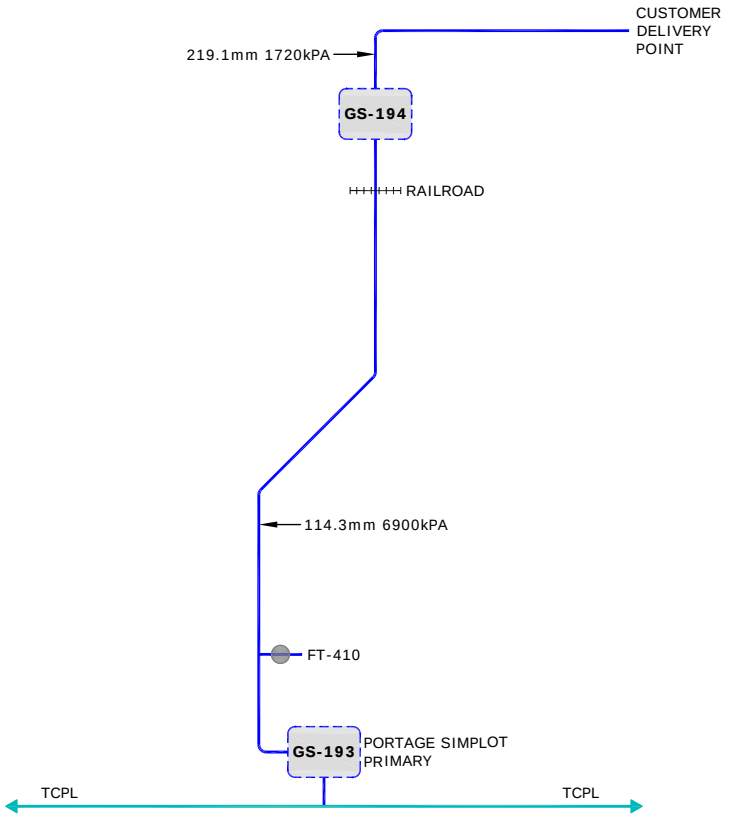
# PORTAGE LA PRAIRIE

## GAS PIPELINE SCHEMATIC

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0015 | 0001 OF 1 | 02 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-193 | PORTAGE SIMPLOT PRIMARY STATION, NW-6-11-7-W, FROM WEST PORTAGE PTH 1 AND PTH 1A JCT, 3.2km WEST ON PTH 1, SOUTH ON MUNRO RD 8.6m, ON EAST SIDE OF ROAD |
| GS-194 | PORTAGE SIMPLOT GATE STATION, NW-32-11-7-W, FROM WEST PORTAGE PTH 1 AND PTH 1A JCT, 1.6km WEST ON PTH 1, SOUTH ON SIMPSON ROAD 460m, ON EAST SIDE OF ROAD |

GAS PIPELINE SCHEMATICS

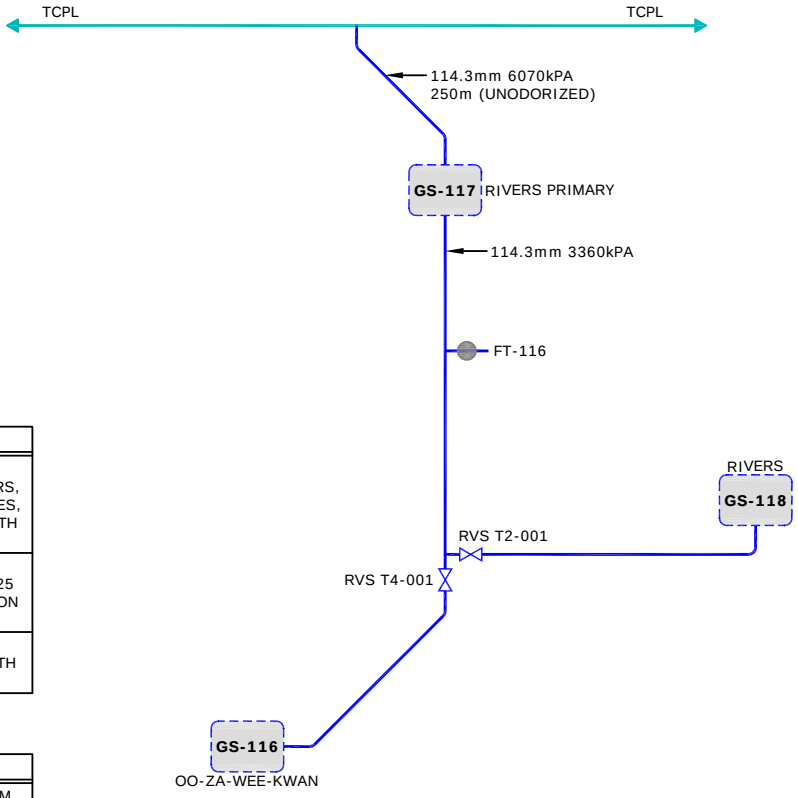
TITLE
# PORTAGE LA PRAIRIE WEST
## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2016-08 | ADDED FARM TAP 410 | M.A. | C.A. | D.P. |

| DRAWN | DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0016 | 0001 OF 1 | 01 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-117 | RIVERS PRIMARY GATE STATION, SW-15-13-21-W, FROM TOWN OF RIVERS, WEST 1 MILE ON PTH 25, NORTH 4 MILES, EAST 90m ON SECTION ROAD, ON NORTH SIDE |
| GS-118 | RIVER TBS, SE-27-12-21-W, ON WEST SIDE OF RIVERS 325m NORTH OF PTH 25 AT JCT OF SECTION ROAD AND 4 AVE, ON THE WEST SIDE OF SECTION ROAD |
| GS-116 | OO-ZA-WEE-KWAN, NW-16-12-21-W, FROM JCT OF PTH 25 AND PR 259, SOUTH 430m, ON EAST SIDE OF ROAD |

| VALVE | DESCRIPTION |
|---|---|
| RVS T2-001<br>RVS T4-001 | SW-27-12-21-W, WEST OF RIVERS FROM JCT OF PTH 25 AND PR 250, 250m NORTH ON EAST SIDE OF SECTION ROAD |

GAS PIPELINE SCHEMATICS

TITLE

# RIVERS

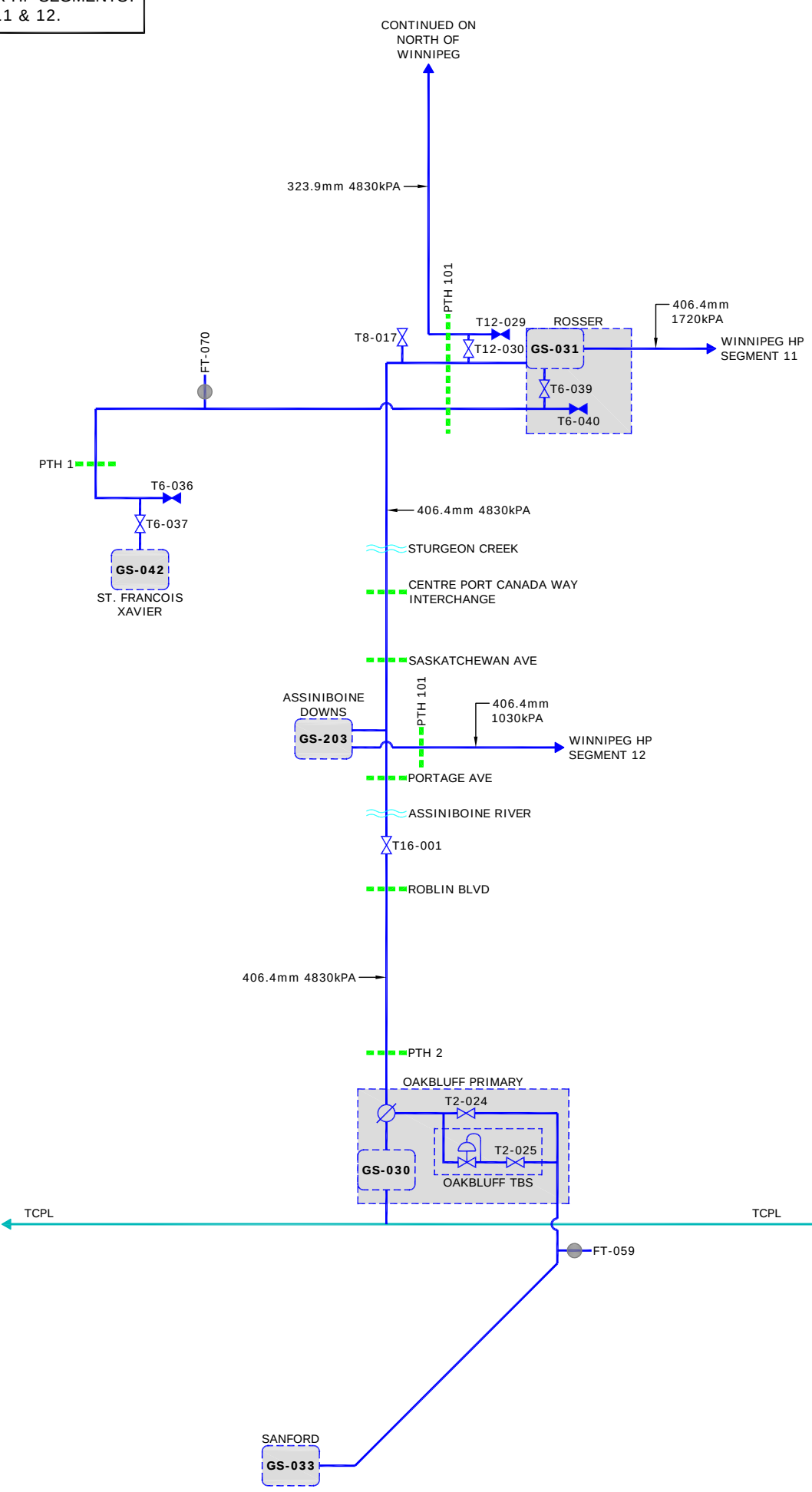
## GAS PIPELINE SCHEMATIC

| DRAWN | DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0017 | 0001 OF 1 | 00 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD

SEE WINNIPEG HP SEGMENTATION VALVE BOOK FOR HP SEGMENTS: 11 & 12.



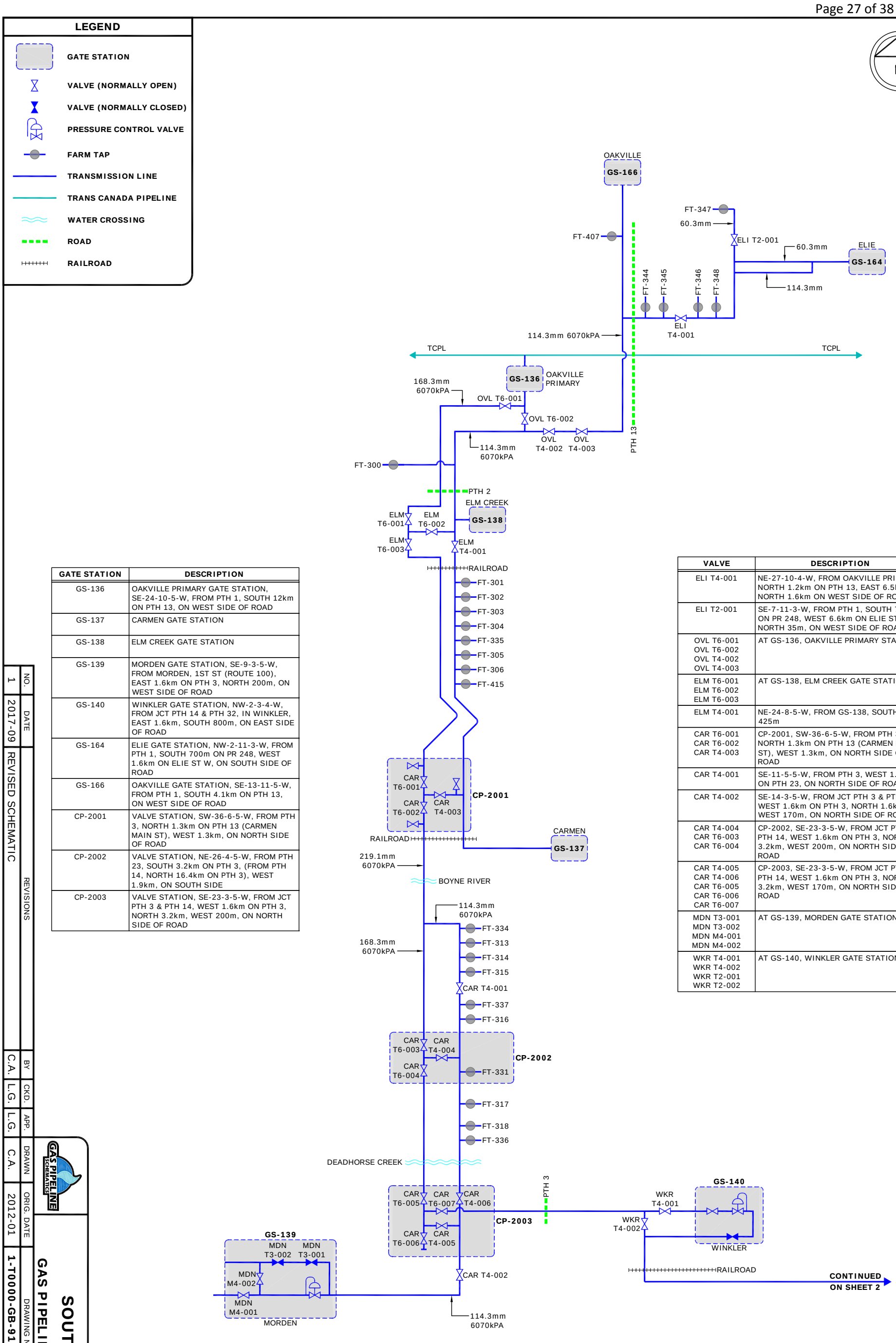

| GATE STATION | DESCRIPTION |
|---|---|
| GS-030 | OAK BLUFF PRIMARY GATE STATION, OAK BLUFF GATE STATION, NE-23-9-1-E, FROM JCT PTH 101 AND PTH 2, WEST 2.3km ON PTH 2, SOUTH 100m, ON WEST SIDE OF ROAD |
| GS-031 | ROSSER GATE STATION, ON SELKIRK AVE NORTH SIDE, 570m EAST OF PTH 101 (WEST PERIMETER) |
| GS-033 | SANFORD TBS, NE-29-8-1-E, FROM JCT OF PTH 3, PR 247 AND VERLIE RD, WEST ON VERLIE RD 70m, ON THE NORTH SIDE OF THE ROAD |
| GS-042 | ST. FRANCOIS XAVIER GATE STATION, ON SOUTH SIDE OF PTH 1, 1.7km EAST OF PTH 26 |
| GS-203 | ASSINIBOINE DOWNS GATE STATION, ON SOUTHWEST CORNER OF PTH 101 (WEST PERIMETER) AND SASKATCHEWAN AVE |

| VALVE | DESCRIPTION |
|---|---|
| T2-024<br>T2-025 | AT GS-030, OAKBLUFF PRIMARY |
| T6-036<br>T6-037 | AT GS-042, ST. FRANCOIS XAVIER |
| T6-039<br>T6-040<br>T12-029<br>T12-030 | AT GS-031, ROSSER |
| T8-017 | ON SELKIRK AVE NORTH SIDE, IN WEST PTH 101 (WEST PERIMETER) DITCH |
| T16-001 | 50m SOUTH OF ASSINIBOINE RIVER AND 40m WEST OF PTH 101 (WEST PERIMETER) |

GAS PIPELINE SCHEMATICS

# OAKBLUFF (WINNIPEG) - SANFORD
## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017-04 | UPDATED SCHEMATIC, TITLE & SHEET SIZE | C.A. | K.M. | K.M. | C.A. | 2012-01 | **1-T0000-GB-91110-0018** | 0001 OF 1 | 01 |




| GATE STATION | DESCRIPTION |
|---|---|
| GS-136 | OAKVILLE PRIMARY GATE STATION, SE-24-10-5-W, FROM PTH 1, SOUTH 12km ON PTH 13, ON WEST SIDE OF ROAD |
| GS-137 | CARMEN GATE STATION |
| GS-138 | ELM CREEK GATE STATION |
| GS-139 | MORDEN GATE STATION, SE-9-3-5-W, FROM MORDEN, 1ST ST (ROUTE 100), EAST 1.6km ON PTH 3, NORTH 200m, ON WEST SIDE OF ROAD |
| GS-140 | WINKLER GATE STATION, NW-2-3-4-W, FROM JCT PTH 14 & PTH 32, IN WINKLER, EAST 1.6km, SOUTH 800m, ON EAST SIDE OF ROAD |
| GS-164 | ELIE GATE STATION, NW-2-11-3-W, FROM PTH 1, SOUTH 700m ON PR 248, WEST 1.6km ON ELIE ST W, ON SOUTH SIDE OF ROAD |
| GS-166 | OAKVILLE GATE STATION, SE-13-11-5-W, FROM PTH 1, SOUTH 4.1km ON PTH 13, ON WEST SIDE OF ROAD |
| CP-2001 | VALVE STATION, SW-36-6-5-W, FROM PTH 3, NORTH 1.3km ON PTH 13 (CARMEN MAIN ST), WEST 1.3km, ON NORTH SIDE OF ROAD |
| CP-2002 | VALVE STATION, NE-26-4-5-W, FROM PTH 23, SOUTH 3.2km ON PTH 3, (FROM PTH 14, NORTH 16.4km ON PTH 3), WEST 1.9km, ON SOUTH SIDE |
| CP-2003 | VALVE STATION, SE-23-3-5-W, FROM JCT PTH 3 & PTH 14, WEST 1.6km ON PTH 3, NORTH 3.2km, WEST 200m, ON NORTH SIDE OF ROAD |

| VALVE | DESCRIPTION |
|---|---|
| ELI T4-001 | NE-27-10-4-W, FROM OAKVILLE PRIMARY, NORTH 1.2km ON PTH 13, EAST 6.5km, NORTH 1.6km ON WEST SIDE OF ROAD |
| ELI T2-001 | SE-7-11-3-W, FROM PTH 1, SOUTH 700m ON PR 248, WEST 6.6km ON ELIE ST W, NORTH 35m, ON WEST SIDE OF ROAD |
| OVL T6-001<br>OVL T6-002<br>OVL T4-002<br>OVL T4-003 | AT GS-136, OAKVILLE PRIMARY STATION |
| ELM T6-001<br>ELM T6-002<br>ELM T6-003 | AT GS-138, ELM CREEK GATE STATION |
| ELM T4-001 | NE-24-8-5-W, FROM GS-138, SOUTH 425m |
| CAR T6-001<br>CAR T6-002<br>CAR T4-003 | CP-2001, SW-36-6-5-W, FROM PTH 3, NORTH 1.3km ON PTH 13 (CARMEN MAIN ST), WEST 1.3km, ON NORTH SIDE OF ROAD |
| CAR T4-001 | SE-11-5-5-W, FROM PTH 3, WEST 1.9km ON PTH 23, ON NORTH SIDE OF ROAD |
| CAR T4-002 | SE-14-3-5-W, FROM JCT PTH 3 & PTH 14, WEST 1.6km ON PTH 3, NORTH 1.6km, WEST 170m, ON NORTH SIDE OF ROAD |
| CAR T4-004<br>CAR T6-003<br>CAR T6-004 | CP-2002, SE-23-3-5-W, FROM JCT PTH 3 & PTH 14, WEST 1.6km ON PTH 3, NORTH 3.2km, WEST 200m, ON NORTH SIDE OF ROAD |
| CAR T4-005<br>CAR T4-006<br>CAR T6-005<br>CAR T6-006<br>CAR T6-007 | CP-2003, SE-23-3-5-W, FROM JCT PTH 3 & PTH 14, WEST 1.6km ON PTH 3, NORTH 3.2km, WEST 170m, ON NORTH SIDE OF ROAD |
| MDN T3-001<br>MDN T3-002<br>MDN M4-001<br>MDN M4-002 | AT GS-139, MORDEN GATE STATION |
| WKR T4-001<br>WKR T4-002<br>WKR T2-001<br>WKR T2-002 | AT GS-140, WINKLER GATE STATION |

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017-09 | REVISED SCHEMATIC | C.A. | L.G. | L.G. | C.A. | 2012-01 | 1-T0000-GB-91110-0019 | 0001 OF 2 | 01 |

GAS PIPELINE SCHEMATICS

# SOUTH LOOP

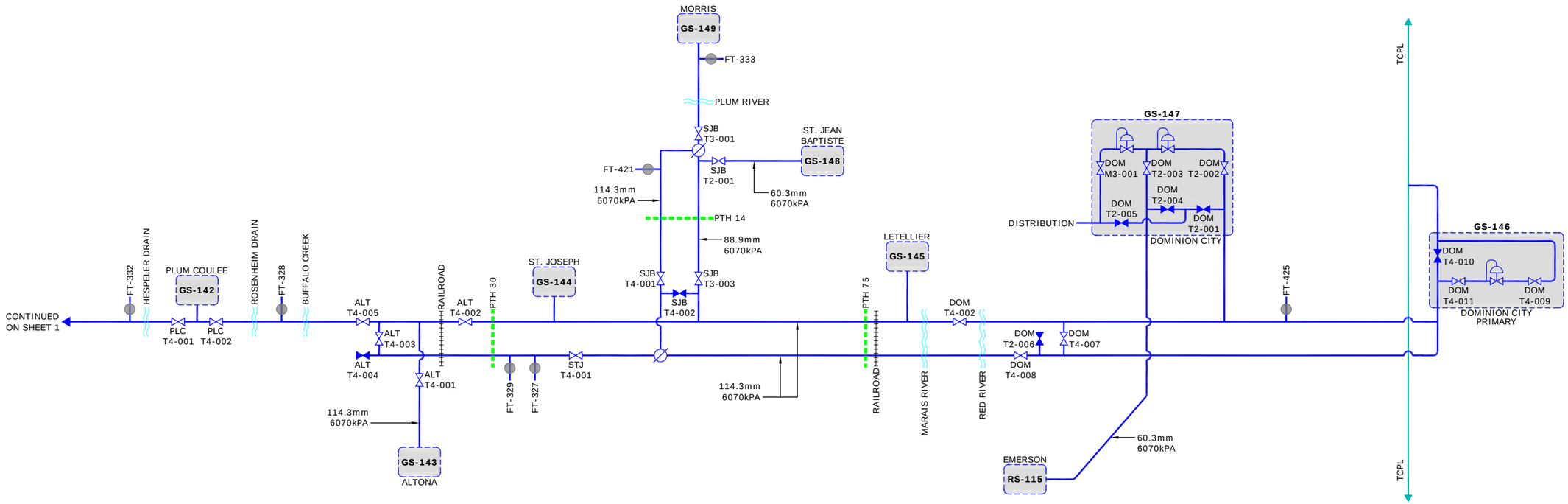
## GAS PIPELINE SCHEMATIC

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD

| GATE STATION | DESCRIPTION |
|---|---|
| GS-142 | PLUM COULEE GATE STATION, SE-2-3-3-W, FROM PTH 13, SOUTH 550m ON PR 306, ON WEST SIDE OF ROAD |
| GS-143 | ALTONA GATE STATION, NW-8-2-1-W, FROM PTH 30, WEST 1.3km ON PR 201 (CENTRE AVE), NORTH 800m ON 5 ST NW, EAST 200m ON 10 AVE NW, ON NORTH SIDE OF ROAD |
| GS-144 | ST. JOSEPH GATE STATION, NE-16-2-1-E, FROM PTH 75, WEST 6.1km ON PR 201, SOUTH 200m, ON WEST SIDE OF ROAD |
| GS-145 | LETELLIER GATE STATION, SW-20-2-2-E, FROM PTH 75, EAST 470m ON PR 201, ON NORTH SIDE OF ROAD |
| GS-146 | DOMINION CITY PRIMARY GATE STATION, NW-18-2-4-E, FROM PTH 75, EAST 18.3km ON PR 201, ON SOUTH SIDE OF ROAD |
| GS-147 | DOMINION CITY GATE STATION, NE-17-2-3-E |
| GS-148 | ST. JEAN BAPTISTE GATE STATION, FROM CARON ST IN ST. JEAN BAPTISTE, WEST 370m ON CENTRE AVE, SOUTH 120m ON THIRD ST, ON EAST SIDE OF STREET |
| GS-149 | MORRIS GATE STATION, NW-34-4-1-E, FROM PTH 75, WEST 1.1km ON PTH 23 (BOYNE AVE), SOUTH 430m ON 5 AVE, ON WEST SIDE OF ROAD |
| RS-115 | EMERSON |

| VALVE | DESCRIPTION |
|---|---|
| ALT T4-001<br>ALT T4-003<br>ALT T4-004<br>ALT T4-005 | NE-17-2-1-W, FROM PTH 30, WEST 750m ON PR 201, SOUTH 200m (OFF ROAD) ON WEST SIDE OF RAIL TRACKS |
| ALT T4-002 | NE-17-2-1-W, FROM PTH 30, WEST 750m ON PR 201, SOUTH 200m (OFF ROAD) ON EAST SIDE OF RAIL TRACKS |
| DOM T2-001<br>DOM T2-002<br>DOM T2-003<br>DOM T2-004<br>DOM T2-005<br>DOM M3-001 | AT GS-147, DOMINION CITY GATE STATION |
| DOM T2-006<br>DOM T4-007<br>DOM T4-008 | NE-14-2-2-E, FROM PTH 75, EAST 6.8km ON PR 201, SOUTH 170m, ON WEST SIDE |
| DOM T4-002 | FROM PTH 75, EAST 3.4km ON PR 201, SOUTH 220m, EAST 130m (OFF ROAD) |
| DOM T4-009<br>DOM T4-010<br>DOM T4-011 | AT GS-146, DOMINION CITY PRIMARY STATION |
| PLC T4-001<br>PLC T4-002 | AT GS-142, PLUM COULEE GATE STATION |
| SJB T2-001<br>SJB T3-001 | NW-35-3-1-E, FROM JCT PTH 75 & PR 217, NORTH 940m ON PTH 75, WEST 520m (OFF ROAD) |
| SJB T3-003<br>SJB T4-001<br>SJB T4-002 | NW-14-2-1-E, FROM PTH 75, WEST 3.7km ON PR 201, ON SOUTH SIDE OF ROAD |
| STJ T4-001 | AT GS-144, ST. JOSEPH GATE STATION |




| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2017-04 | UPDATED SCHEMATIC | C.A. | K.M. | K.M. |
| 2 | 2017-09 | UPDATED SCHEMATIC | C.A. | L.G. | L.G. |

GAS PIPELINE SCHEMATICS

# SOUTH LOOP

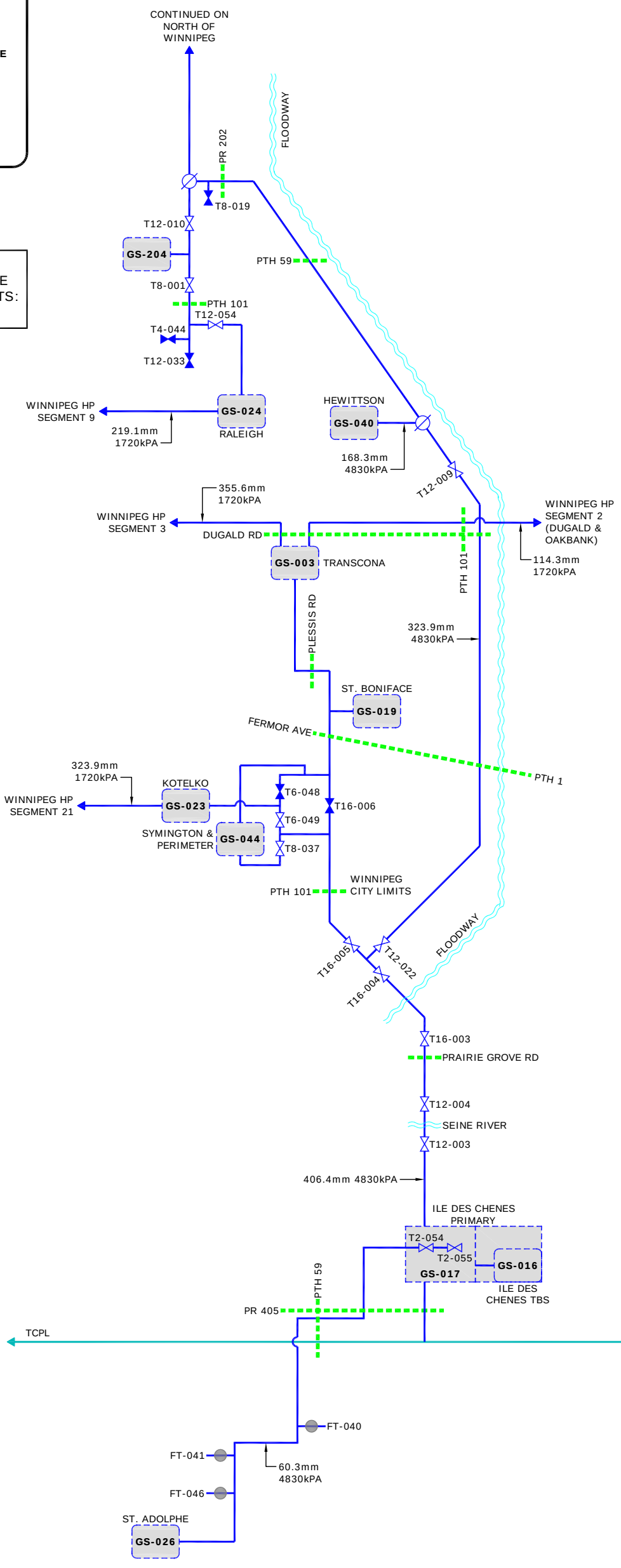
## GAS PIPELINE SCHEMATIC

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GB-91110-0019 | 0002 OF 2 | 02 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD

SEE WINNIPEG HP SEGMENTATION VALVE BOOK FOR HP SEGMENTS: 2, 3, 9 & 21.

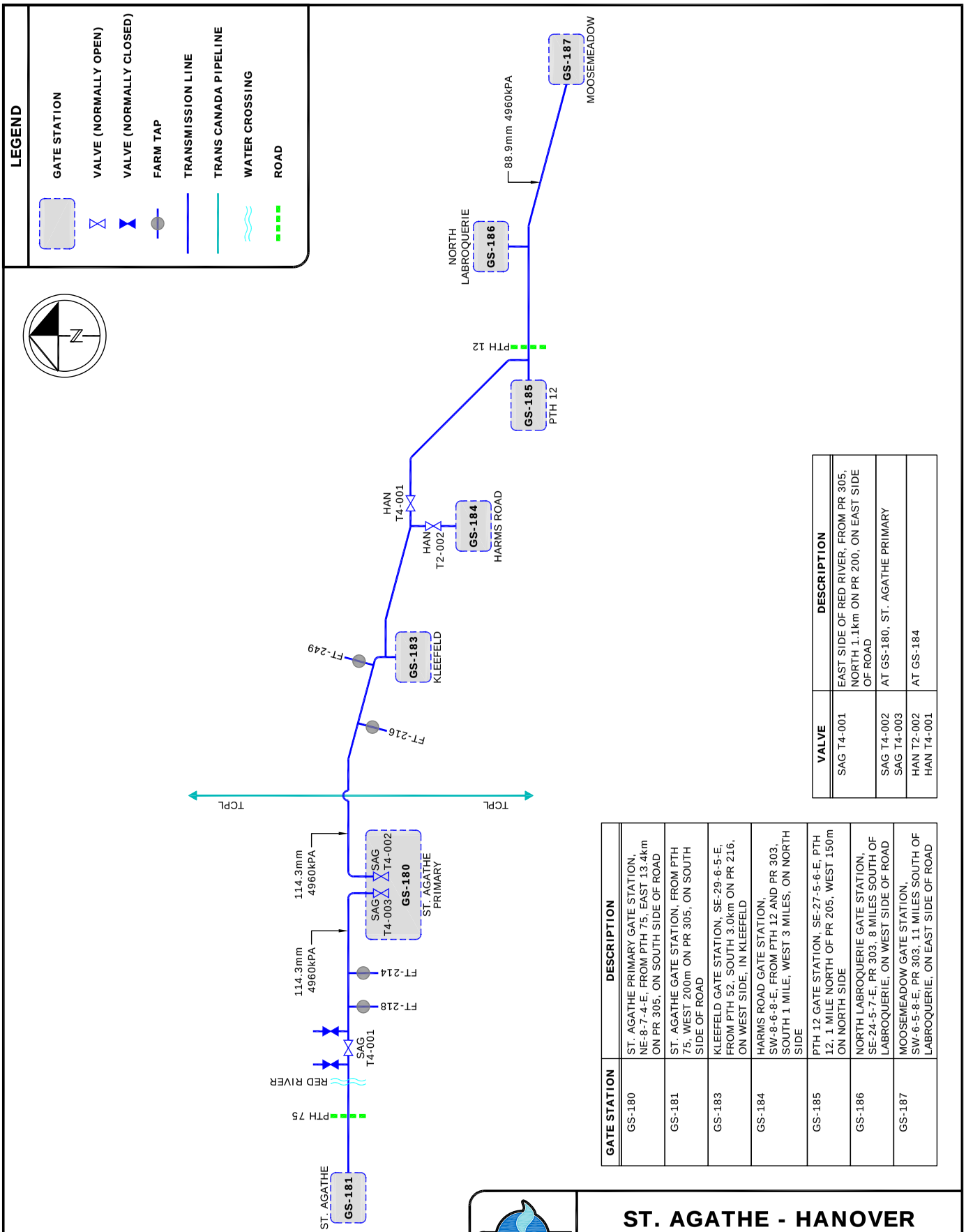



| GATE STATION | DESCRIPTION |
|---|---|
| GS-003 | TRANSCONA GATE STATION, 300m WEST OF PLESSIS RD AND DUGALD INTERSECTION ON DUGALD SOUTH SIDE |
| GS-016 | ILE DES CHENE GATE STATION, AT GS-017 |
| GS-017 | ILE DES CHENE PRIMARY GATE STATION, SE-9-9-4-E, FROM JCT OF PTH 59 AND PR 405, EAST 1.2km ON PR 405, ON NORTH SIDE OF ROAD, APPROX 1 MILE NORTH OF ILE DES CHENE |
| GS-019 | ST. BONIFACE GATE STATION, 200m EAST ON ST. BONIFACE RD, FROM INTERSECTION WITH PLESSIS RD |
| GS-023 | KOTELKO GATE STATION, 380m WEST ON KOTELKO DR FROM SYMINGTON RD AND PTH 101 (SOUTH PERIMETER) |
| GS-024 | RALEIGH GATE STATION, 150m SOUTH ON RALEIGH ST OF INTERSECTION WITH DE VRIES AVE AT PTH 101 (NORTH PERIMETER) |
| GS-026 | ST. ADOLPHE GATE STATION, SW-24-8-3-E, FROM ST. ADOLPHE, PR 210, 3.5km EAST OF PR 200, ON SOUTH SIDE OF ROAD |
| GS-040 | 800m SOUTH OF HEWITTSON RD, SOUTH OF GUNN RD AND PTH 101 (EAST PERIMETER) |
| GS-044 | SYMINGTON & PERIMETER GATE STATION, 380m WEST ON KOTELKO DR FROM SYMINGTON RD AND PTH 101 (SOUTH PERIMETER) |
| GS-204 | 300m NORTH OF ST. ANDREWS RD FROM INTERSECTION OF REBECK RD AND PR 202 (BIRD HILL RD) ON WEST SIDE |

| VALVE | DESCRIPTION |
|---|---|
| T2-054<br>T2-055 | AT GS-017 |
| T4-031<br>T4-032<br>T16-006 | AT GS-023 |
| T4-044<br>T12-033<br>T12-054 | AT GS-024 |
| T6-048<br>T6-049<br>T8-037 | AT GS-044 |
| T8-001 | 340m SOUTH ON ST. ANDREWS RD FROM INTERSECTION WITH APPLECROSS DR |
| T8-019<br>T12-010 | 50m NORTH ON ST. ANDREWS RD FROM INTERSECTION WITH KOLBE DR |
| T12-003<br>T12-004 | 440m NORTH OF OAK GROVE RD INFIELD AND 290m EAST OF SWERDYLIAK RD. |
| T12-009 | 1.7km NORTH ON PTH 101 (EAST PERIMETER) FROM INTERSECTION WITH DUGALD RD, 100m EAST OF PTH 101 |
| T12-022<br>T16-004<br>T16-005 | 370m WEST ON HUNTER RD FROM INTERSECTION WITH SYMINGTON RD, INFIELD 50m SOUTH OF HUNTER RD |
| T16-003 | 1.2km EAST ON PRAIRIE GROVE RD FROM INTERSECTION WITH VAN DEKEERE RD, INFIELD 40m NORTH OF PRAIRIE GROVE RD |

# ILE DES CHENES (WINNIPEG) - ST. ADOLPHE
## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017-04 | UPDATED SCHEMATIC, TITLE & SHEET SIZE | C.A. | K.M. | K.M. | C.A. | 2012-01 | **1-T0000-GB-91110-0020** | 0001 OF 1 | 01 |




| VALVE | DESCRIPTION |
|---|---|
| SAG T4-001 | EAST SIDE OF RED RIVER, FROM PR 305, NORTH 1.1km ON PR 200, ON EAST SIDE OF ROAD |
| SAG T4-002<br>SAG T4-003 | AT GS-180, ST. AGATHE PRIMARY |
| HAN T2-002<br>HAN T4-001 | AT GS-184 |

| GATE STATION | DESCRIPTION |
|---|---|
| GS-180 | ST. AGATHE PRIMARY GATE STATION, NE-8-7-4-E, FROM PTH 75, EAST 13.4km ON PR 305, ON SOUTH SIDE OF ROAD |
| GS-181 | ST. AGATHE GATE STATION, FROM PTH 75, WEST 200m ON PR 305, ON SOUTH SIDE OF ROAD |
| GS-183 | KLEEFELD GATE STATION, SE-29-6-5-E, FROM PTH 52, SOUTH 3.0km ON PR 216, ON WEST SIDE, IN KLEEFELD |
| GS-184 | HARMS ROAD GATE STATION, SW-8-6-8-E, FROM PTH 12 AND PR 303, SOUTH 1 MILE, WEST 3 MILES, ON NORTH SIDE |
| GS-185 | PTH 12 GATE STATION, SE-27-5-6-E, PTH 12, 1 MILE NORTH OF PR 205, WEST 150m ON NORTH SIDE |
| GS-186 | NORTH LABROQUERIE GATE STATION, SE-24-5-7-E, PR 303, 8 MILES SOUTH OF LABROQUERIE, ON WEST SIDE OF ROAD |
| GS-187 | MOOSEMEADOW GATE STATION, SW-6-5-8-E, PR 303, 11 MILES SOUTH OF LABROQUERIE, ON EAST SIDE OF ROAD |

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2016-08 | ADDED FARM TAP 216 & 218 | M.A. | C.A. | D.P. |
| 2 | 2017-09 | ADDED FT-249 & VALVES | C.A. | G.B. | L.G. |

GAS PIPELINE SCHEMATICS

# ST. AGATHE - HANOVER

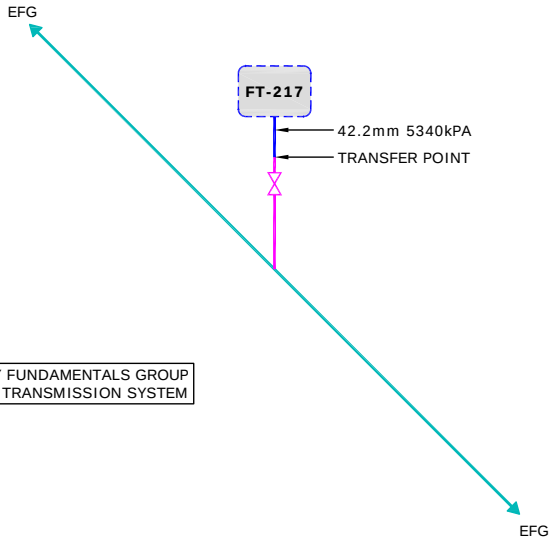
## GAS PIPELINE SCHEMATIC

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0021 | 0001 OF 1 | 02 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- TRANSMISSION LINE

| GATE STATION | DESCRIPTION |
|---|---|
| FT-217 | RM OF PINEY - SUNGRO PERLITE. 320m NORTH OF PTH 12 EAST SIDE OF GOV'T RD ALL'CE RD 75E. |

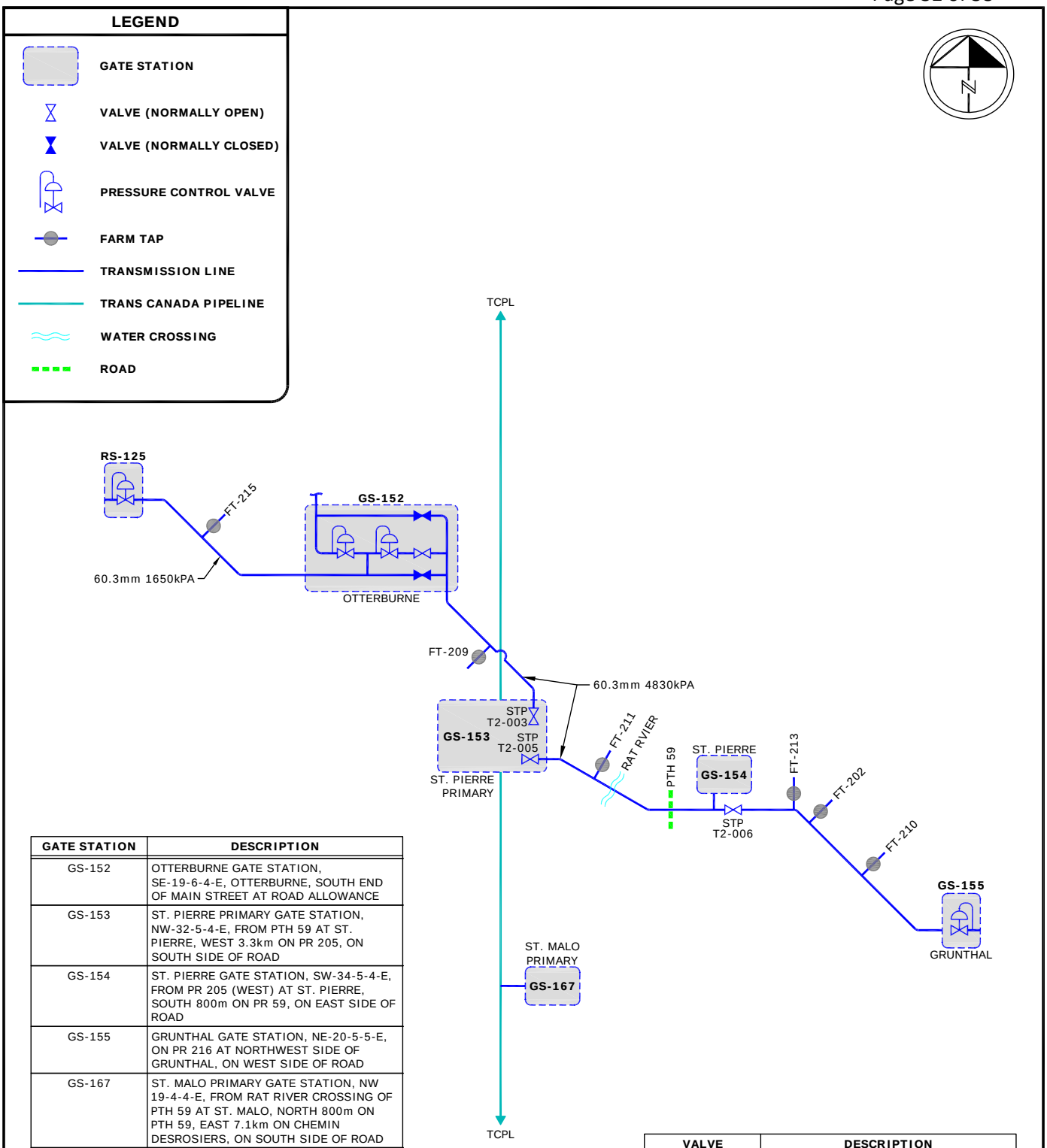



EFG: ENERGY FUNDAMENTALS GROUP
CENTRA GAS TRANSMISSION SYSTEM

# SUNGRO PERLITE

## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017-04 | UPDATED SCHEMATIC & TITLE | C.A. | K.M. | K.M. | C.A. | 2012-01 | **1-T0000-GA-91110-0022** | 0001 OF 1 | 01 |




| GATE STATION | DESCRIPTION |
|---|---|
| GS-152 | OTTERBURNE GATE STATION, SE-19-6-4-E, OTTERBURNE, SOUTH END OF MAIN STREET AT ROAD ALLOWANCE |
| GS-153 | ST. PIERRE PRIMARY GATE STATION, NW-32-5-4-E, FROM PTH 59 AT ST. PIERRE, WEST 3.3km ON PR 205, ON SOUTH SIDE OF ROAD |
| GS-154 | ST. PIERRE GATE STATION, SW-34-5-4-E, FROM PR 205 (WEST) AT ST. PIERRE, SOUTH 800m ON PR 59, ON EAST SIDE OF ROAD |
| GS-155 | GRUNTHAL GATE STATION, NE-20-5-5-E, ON PR 216 AT NORTHWEST SIDE OF GRUNTHAL, ON WEST SIDE OF ROAD |
| GS-167 | ST. MALO PRIMARY GATE STATION, NW 19-4-4-E, FROM RAT RIVER CROSSING OF PTH 59 AT ST. MALO, NORTH 800m ON PTH 59, EAST 7.1km ON CHEMIN DESROSIERS, ON SOUTH SIDE OF ROAD |
| RS-125 | TOWN OF LORETTE TOWN BORDER STATION. EAST OF TOWN OF LORETTE ON NW CORNER OF PR 207 AND MUNICIPAL RD 27E |

| VALVE | DESCRIPTION |
|---|---|
| STP T2-003<br>STP T2-005 | AT GS-153, ST. PIERRE PRIMARY |
| STP T2-006 | AT GS-154, ST. PIERRE |

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2016-08 | ADDED FARM TAP 215 | M.A. | C.A. | D.P. |
| 2 | 2017-04 | UPDATED SCHEMATIC & TITLE | C.A. | K.M. | K.M. |

GAS PIPELINE SCHEMATICS

# ST.PIERRE - ST. MALO

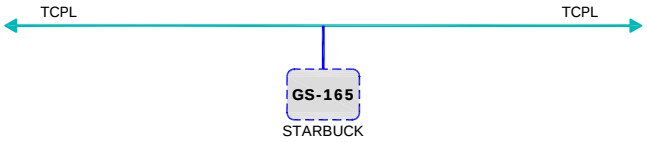
## GAS PIPELINE SCHEMATIC

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0023 | 0001 OF 1 | 02 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD

| GATE STATION | DESCRIPTION |
|---|---|
| GS-165 | STARBUCK PRIMARY STATION, SE-2-10-2-W, FROM JCT OF PTH 2 AND PR 332, NORTH 3.5km ON PR 332, ON WEST SIDE OF ROAD |




GAS PIPELINE SCHEMATICS

TITLE

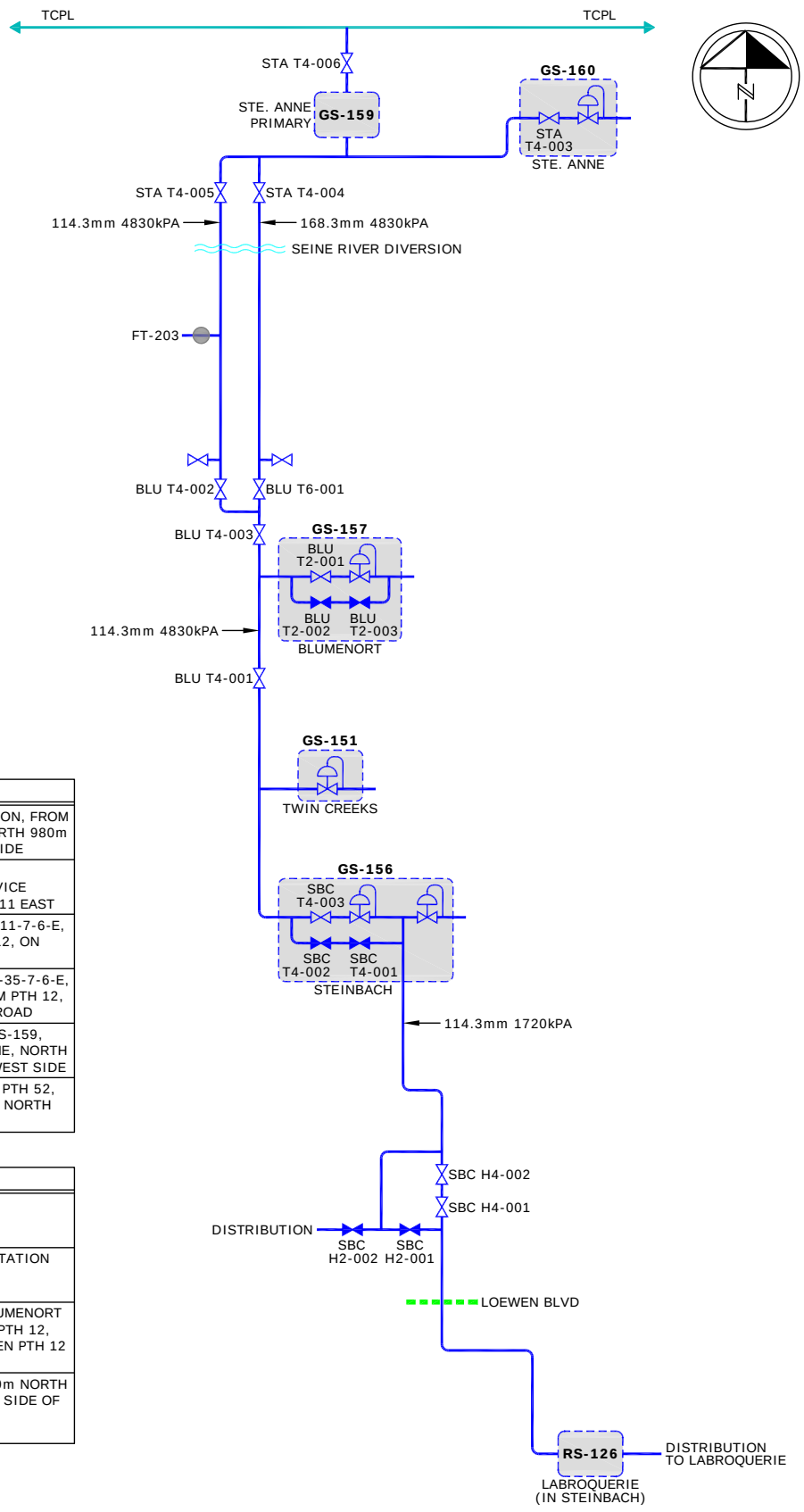
# STARBUCK

## GAS PIPELINE SCHEMATIC

| DRAWN | DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GA-91110-0024 | 0001 OF 1 | 00 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-159 | STE. ANNE PRIMARY GATE STATION, FROM CENTRAL AVE IN STE. ANNE, NORTH 980m ON TRAVERSE ROAD ON WEST SIDE |
| GS-151 | TWIN CREEKS GATE STATION, NW-23-7-6-E, PTH 12 EAST SERVICE ROAD, NORTH 1.0km FROM PR 311 EAST |
| GS-156 | STEINBACH GATE STATION, SW-11-7-6-E, PARK ROAD, 80m EAST OF PTH 12, ON NORTH SIDE OF ROAD |
| GS-157 | BLUMENORT GATE STATION, SW-35-7-6-E, FROM EXIT TO BLUMENORT FROM PTH 12, EAST 90m, ON NORTH SIDE OF ROAD |
| GS-160 | STE. ANNE GATE STATION, AT GS-159, FROM CENTRAL AVE IN STE. ANNE, NORTH 980m ON TRAVERSE ROAD ON WEST SIDE |
| RS-126 | LABROQUERIE TBS, STEINBACH, PTH 52, 660m EAST OF HESPLER AVE ON NORTH SIDE OF ROAD |

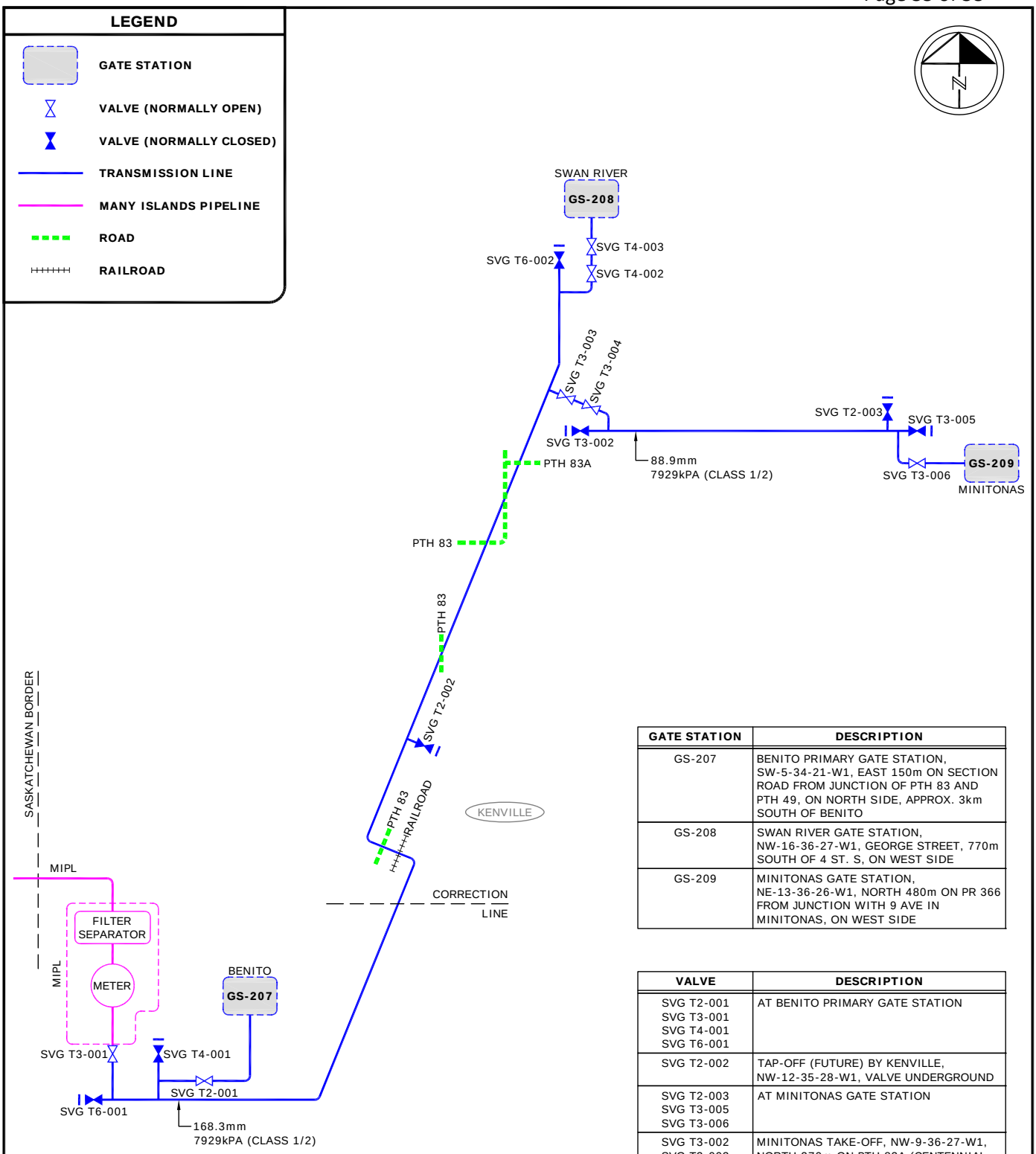
| VALVE | DESCRIPTION |
|---|---|
| STA T4-004<br>STA T4-005<br>STA T4-006 | AT GS-159, STE. ANNE PRIMARY |
| BLU T6-001<br>BLU T4-002<br>BLU T4-003 | AT GS-157, BLUMENORT GATE STATION |
| BLU T4-001 | NW-26-7-6-E, FROM EXIT TO BLUMENORT FROM PTH 12, SOUTH 100m ON PTH 12, ON EAST SIDE IN DITCH BETWEEN PTH 12 AND EAST SERVICE ROAD |
| SBC H4-001<br>SBC H4-002<br>SBC H2-001<br>SBC H2-002 | STEINBACH, MAPLEWOOD ST, 90m NORTH OF LOEWEN BLVD, ON THE EAST SIDE OF THE STREET |

GAS PIPELINE SCHEMATICS

# STE. ANNE - STEINBACH

## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017-09 | REMOVED VALVE | C.A. | A.A. | L.G. | C.A. | 2012-01 | **1-T0000-GA-91110-0025** | 0001 OF 1 | 01 |




| GATE STATION | DESCRIPTION |
|---|---|
| GS-207 | BENITO PRIMARY GATE STATION, SW-5-34-21-W1, EAST 150m ON SECTION ROAD FROM JUNCTION OF PTH 83 AND PTH 49, ON NORTH SIDE, APPROX. 3km SOUTH OF BENITO |
| GS-208 | SWAN RIVER GATE STATION, NW-16-36-27-W1, GEORGE STREET, 770m SOUTH OF 4 ST. S, ON WEST SIDE |
| GS-209 | MINITONAS GATE STATION, NE-13-36-26-W1, NORTH 480m ON PR 366 FROM JUNCTION WITH 9 AVE IN MINITONAS, ON WEST SIDE |

| VALVE | DESCRIPTION |
|---|---|
| SVG T2-001<br>SVG T3-001<br>SVG T4-001<br>SVG T6-001 | AT BENITO PRIMARY GATE STATION |
| SVG T2-002 | TAP-OFF (FUTURE) BY KENVILLE, NW-12-35-28-W1, VALVE UNDERGROUND |
| SVG T2-003<br>SVG T3-005<br>SVG T3-006 | AT MINITONAS GATE STATION |
| SVG T3-002<br>SVG T3-003<br>SVG T3-004 | MINITONAS TAKE-OFF, NW-9-36-27-W1, NORTH 270m ON PTH 83A (CENTENNIAL DR.) FROM JUNCTION WITH PTH 83, WEST 750m ON ROAD 212 N, ON SOUTH SIDE, 50m IN FIELD |
| SVG T4-002<br>SVG T4-003<br>SVG T6-002 | AT SWAN RIVER GATE STATION |

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2017-09 | UPDATED VALVE SVG T2-002 TO SVG T4-002 | C.A. | L.C. | L.G. |

GAS PIPELINE SCHEMATICS

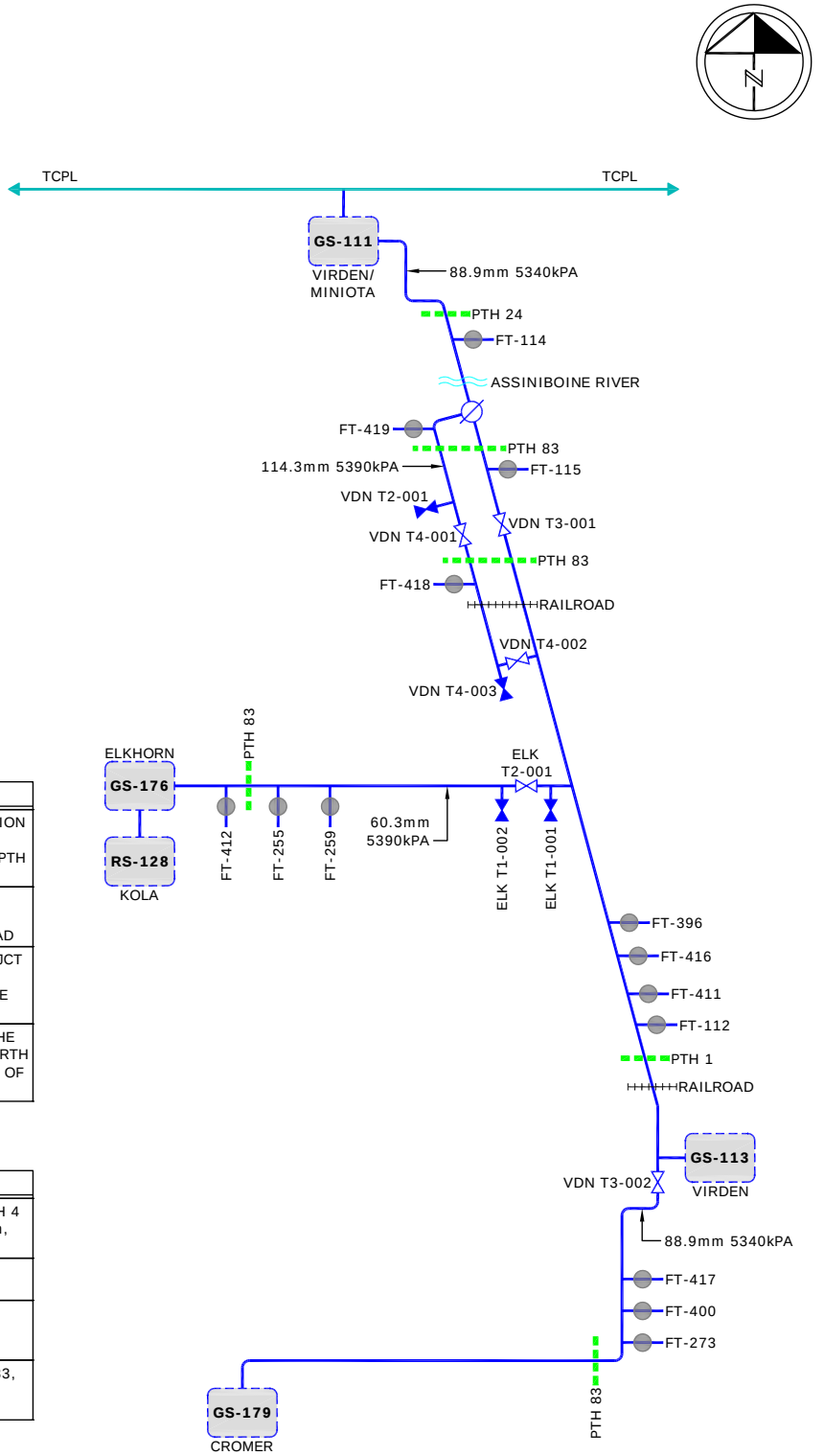
# SWAN VALLEY N.G.

## GAS PIPELINE SCHEMATIC

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2014-05 | 1-T0000-GA-91110-0029 | 0001 OF 1 | 01 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- FARM TAP
- TRANSMISSION LINE
- TRANS CANADA PIPELINE
- WATER CROSSING
- ROAD
- RAILROAD




| GATE STATION | DESCRIPTION |
|---|---|
| GS-111 | VIRDEN/MINIOTA PRIMARY GATE STATION & MINIOTA TBS, SW-6-14-26-W, FROM TOWN OF MINIOTA, NORTH 1.4km ON PTH 83, ON EAST SIDE OF ROAD |
| GS-113 | VIRDEN TBS, SE-28-10-26-W, ON GOVERNMENT RD N (7 AVE) WEST OF THOMAS DR N ON NORTH SIDE OF ROAD |
| GS-176 | ELKHORN TBS, NE-34-11-28-W, FROM JCT OF PTH 1 AND RICHHILL AVE, VIRDEN, EAST 500m ON PR 441, ON SOUTH SIDE OF ROAD |
| GS-179 | CROMER TBS, NW-16-9-29-W, FROM THE JCT OF PR 256 AND PR 255 (EAST), NORTH 1.1km ON PTH 256, ON THE EAST SIDE OF THE ROAD |

| VALVE | DESCRIPTION |
|---|---|
| VDN T2-001<br>VDN T3-001<br>VDN T4-001 | NW-6-13-26-W, FROM MINIOTA, SOUTH 4 MILES (7.2km) ON PTH 83, WEST 300m, ON SOUTH SIDE OF ROAD |
| VDN T3-002 | SE-28-10-26-W, AT VIRDEN TBS LOCATION |
| VDN T4-002<br>VDN T4-003 | SW-8-12-26-W, FROM PTH 1, NORTH 6 MILES ON PTH 83, EAST 1.5 MILES, ON NORTH SIDE OF ROAD |
| ELK T2-001 | FROM PTH 1, NORTH 6 MILES ON PTH 83, EAST 1.5 MILES, ON NORTH SIDE OF ROAD |

GAS PIPELINE SCHEMATICS

# VIRDEN

## GAS PIPELINE SCHEMATIC

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017-04 | UPDATED SCHEMATIC | C.A. | L.G. | L.G. | C.A. | 2012-01 | **1-T0000-GA-91110-0026** | 0001 OF 1 | 01 |

## LEGEND

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- STOPPLE
- PRESSURE CONTROL VALVE
- FARM TAP
- TRANSMISSION LINE
- WATER CROSSING
- ROAD

**NOTE:**

1. THIS SECTION NORMALLY OPERATED AT MEDIUM PRESSURE, BUT COULD RUN AT MOP 4830kPA IF REQUIRED.

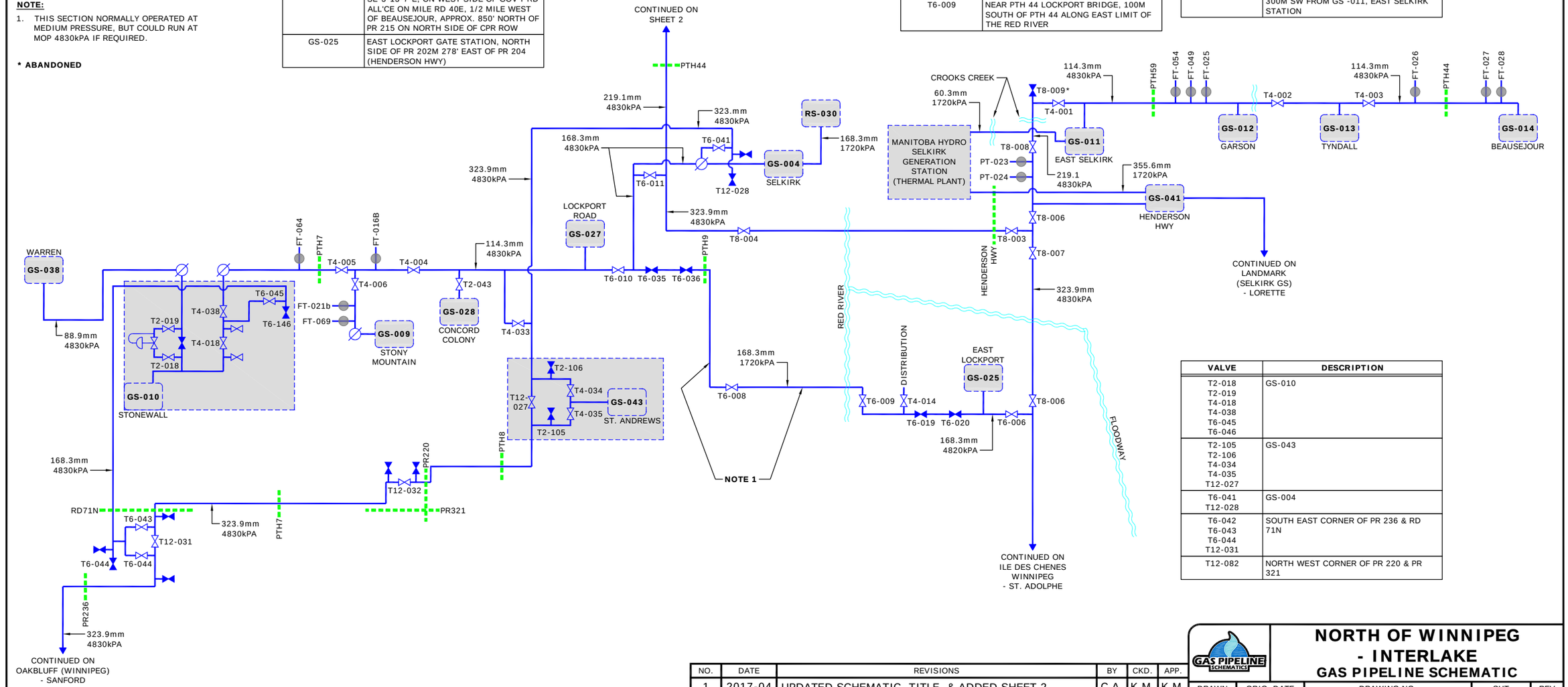
*** ABANDONED**

| GATE STATION | DESCRIPTION |
|---|---|
| GS-004 | SELKIRK GATE STATION, PITTSBURGH & AGNES ST, APPROACH ACCESSIBLE FROM MERCY ST |
| GS-009 | STONY MOUNTAIN GATE STATION, 15-13-2-E, NORTH SIDE OF QUARRY RD, EAST OF PTH 7 AND WEST OF OLD PTH 7, ON THE NORTH SIDE OF ROAD |
| GS-010 | STONEWALL GATE STATION, 19-13-2-E, APPROX. 315M EAST OF THE INTERSECTION OF PR 236 AND WINFIELD RD, ON SOUTH SIDE OF ROAD |
| GS-011 | EAST SELKIRK GATE STATION, 3/4 MILES SOUTH OF PTH 212 ON HENDERSON HWY, ON EAST SIDE OF ROAD |
| GS-012 | GARSON GATE STATION, SE-16-13-6-E, 1 MILE NORTH OF GARSON ON WEST SIDE OF GILLIS ST, NORTH SIDE OF CPR ROW |
| GS-013 | TYNDALL GATE STATION, SE-14-13-6-E, APPROX 2400' NORTH OF MAIN ST IN 50' CENTRA ROW ON WEST SIDE OF PIERSON AVE. |
| GS-014 | BEAUSEJOUR GATE STATION, SE-3-13-7-E, ON WEST SIDE OF GOV'T RD ALL'CE ON MILE RD 40E, 1/2 MILE WEST OF BEAUSEJOUR, APPROX. 850' NORTH OF PR 215 ON NORTH SIDE OF CPR ROW |
| GS-025 | EAST LOCKPORT GATE STATION, NORTH SIDE OF PR 202M 278' EAST OF PR 204 (HENDERSON HWY) |

| GATE STATION | DESCRIPTION |
|---|---|
| GS-027 | LOCKPORT ROAD STATION, NW CORNER OF LOCKPORT RD AND PR 230 (MCPHILLIPS RD) |
| GS-028 | CONCORD COLONY GATE STATION, 21-13-3-E, SOUTH SIDE OF LOCKPORT RD, 1 MILE SOUTH OF PTH 67, 150' EAST OF PR 220 |
| GS-038 | MORRIS GATE STATION, NW-34-4-1-E, FROM PTH 75, WEST 1.1km ON PTH 23 (BOYNE AVE), SOUTH 430m ON 5 AVE, ON WEST SIDE OF ROAD |
| GS-041 | HENDERSON HWY GATE STATION AT HENDERSON HWY & PR 509 |
| GS-043 | ST. ANDREWS GATE STATION, RIVER LOT 52 OTM, 500M EAST OF PTH 8, NORTH SIDE OF LISS RD AND THE EAST LIMIT OF HYDRO ROW |

| VALVE | DESCRIPTION |
|---|---|
| T4-001 | AT GS-011, EAST SELKIRK GATE STATION |
| T4-002 | AT GS-012, GARSON GATE STATION |
| T4-003 | AT GS-013, TYNDALL GATE STATION |
| T4-004 | NE-20-13-3-E, ON SOUTH SIDE OF LOCKPORT ROAD JUST WEST OF GS-028, CONCORD COLONY |
| T4-005 | NE-22-13-2-E, ON SOUTH SIDE OF AMMETER RD NEAR RD 10E |
| T4-006 | NE-23-13-2-E, ON EAST SIDE OF RD 10E, NEAR AMMETER RD |
| T4-014 | NORTH SIDE OF PR 202 AT PR 204 (HENDERSON HWY), JUST WEST OF GS-025, EAST LOCKPORT GATE STATION, CONNECTS TO DISTRIBUTION PRESSURE |
| T4-033 | SOUTH SIDE OF LOCKPORT RD NEAR OSTERMAN RD, EAST LIMIT OF HYDRO ROW |
| T6-006 | NORTH SIDE OF PR 202, EAST FROM GS-025, EAST LOCKPORT GATE STATION |
| T6-008 | EAST SIDE OF RIVER RD, 150M SOUTH OF PTH 44, WEST LIMIT OF THE RED RIVER |
| T6-009 | NEAR PTH 44 LOCKPORT BRIDGE, 100M SOUTH OF PTH 44 ALONG EAST LIMIT OF THE RED RIVER |

| VALVE | DESCRIPTION |
|---|---|
| T6-010 | WEST SIDE OF CPR ROW, NW CORNER OF LOCKPORT RD AND STEVENS AVE |
| T6-011 | SE CORNER OF PITTSBURGH AVE AND RAILWAY ST |
| T6-019<br>T6-020 | NORTH SIDE OF PR 202 AT PR 204 (HENDERSON HWY), JUST WEST OF GS-025, NORMALLY CLOSED |
| T6-035<br>T6-036 | NORTH SIDE OF LOCKPORT RD ACROSS FROM STEVENS AVE |
| T8-003 | NORTH PROPERTY LINE OF 9 RYAN RD OF OFF PR 204 (HENDERSON HWY) |
| T8-004 | EAST SIDE OF RIVER RD NEAR ST CLEMENTS DR |
| T8-005 | SE SIDE OF LISGAR, 13-5-E CLRL99 |
| T8-006 | WEST SIDE OF PR 202, 250M FROM PR 204 (HENDERSON HWY), WEST LIMIT OF THE FLOODWAY |
| T8-007 | NEAR PTH 44 FLOODWAY BRIDGE, 250 M SOUTH OF PTH 44, EAST LIMIT OF THE FLOODWAY |
| T8-008 | EAST SIDE OF PR 204 (HENDERSON HWY), 300M SW FROM GS -011, EAST SELKIRK STATION |




| VALVE | DESCRIPTION |
|---|---|
| T2-018<br>T2-019<br>T4-018<br>T4-038<br>T6-045<br>T6-046 | GS-010 |
| T2-105<br>T2-106<br>T4-034<br>T4-035<br>T12-027 | GS-043 |
| T6-041<br>T12-028 | GS-004 |
| T6-042<br>T6-043<br>T6-044<br>T12-031 | SOUTH EAST CORNER OF PR 236 & RD 71N |
| T12-082 | NORTH WEST CORNER OF PR 220 & PR 321 |

| NO. | DATE | REVISIONS | BY | CKD. | APP. |
|---|---|---|---|---|---|
| 1 | 2017-04 | UPDATED SCHEMATIC, TITLE, & ADDED SHEET 2 | C.A. | K.M. | K.M. |
| 2 | 2017-09 | UPDATED SCHEMATIC | C.A. | P.R. | L.G. |

GAS PIPELINE SCHEMATICS

# NORTH OF WINNIPEG - INTERLAKE
## GAS PIPELINE SCHEMATIC

| DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|
| C.A. | 2012-01 | 1-T0000-GB-91110-0028 | 0001 OF 2 | 02 |

**LEGEND**

- GATE STATION
- VALVE (NORMALLY OPEN)
- VALVE (NORMALLY CLOSED)
- FARM TAP
- TRANSMISSION LINE
- WATER CROSSING
- ROAD

* TO BE REMOVED

| GATE STATION | DESCRIPTION |
|---|---|
| GS-005 | CLANDEBOYE GATE STATION, ROBINSON AT RAILWAY ST, ON THE EAST SIDE OF RAILWAY ST |
| GS-006 | MATLOCK GATE STATION, WEST SIDE OF CPR ROW, 600' SOUTH OF PR 232, WEST SIDE OF COMMUNITY ROAD AT MANSFIELD AVE |
| GS-007 | WPG BEACH GATE STATION, SOUTH SIDE OF HAMILTON AVE ON WEST SIDE OF CPR ROW |
| GS-008 | GIMLI GATE STATION, ON PTH 9, 677' SOUTH OF FOURTH ST SOUTH ON WEST SIDE OF CPR ROW |
| GS-021 | PETERSFIELD TBS, NORTH SIDE OF EDITH AVE AND WEST OF CPR ROW, EAST OF FRONT ST |
| GS-034 | PETERSFIELD SOUTH GATE STATION, NE-23-15-4-E, SOUTH SIDE OF PETERSFIELD RDE, 30M EAST OF CPR ROW |
| GS-036 | ARBORG GATE STATION, LOT 14-TWP 22-RGE 2-EPM, 250M EAST OF MAIN ST, ON SOUTH SIDE OF PTH 68 |
| GS-037 | RIVERTON GATE STATION, 0.8 MILE EAST OF PTH 8, 3/4 MILE SOUTH OF PR 329, THOMPSON DR SE IN RIVERTON |
| GS-039 | TEULON GATE STATION, NW-23-16-2-E INTERSECTION OF RD 10E AND PTH 17, 1.7 KM EAST OF PTH 7 |

| VALVE | DESCRIPTION |
|---|---|
| T2-009<br>T2-010<br>T6-021 | GIMLI CONTROL POINT, ARBORG & RIVERTON TAKEOFF, SE 8-19-4-E, 575M SOUTH OF GIMLI TBS (GS-008) , ON WEST SIDE OF PTH 9 |
| T2-016<br>T2-017<br>T3-003 | ST. ANDREWS CONTROL POINT, TEULON TAKE-OFF, SW 26-16-4E, 5.5 MILES NORTH OF PETERSFIELD, 1 MILE EAST OF PTH 9 AND PTH 17, AT NE INTERSECTION OF RD 22E AND RD 97N |
| T2-013<br>T2-014<br>T4-016<br>T4-017 | BIFROST CONTROL POINT, ARBORG TAKEOFF, SW-21-22-4-E, EAST OF ARBORG, NE CORNER OF PTH 68 AND PR 222 |
| T6-012 | MIDDLE OF EATON ST, 40M NORTH OF TEULON AVE INTERSECTION |
| T6-013 | 60M EAST OF EATON ST, SOUTH SIDE OF LAKE AVE |
| T6-014 | NE-29-18-4-E, 150M WEST OF PTH 9, SOUTH SIDE OF WILLOW CREEK CROSSING |

| VALVE | DESCRIPTION |
|---|---|
| T6-015 | SE-32-18-4-E, 175M WEST OF PTH 9, ON NORTH SIDE OF WILLOW CREEK RD, NORTH SIDE OF WILLOW CREEK CROSSING |
| T2-011<br>T2-012<br>T6-022 | GIMLI CONTROL POINT, NW-33-20-4-E, 9 MILES NORTH OF GIMLI, SE CORNER OF CAMP NEUSTADT RD AND PR 222 |
| T8-010 | NW-10-15-4-E, 300M EAST FROM PTH 9, 400M SOUTH FROM WAVEY CREEK RD, SOUTH SIDE OF WAVEY CREEK CROSSING |
| T8-011 | NW-10-15-4-E, 300M EAST FROM PTH 9, JUST SOUTH OF FT-060, ON SOUTH SIDE OF WAVEY CREEK RD, NORTH SIDE OF WAVEY CREEK CROSSING |
| T8-012 | SW-17-15-4-E, JUST SOUTH OF GS-021, SOUTH SIDE OF EDITH AVE W, NORTH SIDE OF PETERSFIELD CROSSING |
| T8-013 | 300M NORTH OF PTH 9, 130M NORTH OF TOM PRINCE RD, SOUTH SIDE OF PETERSFIELD CROSSING |




**NORTH OF WINNIPEG - INTERLAKE**
**GAS PIPELINE SCHEMATIC**

| NO. | DATE | REVISIONS | BY | CKD. | APP. | DRAWN | ORIG. DATE | DRAWING NO. | SHT | REV |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2017-09 | UPDATED SCHEMATIC | C.A. | P.R. | L.G. | C.A. | 2017-04 | **1-T0000-GB-91110-0028** | 0002 OF 2 | 01 |

**REFERENCE:**

Cost Allocation & Rate Design, Tab 10, page 12 of 14

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

IGU requires additional information to understand the cost allocation results.

**QUESTION:**

a) For each diameter size of transmission main, please identify the amount of transmission plant investment to be included in proposed rates that is incremental to the amount approved for ratemaking in Centra Gas's last GRA.
b) With respect to the response to part 1 above, how much of the incremental investment is related to serving new customer load in existing service areas?
c) With respect to the response to part 1 above, how much of the incremental investment is related to serving new geographical areas?

**RATIONALE FOR QUESTION:**

**RESPONSE:**

a) The table below summarizes the amount of actual transmission plant investment additions (net of retirements) by diameter size for 2014/15 through to 2017/18 and projected transmission plant investment additions (net of retirements) for the 2018/19 forecast and the 2019/20 test year. Please note that for the 2018/19 forecast and 2019/20 test year, transmission main additions by diameter size is not available as projected additions are not developed at that level of granularity.

| ($ Thousands) | | |
|---|---|---|
| **Diameter Size** | **2014/15 - 2017/18 Transmission Mains Plant Investment Actual** | **2018/19 - 2019/20 Transmission Mains Plant Investment Test/Forecast*** |
| 2 inch Steel | 702 | |
| 3 inch Steel | 878 | |
| 4 inch Steel | 4 704 | |
| 6 inch Steel | 6 150 | |
| 8 inch Steel | 1 096 | |
| 10 inch Steel | 173 | |
| 12 inch Steel | 28 019 | |
| 14 inch Steel | 647 | |
| 16 inch Steel | 1 324 | |
| **Total** | **43 694** | **10 835** |
| * Diameter size is not avaliable for projected additions. | | |

b) The table below summarizes the actual plant investment additions (net of retirements) for transmission mains over the period 2014/15 through to 2017/18 and forecast plant investment additions (net of retirements) for transmission mains over the period 2018/19 forecast year and 2019/20 test year and separately identifies the total investment that is related to serving new customer load in existing service areas. The investment category related to servicing new customer load is Capacity & Growth. Please see Centra's 2019/20 General Rate Application Appendix 4.2 (page 1 row 21-35 and page 2 row 1-11) for the definition of the Capacity & Growth category.

**Plant Investment Transmission Mains**
**($ Thousands)**

| **Investment Category** | **2014/15 - 2017/18 Transmission Mains Plant Investment Actual** | **2018/19 - 2019/20 Transmission Mains Plant Investment Test Test & Forecast** |
|---|---|---|
| Total Plant Investment - Capacity & Growth* | 29 615 | 491 |
| Total Plant Investment - Other Investment Categories | 14 079 | 10 344 |
| **Total Plant Addition Transmission Mains** | **$43 694** | **$10 835** |

*Capacity & Growth - Includes System Load Capacity

c) For the period 2014/15 through to the 2019/20 test year, no incremental transmission mains investment is related to serving new customers in new geographical areas.

**REFERENCE:**

Cost Allocation & Rate Design, Tab 10, page 12 of 14

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

IGU requires additional information to understand the cost allocation results.

**QUESTION:**

d) Please provide a copy of the Company's most recent study with respect to system reliability.

**RESPONSE:**

Centra does not have a recent study on system reliability. Centra captures the information necessary to calculate system reliability including customer outage hours and total customers and can calculate a system reliability value when needed. Centra's most recent estimation is a system reliability of 99.99993%. This includes 1,677 customer hours of outages from April 1st, 2017 to March 31st, 2018. These outages are almost entirely the result of third party damages. Additionally, the number of customers affected per outage is primarily due to the location of the third party damage on the pipeline network. In total, there were 283,000 gas customers as of March 31st, 2018 for an estimated 2,483,040,000 customer hours for a year. Return to service following an outage involves a service person responding to each customer and the inspection and safe return to service of the natural gas appliances. The return to service of a transmission pressure pipeline may take days with additional time to return the individual customers to service.

**REFERENCE:**

Tab 11 Schedule 11.1.0 pages 1 and 2

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

IGU requires additional information to understand how the bill comparisons are calculated.

**QUESTION:**

For all customer classes and customer usage characteristics shown in Schedule 11.1.0 and for both billed rates and base rates, please provide a spreadsheet that shows the calculation of each bill (with formulae intact) including separately identifying:

i. All necessary billing determinants;
ii. Each individual rate and rate rider necessary to calculate the customer's bill.

**RESPONSE:**

The specific information requested in this IR is confidential information as determined by the PUB in its letter dated February 26, 2019.

IGU does not have access to confidential information in this proceeding, and as such Centra will not provide the requested information.

Centra invites IGU to pose requests to it to run cost allocation scenarios with specific assumptions.

**REFERENCE:**

Tab 11 Page 4 lines 13 through 16 and Figure 11.2

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

IGU requires additional information to understand the magnitude of the bill impacts.

**QUESTION:**

For each of the customer classes and consumption levels shown in Figure 11.2, please break out the portion of the annual impact (in both dollars and percentage terms) that relates to reversing the bill decreases experienced as a result of Directive 5 in Order 108/15, from the annual bill impact that results from all other proposed changes in the current application.

**RESPONSE:**

Please see Centra's response to PUB/CENTRA I-143.

**REFERENCE:**

Tab 12 – Terms and Conditions of Service

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

IGU requires further information to understand the requested changes to Centra's Terms and Conditions of Service

**QUESTION:**

a) Centra's application states at pages 1 and 2 of Tab 12 that "Centra is subject to balancing fees imposed by TCPL for imbalances in excess of tolerances that occur within its delivery areas, including imbalances caused by T-Service customers". Please provide a schedule for each year from 2011/12 through the 2019/20 test year showing all balancing fee charges Centra has paid or forecasts to pay in the test year.
b) Please provide all relevant rate schedules, Terms & Conditions of service, regulatory approvals and filings by TCPL that impose the balancing fees on Centra Gas. Please provide any previous versions of these documents if changes have occurred since 2011/12 related to TCPL's charges to Centra Gas.
c) In the event Centra's proposed balancing fees are approved, please provide the forecast annual revenue Centra anticipates receiving from charging such fees. Please provide the basis for the revenue forecast and indicate whether or not such revenues are included in the 2019/20 test year revenue forecast. Please also explain the impacts of these revenues on the cost of service study and Revenue-to-Cost Comparison ratios by customer class.

**RESPONSE:**

a) Please see the response to IGU/CENTRA I-1a through c.

b) Please find the following attachments to this response:

- Attachment 1: pages 13 & 14 of Centra's October 2016 Presentation to T-Service Customers that summarizes the balancing fees applicable to Centra as the Downstream Operator;
- Attachment 2: the Limited Balancing Agreement ("LBA") between TCPL and Centra; and
- Attachment 3: TCPL's General Terms and Conditions, with the relevant section being XXII.

Please also see the response to PUB/CENTRA I-145a and b.

c) Please see the response to IGU/CENTRA I-1a through c.

# 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 x $1.96169/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 x $1.96169/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 x $1.96169/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 x $1.96169/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 x $1.96169/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 x $1.96169/GJ (KPUC EDA Eastern Zone toll) x Billed Excess over and above Tier 1

10/16/2001 12:14 403 920 2385
10/16/2001 11:13 TRANSCANADA PIPELINE → 912044805216 NO.146 0002

98.---.942

# AMENDMENT

Date: October 13, 2000

The Limited Balancing Agreement dated October 1, 1996 between TransCanada Pipelines Limited and Centra Gas Manitoba Inc. at the Manitoba Delivery Area is amended effective September 1, 1999 as follows:

1. Delete the following words in Section 17:

> "This Agreement shall be effective for a period of three (3) years, commencing the effective date noted above, and shall expire at the end of such term unless, six (6) months prior to the expiration hereof, TransCanada and Centra agree to renew this Agreement for a further (3) year term. This Agreement may be renewed for further renewal terms in the same manner. Notwithstanding the foregoing,"

All other terms and conditions of this Agreement shall remain in full force and effect.

CENTRA GAS MANITOBA INC.

Per: _____

Per: _____

TRANSCANADA PIPELINES LIMITED

Per: _____ STEVE EMOND
Director
Customer Service

Per: _____
**Max Feldman**
**Senior Vice President**
**Customer Sales & Service**

98-942

# AMENDING AGREEMENT

THIS AMENDING AGREEMENT made effective as of the 1st day of November, 1998

BETWEEN:

**TRANSCANADA PIPELINES LIMITED**, a Canadian corporation ("TransCanada")

OF THE FIRST PART

and

**CENTRA GAS MANITOBA INC.**, a company incorporated under the laws of the province of Manitoba, (hereinafter referred to as "Centra")

OF THE SECOND PART

WITNESSES THAT:

WHEREAS TransCanada and Centra are parties to a Limited Balancing Agreement dated October 1, 1996 (the "LBA"); and

WHEREAS TransCanada filed an application (the "Energy Conversion Application") with the National Energy Board (the "NEB") in September, 1997, for approval of the following;

i) conversion of shipper contracts from volume to energy; and

ii) a contract adjustment mechanism which allow a shipper to amend its contract quantity by plus or minus one percent.

WHEREAS the NEB granted its approval in respect of the Energy Conversion Application and amendments to TransCanada's tariff, toll schedules and proforma contracts on August 12, 1998 with the result that all transportation contracts on the TransCanada system will be converted to energy units (GJ) effective November 1, 1998.

WHEREAS TransCanada and Centra have agreed to amend the LBA by restating volumetric quantities to energy units.

NOW THEREFORE THIS AGREEMENT WITNESSES THAT, in consideration of the mutual covenants and agreements herein, and for good and valuable consideration the sufficiency of which is hereby acknowledged, the parties hereto covenant and agrees as follows:

1. The LBA is hereby amended by deleting those words which are struck out and by adding those words which are underline as set out in Schedule "A" hereto.

2. The LBA is further amended by adding the following section 24:

> "Effective as of November 1, 1998, any Accumulated Imbalance arising prior to November 1, 1998, shall be converted to gigajoules based upon a heat factor of 37.68 MJ/M3."

3. The LBA, as amended herein, is hereby ratified and confirmed.

IN WITNESS WHEREOF, the parties have executed this Amending Agreement as of the day and year above written.

TRANSCANADA PIPELINES LIMITED

Per: _____
Max Feldman
Vice President
Customer Service

Per: _____

CENTRA GAS MANITOBA INC.

Per: _____
Vice-President

Per: _____

LEGAL
CONTENT

Approved
For Content
For Legal

CENTRA GAS MANITOBA INC.
YEAR 98 | SEAL NO. – | DOC. NO. 942

9/30/98

# SCHEDULE "A"

# LIMITED BALANCING AGREEMENT

THIS AGREEMENT made as of the 1st day of ~~October, 1996~~ November 1998

BETWEEN:

**TRANSCANADA PIPELINES LIMITED**,
a Canadian corporation
("TransCanada")

OF THE FIRST PART

and

**CENTRA GAS MANITOBA INC.**, a company incorporated under the laws of the province of Manitoba, (hereinafter referred to as "Centra")

OF THE SECOND PART

WITNESSETH THAT:

WHEREAS, TransCanada owns and operates a natural gas pipeline system in Canada with facilities extending from a point near the border of the Provinces of Alberta and Saskatchewan, where TransCanada's facilities interconnect with the facilities of NOVA Gas Transmission Ltd., easterly into the Province of Quebec and to points on the Canada/United States International Border (the "TransCanada System"); and

WHEREAS, Centra owns and operates a natural gas local distribution system in the province of Manitoba (the "Centra System"); and

WHEREAS, the TransCanada System and the Centra System interconnect at the Manitoba Delivery Area (the "Interconnection Area"); and

WHEREAS, Centra is a party to a Firm Transportation Service Contract with TransCanada dated the 1st day of December, 1993 ("Centra's Firm Transportation Contract") for the transportation of up to ~~5280.3 $10^3m^3$~~ 198962 gigajoules of gas per day to the Interconnection Area.

WHEREAS, TransCanada has entered into, or may enter into, agreements with shippers in Canada ("TransCanada's Shippers") whereby TransCanada will receive from TransCanada's Shippers, at points on TransCanada's System which may include the Interconnection Area, quantities of gas which are nominated by TransCanada's Shippers and confirmed for redelivery by TransCanada to TransCanada's Shippers at other points on TransCanada's System, which may include the Interconnection Area; and

WHEREAS, Centra has entered into, or may enter into, agreements with shippers ("Centra's Shippers") whereby Centra will receive from Centra's Shippers, at points on Centra's System which may include the Interconnection Area, quantities of gas which are nominated by Centra's Shippers and confirmed for redelivery by Centra to Centra's Shippers at other points on Centra's System, which may include the Interconnection Area; and

WHEREAS, TransCanada, as operator of the TransCanada System and Centra as operator of the Centra System, propose to balance and rectify those variations between themselves so that the Confirmed Nominations (as defined herein) of gas are balanced at the Interconnection Area daily and over time.

NOW THEREFORE, TransCanada and Centra (collectively the "Parties" and each a "Party"), in consideration of the covenants and agreements contained herein, covenant and agree as follows:

1. On or before 13:00 pm Mountain Time ("MT") on each day immediately prior to the gas day for which transportation services are to be rendered on the TransCanada System and on the Centra System, TransCanada shall provide to Centra, by EDI or such other means as may subsequently be agreed to by the TransCanada and Centra, a statement summarizing nominations for gas quantities at the Interconnection Area for the subject gas day in the form attached hereto as Exhibit 1, or in any other form mutually agreeable to TransCanada and Centra from time to time (the "Summary Statement").

   The Summary Statement shall state the following:

   (a) Nominations on TransCanada's System which are to be supplied to or by, as the case may be, those of Centra's Shippers that are receiving or

delivering gas at the Interconnection Area on such gas day (the "Nominating Shippers"); and

(b) The Imbalance Make-up nomination, if any established pursuant to Paragraph 16.

2. Upon receipt by Centra of the Summary Statement, Centra will identify any discrepancies between the nominations on Centra's System by the Nominating Shippers and the corresponding amounts nominated for receipt from TransCanada's System and TransCanada and Centra shall use reasonable and good faith efforts to resolve any such nomination discrepancies. Centra shall thereafter promptly advise TransCanada as to whether Centra accepts or rejects, as the case may be, any or all of the nominations shown on the Summary Statement which correspond to the nominations on Centra's System by the Nominating Shippers.

Any advice that Centra is accepting or rejecting the Summary Statement will be in the form attached hereto as Exhibit 2, or in any other form mutually agreeable to TransCanada and Centra from time to time, and shall be sent to TransCanada by EDI or such other means as may be agreed to by TransCanada and Centra (the "Centra Reply Summary Statement") by the later of 14:00 pm MT or one hour after receipt by Centra of the Summary Statement. If the Centra Reply Summary Statement indicates a discrepancy between the nomination on Centra's System by a Nominating Shipper and the corresponding nomination on the Summary Statement, Centra shall be deemed to have rejected the Summary Statement insofar as it relates to such Nominating Shipper. If Centra fails to submit a Centra Reply Summary Statement within the above described timeframe, or no discrepancy exists between the subject nominations, Centra shall be deemed to have accepted the Summary Statement insofar as it relates to the relevant Nominating Shipper.

3. If Centra accepts the Summary Statement, the Centra Reply Summary Statement shall confirm the nominations on Centra's System for each of (i) the Imbalance Make-up and (ii) the Nominating Shippers (individually, a "Confirmed Nomination" and collectively, the "Confirmed Nominations").

4. If Centra rejects a nomination shown on the Summary Statement then the Confirmed Nomination on the TransCanada System and the Centra System at the Interconnection Area for the subject Nominating Shipper for the subject gas day shall be that ~~volume~~ quantity which is equal to the lesser of:

   (a) the nomination by such shipper on the Centra System; and

   (b) the nomination by such shipper on the TransCanada System as set forth in the Summary Statement.

   The Imbalance Makeup nomination on any day when Centra rejects a Summary Statement will remain in effect as agreed to by the Parties pursuant to Paragraph 16.

5. The Centra Reply Summary Statement will, inter alia, indicate those Nominating Shippers on the Centra System with a lower nomination on the Centra System than stated in the Summary Statement. If a lower nomination is reported on the Centra Reply Summary Statement, TransCanada will submit to Centra a revised Summary Statement incorporating this lower nomination value, which revised Summary Statement must be submitted to Centra by the later of 14:30 pm MT or one half hour after receipt by TransCanada of the Centra Reply Summary Statement.

6. Once Centra has delivered a Centra Reply Summary Statement, the nominations on a confirmed Summary Statement confirmed can only be changed if Centra and TransCanada agree to the change. Once such an agreement is reached, the agreed change will be initiated by delivery of a revised Summary Statement by TransCanada. Following the receipt of a revised Summary Statement, Centra will reconfirm the revised Summary Statement pursuant to paragraphs 1 through 5 hereof.

7. On or before the third banking day after the end of each calendar month, TransCanada will provide to Centra, by EDI or such other means as may be agreed to by TransCanada and Centra, a statement summarizing the daily Summary Statements for the immediately preceding calendar month in the form attached hereto as Exhibit 3, or in any other form mutually agreeable to TransCanada and Centra from time to time (the "Monthly Summary Statement"). For the purposes of this Agreement, a "banking day" shall mean a day on which

the Main Branch of the Canadian Imperial Bank of Commerce in Calgary, Alberta, is open for the conduct of regular business.

8. Each gas day, without reducing or eliminating the effect of any provision of this Agreement, TransCanada and Centra shall use reasonable and good faith efforts to ensure that the ~~volume~~ quantity of gas that crosses at the Interconnection Area on that gas day is as close as possible to the Confirmed Nominations at the Interconnection Area for that gas day.

9. As soon as practical each day TransCanada and Centra shall provide the other Party with a telemetry estimate of the ~~volume~~ quantity of gas that flowed on their respective system on the previous gas day. The estimate will include the energy quantity, the volume quantity, and the heat content of the gas.

10. Unless TransCanada and Centra otherwise mutually agree in writing:

    (a) Utilizing telemetry estimates, TransCanada shall adjust the operations of the TransCanada System and Centra shall adjust the operations of the Centra System as necessary in order to minimize the Daily Imbalance (as defined in Paragraph 14 (a)) at the Interconnection Area on each gas day to within the greater of plus or minus 2.0 % of Confirmed Nominations or ~~28.0 $10^3m^3$~~ 2111 gigajoules (the "Maximum Daily Imbalance"); and

    (b) TransCanada shall adjust the operations of the TransCanada System and Centra shall adjust the operations of the Centra System as necessary such that the Accumulated Imbalance (as defined in Paragraph 14 (b)) trends towards zero, but in any event does not exceed the greater of plus or minus 4.0 % of the average of Confirmed Nominations for the previous thirty days or ~~56.0 $10^3m^3$~~ 4221 gigajoules (the "Maximum Accumulated Imbalance").

    TransCanada may limit the maximum variances set out above if operational circumstances require TransCanada to protect system integrity or to ensure that all TransCanada firm obligations are met. If the Daily Imbalance for any gas day exceeds, or is projected to exceed, the Maximum Daily Imbalance, or if the Accumulated Imbalance exceeds, or is projected to exceed, the Maximum Accumulated Imbalance, or if the Daily Imbalance would result in exceeding

any variance otherwise agreed to by the Parties, TransCanada and Centra immediately that same day shall do any one or more of the following in order to keep the total ~~volumes~~ quantities delivered for that day within the applicable variances set forth above: (x) cause their respective shippers to submit revised nominations to be confirmed in accordance with the procedure in Paragraphs 1 through 5 above (the "Revised Nominations"), (y) adjust their operations, and/or (z) agree upon a revised Imbalance Makeup nomination pursant to Paragraph 16.

11. (a) Nothing herein contained shall obligate TransCanada to provide delivery pressure at the Interconnection Area in excess of the minimum delivery pressure which TransCanada is obligated to provide to TransCanada's Shippers (the "Minimum Delivery Pressure"), nor to reduce the delivery pressure below the Minimum Delivery Pressure.

(b) In addition, at all times that TransCanada is maintaining the Minimum Delivery Pressure, or such other pressure that Centra may request of TransCanada and that TransCanada agrees to provide, TransCanada will be deemed to be operating TransCanada's System in conformity with the requirements of this Agreement.

12. (a) If a capacity constraint occurs on TransCanada's System which results in a curtailment of ~~volumes~~ quantities through the Interconnection Area, then TransCanada shall determine, in accordance with TransCanada's Transportation Tariff, the reallocation amongst TransCanada's Shippers of the ~~volumes~~ quantities through the Interconnection Area and that reallocation shall be immediately communicated to Centra.

(b) If a capacity constraint occurs on Centra's System, which results in a curtailment of ~~volumes~~ quantities through the Interconnection Area, then Centra shall determine, in accordance to its own transportation agreements, the reallocation amongst Centra's Shippers of the ~~volumes~~ quantities through the Interconnection Area and that reallocation shall be immediately communicated to TransCanada.

(c) All reallocations pursuant to this Paragraph 12 shall be confirmed in accordance with the provisions of Paragraphs 1 through 5 above by the

Party making the reallocation to the other Party, but shall constitute Revised Nominations.

13. (a) The actual ~~volume~~ quantity of gas that flowed at the Interconnection Area for each day (the "Actual ~~Volume~~ Quantity") will be determined in ~~cubic meters~~ gigajoules and communicated by TransCanada to Centra as soon as possible during the month following the month in which the gas actually flowed. The Actual ~~Volume~~ Quantity shall be determined by TransCanada in accordance with the General Terms and Conditions of TransCanada's Transportation Tariff, as authorized and approved by the National Energy Board of Canada from time to time.

(b) For TransCanada's allocation purposes, the ~~volume~~ quantity utilized in calculating the amounts payable by each of TransCanada's Shippers in respect of gas delivered at the Interconnection Area shall be the Confirmed Nomination or Revised Nomination, as the case may be, for each TransCanada Shipper.

(c) For Centra's allocation purposes, the ~~volume~~ quantity utilized in calculating the amounts payable by each of Centra's Shippers in respect of gas received at the Interconnection Area shall be the Confirmed Nomination or Revised Nomination, as the case may be, for each Centra Shipper.

14. (a) Each day, the difference between the Confirmed Nominations or Revised Nominations, as the case may be, and the Actual ~~Volume~~ Quantity for such day, whether positive or negative, shall be recorded by the Parties as a daily ~~volume~~ imbalance (the "Daily Imbalance").

(b) Each day, all Daily Imbalances will be added together on an ongoing basis, with such sum defined as the accumulated imbalance (the "Accumulated Imbalance").

(c) Daily Imbalances and Accumulated Imbalances shall be subject to the restrictions set out in this Agreement and shall be handled and eliminated in accordance with the terms of this Agreement.

15. (a) The parties acknowledge that during the term of this Agreement TransCanada may charge cumulative or daily fees ~~or penalties~~ under Article XXII of Transportation Tariff for imbalances ~~between authorized volumes and actual or authorized deliveries, either on the basis of overrun calculations or the difference~~ between daily authorized and allocated ~~volumes~~ quantities (collectively referred to as "Balancing Service Fees").

(b) On each day TransCanada shall deem any part of a Daily Imbalance that exceeds the Maximum Daily Imbalance to have been delivered under Centra's Firm Transportation Contract for the purpose of determining Balancing Service Fees. For the purpose of calculating such Balancing Service Fees, Centra's daily contract quantity under the Centra's Firm Transportation Contract shall be deemed to the net sum of all Confirmed Nominations or Revised Nominations, as the case may be, for all transportation service provided to Centra on that day. No Balancing Service Fees shall be applied on that portion of a variance or imbalance which is less than the Maximum Daily Imbalance, as defined herein.

(c) On each day TransCanada shall deem any part of an Accumulated Imbalance that exceeds the Maximum Accumulated Imbalance to have been delivered under Centra's Firm Transportation Contract for the purpose of determining Balancing Service Fees. For the purpose of calculating such Balancing Service Fees, Centra's daily contract quantity under the Centra's Firm Transportation Contract shall be deemed to the net sum of all Confirmed Nominations or Revised Nominations, as the case may be, for all transportation service provided to Centra on that day. No Balancing Service Fees shall be applied on that portion of a variance or imbalance which is less than the Maximum Accumulated Imbalance, as defined herein.

16. The Parties agree to eliminate each Accumulated Imbalance in as short a period of time as possible through agreeing upon and thereafter nominating (pursuant to Paragraphs 1 to 5 hereof), delivering and/or receiving, as the case may be, a daily imbalance make-up ~~volume~~ quantity (the "Imbalance Make-up"). Failure to agree entitles TransCanada to transfer each Accumulated Imbalance

to Centra's Firm Transportation contract and to renominate Centra's Firm Transportation contract to eliminate each Accumulated Imbalance over time.

17. This Agreement shall be effective for a period of three (3) years, commencing the effective date noted above, and shall expire at the end of such term unless, six (6) months prior to the expiration hereof, TransCanada and Centra agree to renew this Agreement for a further three (3) year term. This Agreement may be renewed for further renewal terms in the same manner. Notwithstanding the foregoing, TransCanada or Centra may suspend this Agreement, with cause, upon providing the other Party with ninety (90) days prior written notice. ~~From the effective date hereof until February 28, 1997, forty-eight (48) hours prior written notice of suspension shall be required. Thereafter, this Agreement may only be suspended upon ninety (90) days prior written notice.~~ Any Daily Imbalance or Accumulated Imbalance remaining upon suspension shall be eliminated within thirty (30) days of the suspension of this Agreement, or within such longer period of time as may be mutually agreed to by the Parties. All agreements to eliminate Daily Imbalances and Accumulated Imbalances which are in effect at the suspension of this Agreement shall remain in effect and be binding upon the Parties hereto until the completion of those agreements. Failure to agree entitles TransCanada to transfer the Daily Imbalances and Accumulated Imbalances to Centra's Firm Transportation contract and to renominate Centra's Firm Transportation contract to eliminate the Daily Imbalances and Accumulated Imbalances over time. Once all Daily Imbalances and Accumulated Imbalances have been eliminated after the issuance of a suspension notice or once TransCanada has transferred all outstanding Daily Imbalances and Accumulated Imbalances to Centra's Firm Transportation Contract, this Agreement shall terminate without the requirement of further notice to or from one Party to the other Party.

18. It is the intention of the Parties to perform their obligations under this Agreement in good faith in an ongoing effort to balance the flow of gas through the Interconnection Area on a daily and cumulative basis. In furtherance of this intention, Centra covenants and agrees that it will not use this Agreement as a means to loan gas from or park gas on TransCanada's System for the benefit of Centra or Centra's Shippers.

19. This Agreement shall be subject to the laws of the Province of Alberta, and is subject to the rules, regulations and orders of any Canadian regulatory or legislative authority as may from time to time exercise lawful jurisdiction.

20. This Agreement and all agreements entered into pursuant hereto shall enure to the benefit of, and be binding upon, the Parties hereto and their respective successors and assigns, provided, however, that the prior consent of the alternate Parties is required before a Party may assign its rights or obligations under any agreement reached by the Parties in respect of the resolution of any and all outstanding Daily Imbalances and Accumulated Imbalances hereunder.

21. Time is of the essence of this Agreement.

22. No waiver by either TransCanada or Centra of any one or more defaults by the other in the performance of any provision of this Agreement shall operate or be construed as a waiver of any continuing or future default or defaults whether of a like or different character, or a waiver of the Parties' obligation to eliminate a Daily Imbalance and an Accumulated Imbalance.

23. This Agreement constitutes the entire agreement of the parties hereto with respect to Daily Imbalances and Accumulated Imbalances as they may arise from time to time following the date first indicated at the commencement of this Agreement, and shall not be changed modified or varied except by instrument in writing duly executed by the Parties hereto.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the date above first written.

TRANSCANADA PIPELINES LIMITED

Per: _____

Per: _____

CENTRA GAS MANITOBA INC.

Per: _____

Per: _____

This is Exhibit "1" to the LIMITED BALANCING AGREEMENT, made as of the 1st day of ~~April 1996~~ November 1998 between TRANSCANADA PIPELINES LIMITED ("TransCanada") and CENTRA GAS MANITOBA INC. ("Centra").

Allocation Statement No.: _____

Name of Interconnection Point: _____

Preparer's Name: _____ and Phone No.: _____

Effective Date of this Statement: _____ Date Prepared: _____

| TCPL Shipper Code (Name or Contract Number) | Current Nomination (~~103m3~~ GJ) | Previous Gas Day's Summary Statement Nomination (~~103m3~~ GJ) | Amount of Change (~~103m3~~ GJ) |
|---|---|---|---|
| Imbalance Make-up Quantity | | | |
| Total at Interconnection Point | | | |

This is Exhibit "2" to the LIMITED BALANCING AGREEMENT, made as of the 1st day of ~~April 1996~~ November 1998 between TRANSCANADA PIPELINES LIMITED ("TransCanada") and CENTRA GAS MANITOBA INC. ("Centra").

Allocation Statement No.: _____

Name of Interconnection Point: _____

Preparer's Name: _____ and Phone No.: _____

Effective Date of this Statement: _____ Date Prepared: _____

| TCPL Shipper Code (Name or Contract Number) | Current Reply Summary Statement Nomination (~~103m3~~ GJ) | Current Summary Statement Nomination (~~103m3~~ GJ) |
|---|---|---|
| Imbalance Make-up Quantity | _____ | _____ |
| Total at Interconnection Point | _____ | _____ |

This is Exhibit "3" to the LIMITED BALANCING AGREEMENT, made as of the 1st day of ~~April 1996~~ November 1998 between TRANSCANADA PIPELINES LIMITED ("TransCanada") and CENTRA GAS MANITOBA INC. ("Centra").

Allocation Statement No.: _____

Name of Interconnection Point: _____

Preparer's Name: _____ and Phone No.: _____

Effective Period of this Statement: _____

Date Prepared: _____

| TCPL Shipper Code (Name or Contract Number) | Summation of Confirmed Summary Statement Nomination (~~103m3~~ GJ) |
|---|---|

Imbalance Make-up Quantity _____

# GENERAL TERMS AND CONDITIONS

## INDEX

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## I DEFINITIONS

Except where the context expressly states another meaning, the following terms, when used in these General Terms and Conditions, in any Contract and in any Toll Schedule into which these General Terms and Conditions are incorporated, shall be construed to have the following meanings:

- "Abandonment Charge" shall mean the charge payable by Shipper to TransCanada pursuant to the FT, FT-SN, FT-NR, MFP, Herbert LTFP, Dawn LTFP, IT, STS, STS-L, STFT, ST-SN, EMB and SSS Contracts.

- "Alternate Receipt" shall mean the receipt of quantities of gas at a receipt point not specified in Shipper's FT, FT-SN, FT-NR, or MFP Contract.

- "Banking Day" shall mean any day that the Royal Bank of Canada, Main Branch, Calgary, Canada or other financial institutions agreed to by TransCanada for payment pursuant to Section XI herein, conducts business.

- "CCT" shall mean Central Clock Time, representing the time in effect in the Central Time Zone of Canada at the time a transaction occurs, regardless of whether that time may be Standard Time or Daylight Savings Time as those terms are commonly known and understood.

- "Contract" shall mean a transportation service contract or a contract pursuant to the SNB Toll Schedule and shall also mean an Order of the NEB pursuant to Section 71(2) of the National Energy Board Act, as amended from time to time requiring TransCanada to provide transportation service.

- "Contract Demand" shall mean:

  (i) with respect to transportation service contracts entered into prior to November 1, 1998, the contract demand, maximum daily quantity, annual contract quantity or maximum quantity as stated in a transportation service contract, converted to GJ by multiplying such contract demand, maximum daily quantity, annual contract quantity or maximum quantity by GHV-97 for the relevant delivery point as more particularly set out in the HV-97 Schedule attached to these General Terms and Conditions subject to variance pursuant to a Shipper election to restate its contract demand within the range from 99%

of GHV-97 to 101% of GHV-97, which was received by TransCanada on or before February 13, 1998; and,

(ii) with respect to transportation service contracts entered into on or after November 1, 1998, that quantity of gas expressed in GJ specified in Shipper's transportation service contract as Shipper's daily or seasonal entitlement, as the case may be, to transportation capacity.

- "Contract Year" shall mean a period of 12 consecutive months beginning on a first day of November.

- "Cubic Metre" or "$m^3$" shall mean the volume of gas which occupies one cubic metre when such gas is at a temperature of fifteen degrees (15°) Celsius, and at a pressure of 101.325 kilopascals absolute.

- "Cumulative Storage Balance" for a Shipper's STS or STS-L Contract on any Day shall be equal to: **A + B + C + D – E**

  Where:

  **"A"** = the cumulative Daily Injection Quantity on such Day;

  **"B"** = the cumulative Daily STFT Quantity on such Day;

  **"C"** = the cumulative Daily IT Quantity on such Day;

  **"D"** = the cumulative Daily Diversion Quantity on such Day; and

  **"E"** = the cumulative Daily Withdrawal Quantity on such Day;

  all as defined in subsection 3.1(e) of the STS Toll Schedule for STS Contracts or 3.1(b) of the STS-L Toll Schedule for STS-L Contracts.

- "Daily Abandonment Surcharge" shall mean the daily surcharge, as approved by the NEB and as set forth in the List of Tolls referred to in Section III hereof, determined by multiplying the applicable Monthly Abandonment Surcharge by twelve (12) and dividing the result by the number of days in the Year.

- "Daily Contract Injection Quantity" shall, for the purposes of the STS-L Contracts, mean the quantity of gas specified in the STS-L Contract for delivery from the Market Point to the Storage Injection Point(s).

- "Daily Contract Withdrawal Quantity" shall, for the purposes of the STS-L Contracts, mean 75% of the Daily Contract Injection Quantity, for delivery from the Storage Withdrawal Point to the Market Point.

- "Daily Demand Toll" shall mean the toll determined by multiplying the Monthly Demand Toll for the applicable transportation service, as approved by the NEB (as set forth in the List of Tolls referred to in Section III hereof), by twelve (12) and dividing the result by the number of days in the Year.

- "Daily Diversion Quantity" shall have the meaning ascribed in subsection 3.1(e)(i) of the STS Toll Schedule.

- "Daily Excess Withdrawal Quantity" shall be as defined in subsection 3.1(e) of the STS Toll Schedule for STS Contracts and subsection 3.1(b) of the STS-L Toll Schedule for STS-L Contracts.

- "Daily Injection Quantity" shall be as defined in subsection 2.2(a) of the STS Toll Schedule for STS Contracts or STS-L Toll Schedule for STS-L Contracts.

- "Daily IT Quantity" shall be as defined in subsection 3.1(e) of the STS Toll Schedule for STS Contracts and in subsection 3.1(b) of the STS-L Toll Schedule for STS-L Contracts.

- "Daily Operational Injection Quantity" shall, for the purposes of STS-L Contracts, mean the least of the aggregate of the Contract Demand(s) of the Linked FT Contract(s) and the Daily Contract Injection Quantity from the Market Point to the Storage Injection Point(s).

- "Daily STFT Quantity" shall be as defined in subsection 3.1 (e) of the STS Toll Schedule for STS Contracts and in subsection 3.1(b) of the STS-L Toll Schedule for STS-L Contracts.

- "Daily Withdrawal Quantity" shall be as defined in subsection 2.2(b) of the STS Toll Schedule for STS Contracts and subsection 2.2(b) STS-L Toll Schedule for STS-L Contracts.

- "Day" shall mean a period of 24 consecutive hours, beginning and ending at 09:00 hours Central Clock Time, or at such other time as may be mutually agreed upon by Shipper and TransCanada. The reference date for any day shall be the calendar date upon which the 24 hour period shall commence.

- “Delivery Areas” shall mean the delivery areas set out in Section XX of the General Terms and Conditions.

- "Delivery Pressure Daily Demand Toll" shall mean the toll determined by multiplying the Delivery Pressure Monthly Demand Toll, as approved by the NEB (as set forth in the List of Tolls referred to in Section III hereof), by twelve (12) and dividing the result by the number of days in the Year.

- "Diversion" shall mean the delivery of quantities of gas at a delivery point and/or delivery area not specified in Shipper's FT, FT-SN, FT-NR, or MFP Contract.

- “EDI” means Electronic Data Interchange being the direct computer-to-computer transfer of information using ANSI ASC X12 protocol and a specific definition assigned by TransCanada under standards agreed to by a consensus of the natural gas industry (through standard-setting committees).

- “EDI format” shall mean a file format compliant with the ANSI ASC X12 protocol used for EDI and according to the specific definition assigned by TransCanada under standards agreed to by a consensus of the natural gas industry (through standard-setting committees).

- “Financial Assurance” shall have the meaning attributed to it in subsection XXIII(1) hereof.

- "Fuel Quantity" shall mean the quantity of gas expressed in gigajoules which is to be used by TransCanada as fuel for transporting Shipper's Authorized Quantity.

- "GJ" shall mean gigajoule being 1,000,000,000 joules and include the plural as the context requires.

- "GHV-97" shall mean the gross heating value for each delivery point as set out in the HV-97 Schedule attached to these general terms and conditions as adjusted in accordance with any Shipper election given to TransCanada prior to February 13, 1998.

- "GHV" shall mean gross heating value.

- "Gas" shall mean: (i) any hydrocarbons or mixture of hydrocarbons that, at a temperature of 15° C and a pressure of 101.325 kPa, is in a gaseous state, or (ii) any substance designated as a gas product by regulations made under section 130 of the National Energy Board Act.

- "Gross Heating Value" shall mean the total joules expressed in megajoules per cubic metre ($MJ/m^3$) produced by the complete combustion at constant pressure of one (1) cubic metre of gas with air, with the gas free of water vapour and the temperature of the gas, air and products of combustion to be at standard temperature and all water formed by combustion reaction to be condensed to the liquid state.

- "Joule" (J) shall mean the work done when the point of application of a force of one (1) newton is displaced a distance of one (1) metre in the direction of the force.

- "Linked FT Contract" or "Linked MFP Contract" shall mean the FT or MFP Contract(s) identified in Exhibit "B" of Shipper's STS-L Contract and such FT or MFP Contract shall satisfy the following:

    i. the delivery point shall be the same as the Market Point specified in Exhibit "A" of Shippers STS-L Contract;

    ii. is not identified in any other STS Contract or any Exhibit "B" of any other STS-L Contract;

    iii. has a minimum Linked Term of 1 month, and shall commence on the first day of a month and shall end on the last day of a month;

    iv. has a receipt point that is Empress or in the province of Saskatchewan.

- "Linked Term" shall have the meaning ascribed in Exhibit "B" of the STS-L Toll Schedule

- "Market Point" shall have the meaning ascribed in Exhibit "A" of the STS Contract or STS-L Contract as the case may be.

- "Month" shall mean the period beginning on the first day of the calendar month and ending at the beginning of the first day of the next succeeding calendar month.

- "Monthly Abandonment Surcharge" shall mean the monthly surcharge, as approved by the NEB and set forth in the List of Tolls referred to in Section III hereof, for service from a particular receipt point to a particular delivery point.

- "Monthly Demand Toll" shall mean the toll for transportation service as approved by the NEB and set forth in the List of Tolls referred to in Section III hereof.

- "Natural Gas Interchangeability Indices" shall have the meaning ascribed in section 5(iv).

- "NEB" shall mean the National Energy Board or any regulatory or government authority hereafter having a similar jurisdiction in substitution therefor.

- "Other Pipelines" shall mean the natural gas pipelines of Great Lakes Gas Transmission Limited Partnership, Union Gas Limited, Enbridge Gas Distribution Inc. and Trans Quebec & Maritimes Pipeline Inc.

- "Secondary Delivery" shall mean the delivery of quantities of gas at a delivery point on the Great Lakes Gas Transmission Limited Partnership pipeline system pursuant to Dawn LTFP Service.

- "Shipper" shall mean a customer of transportation service.

- "Shipper's Authorized Quantity" shall be as defined in subsection 1 of Section XXII.

- "Shipper's Maximum Hourly Flow Rate" shall mean, on any Day, the maximum hourly rate of flow of Gas Shipper may receive at a delivery point or area and which shall be equal to the sum of:

  a) 5% of the aggregate daily Contract Demand for all of Shipper's service pursuant to, FT, FT-NR, STFT, STS, STS-L, MFP, Herbert LTFP, Dawn LTFP and EMB Contracts which specify delivery of gas to such delivery point or area (excluding deliveries pursuant to STS, STS-L and EMB Contracts that are on a best efforts basis) minus all Diversions and Secondary Deliveries under such Contracts on such Day; and

  b) 5% of the aggregate Shipper's Authorized Quantity for deliveries to such delivery point or area under all of Shipper's IT and SSS Contracts, STS Overrun, Diversions and Secondary Deliveries on such Day and deliveries which are on a best effort basis pursuant to STS, STS-L and EMB Contracts.

- "Short Notice Service" shall mean service pursuant to a FT-SN Toll Schedule, SNB Toll Schedule or ST-SN Toll Schedule.

- "Storage Injection Point" shall have the meaning ascribed in Exhibit "A" of the STS Contract or the STS-L Contract as the case may be.

- "Storage Withdrawal Point" shall have the meaning ascribed in Exhibit "A" of the STS Contract or the STS-L Contract as the case may be.

- "Subsidiary" shall mean a company in which 50% or more of the issued share capital (having full voting rights under all circumstances) is owned or controlled directly or indirectly by another company, by one or more subsidiaries of such other company, or by such other company and one or more of its subsidiaries.

- "TAPs" shall be as defined in sub-section 1.1 of the Transportation Access Procedure.

- "Title Transfer" shall mean the transfer of title to gas between two (2) Shippers at a Title Transfer Point.

- "Title Transfer Point" shall be those points and areas where the quantity of gas allocated to each Shipper is established each day and is not subject to reallocation.

- "TransCanada" shall mean "TransCanada PipeLines Limited" and its successors.

- "Transportation Service Contract" shall mean "Firm Transportation Service Contract", "FT Contract", "Firm Transportation Short Notice Contract", "FT-SN Contract", "Non Renewable Firm Transportation Contract", "FT-NR Contract", "Herbert Long Term Fixed Price Contract", "Herbert LTFP Contract", "Dawn Long Term Fixed Price Transportation Service Contract", "Dawn LTFP Contract", "Interruptible Service Transportation Contract", "IT Contract", "Storage Transportation Service Contract", "STS Contract", "STS-L Contract", "Short Term Firm Transportation Service Contract", "STFT Contract", "Short Term Short Notice Service Contract", "ST-SN Contract", "Multi-Year Fixed Price Service Contract", "MFP Contract", "Enhanced Market Balancing Service Contract", "EMB Contract", "Summer Storage Service Contract", "SSS Contract",

- "Union Dawn Receipt Point Daily Demand Toll" shall mean the toll determined by multiplying the Union Dawn Receipt Point Monthly Demand Toll by twelve (12) and dividing the result by the number of days in the Year.

- "Union Dawn Receipt Point Surcharge" shall mean a charge payable by Shipper for service from the Union Dawn Receipt Point determined as follows:

  (a) for service under FT, FT-NR, FT-SN, MFP and EMB Transportation Service Contracts, by multiplying the Union Dawn Receipt Point Monthly Demand Toll by Shipper's Contract Demand; provided however that if Shipper's Contract Demand changes during a month, then a weighted average daily Contract Demand shall be determined for such month and shall be used to calculate the demand charge for such month; and

  (b) for service under all other Transportation Service Contracts, by multiplying the Union Dawn Receipt Point Daily Demand Toll by Shipper's Authorized Quantity.

- "Wobbe Index" shall mean a measure of the thermal input through a fixed orifice, calculated by dividing the natural gas Gross Heating Value in mega joules per cubic meter by the square root of the natural gas specific gravity with respect to air, based on a gross or higher heating value (HHV) at standard conditions 14.73 psi/60° F, 101.325Kpa/15° C real, dry basis.

- "Year" shall mean a period of 365 consecutive days commencing January 1st of any year; PROVIDED HOWEVER, that any such year which contains a date of February 29 shall consist of 366 consecutive days.

## II APPLICABILITY AND CHARACTER OF SERVICE

1. (a) Subject to the provisions of the applicable Toll Schedule and these General Terms and Conditions, on each day for which service is requested by Shipper, and authorized by TransCanada pursuant to Section XXII hereof, Shipper shall deliver and TransCanada shall receive, at the receipt point set out in Shipper's Contract (the "receipt point"), the Shipper's Authorized Quantity and TransCanada shall transport for Shipper and Shipper shall receive, at the delivery point set out in Shipper's Contract (the "delivery point"), a quantity of gas equal thereto; PROVIDED HOWEVER, that under no circumstances shall TransCanada be obligated to deliver to Shipper in any one day, at the delivery point, a quantity of gas in excess of the Contract Demand.

(b) If on any day Shipper fails to accept all or any portion of the gas delivered at the delivery point by TransCanada pursuant to the applicable Toll Schedule, TransCanada shall have the right to curtail further receipts of gas from Shipper at the receipt point in a quantity equal to that which Shipper failed to accept from TransCanada. If on any day Shipper requests service hereunder but fails, for whatever reason, to deliver gas to TransCanada at the receipt point, then TransCanada shall have the right to curtail further deliveries of gas to Shipper at the delivery point in a quantity equal to that which Shipper failed to deliver to TransCanada.

2. Shipper's Authorized Quantity shall, where applicable, be delivered on such day by Shipper to TransCanada at the receipt point or taken on such day by Shipper from TransCanada at the delivery point or area, as the case may be, at hourly rates of flow as nearly constant as possible; PROVIDED HOWEVER, that Shipper may not, without TransCanada's consent, take delivery of such gas at the delivery point or area at an hourly rate of flow in excess of the Shipper's Maximum Hourly Flow Rate.

3. Departures from scheduled daily deliveries due to the inability of TransCanada or Shipper to maintain precise control shall be kept to the minimum permitted by operating conditions.

4. From the time gas is delivered into the possession of TransCanada at the receipt point TransCanada shall have the unqualified right to commingle such gas with other gas in TransCanada's pipeline system.

## III TOLLS

1. The tolls applicable to service provided under any Contract into which these General Terms and Conditions are incorporated shall be determined:

(i) in the case of all transportation services, except Storage Transportation Service ("STS") and Storage Transportation Service-Linked ("STS-L"), within Canada where the receipt and delivery points are located in different provinces, on the basis of the tolls approved by the NEB in which the delivery point is located for gas which is delivered for consumption in Canada under a Contract in which the principal delivery point(s) specified therein do not include any export delivery points for gas destined for export to the United States; or

(ii) as fixed and approved by the NEB, on the basis of the receipt and delivery points for delivery of gas destined for export to the United States; or

(iii) in the case of STS and STS-L contracts and contracts providing receipt and delivery points within one province of Canada, as fixed and approved by the NEB, on the basis of the receipt point and delivery points set out therein; or

(iv) in the case of service pursuant to the SNB Toll Schedule, the MFP Toll Schedule, the Herbert LTFP Toll Schedule or the Dawn LTFP Toll Schedule, using a methodology approved by the NEB.

2. The tolls applicable to services provided pursuant to the Toll Schedules of TransCanada's Transportation Tariff are set out in the List of Tolls of TransCanada's Transportation Tariff as same may be amended from time to time upon approval of the NEB.

## IV SHIPPER PROVISION OF FUEL REQUIREMENTS

1. **Daily Operations**

(a) For each and every day in respect of which Shipper's Authorized Quantity is accepted by TransCanada for transportation, Shipper shall, in addition to Shipper's Authorized Quantity, nominate, pursuant to the provisions of Section 2 hereof, and make available to TransCanada at any receipt point specified in the contract and/or Alternate Receipt point for FT, FT-NR, FT-SN or MFP Contracts the Fuel Quantity ("Qf"), which quantity shall be determined as follows:

$$Qf = Qd \times FR\% / 100 + \Sigma (Qd_i \times fr_i\% / 100) + \Sigma (Qd_{Dawn} \times fr_{Dawn}\% / 100)$$

Where:

"FR%" is the applicable monthly fuel ratio respecting transportation service from the nominated receipt point to the nominated delivery point;

"$fr_i$%" is the applicable monthly fuel ratio for delivery pressure in excess of a gauge pressure of 4000 kilopascals at delivery point "i", both as set out in TransCanada's notice to Shipper delivered pursuant to Section 2 hereof;

"$fr_{Dawn}$%" is the applicable monthly fuel ratio respecting transportation service from the nominated Union Dawn Receipt Point to the nominated delivery point;

"Qd" is the Shipper's Authorized Quantity;

"$Qd_i$"is the quantity to be delivered at delivery point "i", for which point a toll for delivery pressure services has been approved by the NEB (as set forth in the List of Tolls referred to in Section III hereof);

"$Qd_{Dawn}$ "is the quantity to be transported by Shipper from the Union Dawn Receipt Point, for which a toll has been approved by the NEB (as set forth in the List of Tolls referred to in Section III hereof);

"$\Sigma$ ($Qd_i$ x $fr_i$% / 100)" represents the sum of the fuel quantities required for delivery pressure in excess of a gauge pressure of 4000 kilopascals at all points applicable to Shipper's Authorized Quantity; and

"$\Sigma$ ($Qd_{Dawn}$ x $fr_{Dawn}$ % / 100)" is the sum of the fuel quantities required for the Union Dawn Receipt Point applicable to Shipper's Authorized Quantity.

(b) TransCanada shall not be required to accept or deliver gas on any day if the appropriate Fuel Quantity has not been nominated by Shipper, or if TransCanada is unable to confirm that a quantity of gas equal to Shipper's Authorized Quantity plus the appropriate Fuel Quantity will, in fact, be made available on such day.

2. **Nominations and Authorizations**

Concurrent with nominating for transportation service for a given day, pursuant to Section XXII hereof, Shipper shall also nominate the Fuel Quantity to be made available to TransCanada on such day (the "fuel tender"). In the event TransCanada is not prepared to authorize Shipper's nomination or if TransCanada determines that Shipper's fuel tender is incorrect, TransCanada shall, by 14:00 hours CCT of the day immediately preceding the day for which service has been requested, advise Shipper to revise its fuel tender, and Shipper shall nominate such revised fuel tender by 15:00 hours CCT on such day. All fuel tenders shall be stated to the nearest one (1) GJ.

Shipper's fuel tender shall be determined by Shipper pursuant to the formula set out in subsection 1(a) hereof. On or before the twenty-fifth day of each month, TransCanada shall provide Shipper with written notice of the monthly fuel ratio to be applied during the next succeeding month. In the absence of any notice as aforesaid Shipper shall determine the fuel tender on the basis of the fuel ratio used in the immediately preceding month.

## V QUALITY

1. The gas to be delivered hereunder shall be natural gas; provided however, that helium, natural gasoline, butane, propane and any other hydrocarbons except methane may be removed prior to delivery. TransCanada may subject, or permit the subjection of the natural gas to compression, cooling, cleaning and other processes.

2. **Heating Value:** The minimum gross heating value of the gas to be received and delivered by TransCanada shall be 36.00 $MJ/m^3$. The maximum Gross Heating Value of the gas to be received and delivered by TransCanada shall be 41.34 $MJ/m^3$. TransCanada shall have the right to refuse to accept Shipper's gas if the Gross Heating Value of such gas remains below 36.00 $MJ/m^3$ or above 41.34 $MJ/m^3$.

   In the event that the Gross Heating Value of the gas to be delivered by TransCanada is below 36.00 $MJ/m^3$ or above 41.34 $MJ/m^3$ the Shipper shall have the option to refuse to accept such gas so long as the Gross Heating Value remains below 36.00 $MJ/m^3$ or above 41.34 $MJ/m^3$.

3. **Freedom from Objectionable Matter:** The gas to be received by TransCanada from Shipper and to be delivered by TransCanada hereunder:

   (a) Shall be commercially free (at prevailing pressure and temperature in TransCanada's pipeline) from sand, dust, gums, oils, hydrocarbons liquefiable at temperatures in excess of minus ten degrees (-10°) Celsius at five thousand five hundred (5500) kPa absolute, impurities, other objectionable substances which may become separated from the gas, and other solids or liquids which will render it unmerchantable or cause injury to or interference with proper operations of the lines, regulators, meters or other appliances through which it flows; and shall not contain any substance not contained in the gas at the time the same was produced other than traces of those materials and chemicals necessary for the transportation and delivery of the gas and which do not cause it to fail to meet any of the quality specifications herein set forth.

(b) Shall contain no more than twenty-three (23) milligrams of hydrogen sulphide per cubic metre nor more than one hundred and fifteen (115) milligrams of total sulphur per cubic metre of gas as determined by standard methods of testing.

(c) Shall not contain more than two per cent (2%) by volume of carbon dioxide.

(d) Shall have been dehydrated, if necessary, for removal of water present therein in a vapour state, and in no event contain more than sixty-five (65) milligrams of water vapour per cubic metre of gas.

(e) Shall not exceed a temperature of fifty degrees (50°) Celsius.

(f) Shall be as free of oxygen as practicable and shall not in any event contain more than four tenths of one percent (0.4%) by volume of oxygen.

(g) Shall not have a total inert gas content in excess of 4% when used as a diluent to meet Natural Gas Interchangeability Indices.

(h) Shall be free of any microbiological organisms, active bacteria or bacterial agents, including but not limited to sulphate reducing bacteria, iron oxidizing bacteria, and/or acid producing bacteria.

4. **Failure to Conform to Specifications Re Objectionable Matter:** If the gas being received by TransCanada from Shipper or transported by TransCanada to Shipper fails at any time to conform to any of the specifications set forth in subsection 3 of this Section, then the party receiving such gas (the “First Party”) shall notify the party delivering such gas (the “Second Party”) of such deficiency and thereupon the First Party may at the First Party's option refuse to accept delivery pending correction by the Second Party. Upon the Second Party's failure promptly to remedy any deficiency in quality as specified in subsection 3 of this Section, the First Party may accept delivery of such gas and may make changes necessary to bring such gas into conformity with such specifications, and the Second Party shall reimburse the First Party for any reasonable expense incurred by the First Party in effecting such changes.

5. **Natural Gas Interchangeability Indices:** The natural gas received by TransCanada shall conform to the following specifications (the “Natural Gas Interchangeability Indices”);

i) Weaver Incomplete Combustion Index less than or equal to 0.05;

ii) AGA Yellow Tipping Index greater than or equal to 0.86;

iii) The minimum Wobbe Index of the gas shall be 47.23 $MJ/m^3$;

iv) The maximum Wobbe Index of the gas shall be 51.16 MJ/$m^3$; and

v) Shall not contain greater than 1.5 mole percent (%) Butanes Plus.

The Natural Gas Interchangeability Indices are based on the following historical supply gas composition:

| Compound | Mole % |
|---|---|
| Methane | 95.6734 |
| Ethane | 1.6241 |
| Propane | 0.1410 |
| I-Butane | 0.0180 |
| N-Butane | 0.0173 |
| I-Pentane | 0.0034 |
| N-Pentane | 0.0034 |
| N-Hexane | 0.0014 |
| N-Heptane | 0.0007 |
| N-Octane | 0.0002 |
| Nitrogen | 1.8419 |
| Carbon Dioxide | 0.6411 |
| Helium | 0.0339 |

6. Refined Biogas received at the following Receipt Point(s) shall also comply with the BNQ Standard gas quality requirements.

i. Lachenaie Receipt Point

- Refined Biogas shall mean gas obtained from the purification of Biogas that meets the technical specifications required by TransCanada.
- Biogas shall mean gas produced through the fermentation of organic material in the absence of oxygen.
- BNQ Standard shall mean Bureau of normalisation du Quebec – BNQ 3672 – 100 Biomethane – Quality Specifications for Injection into Natural Gas Distribution and Transmissions Systems, as may be amended from time to time.

## VI MEASUREMENTS

1. **Unit of Volume and Unit of Quantity:** The unit of volume for the purpose of reporting shall be one thousand (1000) cubic metres ($10^3 m^3$) of gas and the unit of quantity shall be GJ.

2. **Determination of Volume and Gross Heating Value:** The volume and the gross heating value of the gas received by TransCanada from Shipper and delivered to Shipper shall be determined as follows:

   (a) The gas volumes shall be computed in accordance with the methodology prescribed in the Electricity and Gas Inspection Act (Canada) (R.S.C. 1985, c.E-4) as amended from time to time including all regulations and specifications promulgated pursuant to such Act (collectively, the "Electricity and Gas Inspection Act").

   (b) For the purpose of measurement of gas received into and delivered from the TransCanada system, the parties agree that the average absolute atmospheric (barometric) pressure at such points shall be assumed to be constant during the term thereof, regardless of variations in actual barometric pressure from time to time, and shall be calculated based on the elevation of the measurement point. The formula used to calculate the atmospheric pressure shall be in accordance with the methodology prescribed in the Electricity and Gas Inspection Act (Canada) (R.S.C. 1985, c.E-4) amended from time to time including all regulations and specifications promulgated pursuant to such Act.

   (c) The determination of the gross heating value of the gas received or delivered shall be performed in a manner approved under the Electricity and Gas Inspection Act or, if such specification is not set out in such Act, in accordance with industry accepted standards, and, in any event, in such manner as to ensure that the gross heating values so determined are representative of the gas received or delivered at the receipt or delivery point.

   (d) The determination of the relative density of the gas received or delivered shall be performed in a manner approved under the Electricity and Gas Inspection Act or, if such specification is not set out in such Act, in accordance with industry accepted standards, and, in any event, in such manner as to ensure that the relative densities so determined are representative of the gas received or delivered at the receipt or delivery point.

## VII DELIVERY POINT

1. For the purpose of Section VIII hereunder, unless otherwise specified in the Contract, the delivery point or points for all gas to be delivered by TransCanada to Shipper pursuant to any Contract into which these General Terms and Conditions are incorporated shall be on the outlet side of TransCanada's measuring stations located at or near the point or points of connection with the facilities of Shipper or Shipper's agent in receiving the gas, as specified in the Contract.

2. If the total quantity of gas delivered at any delivery point is less than 3750 GJ during any contract year, then Shipper shall pay TransCanada at the end of such contract year, in addition to any amounts otherwise payable, an amount equal to:

$$\frac{(\text{3750 GJ minus "X"}) \text{ times "Y"}}{\text{3750 GJ}}$$

Where "X" is the total quantity (expressed in GJ) actually delivered by TransCanada to all Shippers at such delivery point during such contract year; and

Where "Y" is 18% of TransCanada's actual original costs of installation of the delivery facilities at such delivery point.

## VIII POSSESSION OF GAS

TransCanada shall be deemed to be in control and possession of, and responsible for, all gas transported under the Contract from the time that such gas is received by it at the receipt point until such gas is delivered at the delivery point.

## IX MEASURING EQUIPMENT

1. All meters and measuring equipment for the determination of gross heating value and/or relative density shall be approved pursuant to, and installed and maintained in accordance with, the Electricity and Gas Inspection Act.

   Notwithstanding the foregoing, all installation of equipment applying to or affecting deliveries of gas shall be made in such manner as to permit an accurate determination of the quantity of gas delivered and ready verification of the accuracy of measurement. Care shall be exercised by both parties in the installation, maintenance and operation of pressure regulating equipment so as to

prevent any inaccuracy in the determination of the volume or quantity of gas delivered under the Contract.

(a) **Measuring Station:** In accordance with the above, TransCanada will install, maintain and operate, or will cause to be installed, maintained and operated, at or near each delivery point, a measuring station equipped with a meter or meters and other necessary equipment for accurate measurement of the gas delivered under the Contract.

2. **Calibration and Test of Measuring Equipment:** The accuracy of measuring equipment shall be verified by TransCanada at reasonable intervals, and if requested, in the presence of representatives of Shipper, but TransCanada shall not be required to verify the accuracy of such equipment more frequently than once in any thirty (30) day period. In the event either party shall notify the other that it desires a special test of any measuring equipment the parties shall co-operate to secure a prompt verification of the accuracy of such equipment. The expense of any such special test, if called for by Shipper, shall be borne by Shipper if the measuring equipment is found to be in error by not more than the limits set out as follows:

(a) 2% for measuring equipment utilized to determine volume,
(b) 1% for any instrument utilized to determine relative density,
(c) 0.5% for any instrument utilized to determine gross heating value.

If upon test, any measuring equipment is found to be in error by not more than the limits specified above, the previous readings of such equipment shall be considered accurate in computing deliveries or receipts of gas but such equipment shall be adjusted at once to register accurately.

If, for the period since the last preceding test, it is determined that:

(a) any measuring equipment, except for those instruments specified in (b) and (c) below, shall be found to be inaccurate by an amount exceeding 2% at a recording corresponding to the average hourly rate of flow for such period, and/or

(b) any instrument utilized to determine the relative density shall be found to be inaccurate by an amount exceeding 1%, and/or

(c) any instrument utilized to determine the gross heating value shall be found to be inaccurate by an amount exceeding 0.5%, then the previous readings of measurement equipment and/or instruments utilized to determine the relative density or gross heating

value, as the case may be, shall be corrected to zero error for any period which is known definitely but in any case where the period is not known or agreed upon such correction shall be for a period extending over 50% of the time elapsed since the date of the last test.

Notwithstanding the foregoing, when TransCanada and Shipper mutually agree that a measurement instrument inaccuracy occurred at a definite point in time, a quantity correction shall be made even though said inaccuracy is less than the limits specified in (a), (b) and (c) above.

3. **Correction of Metering Errors:** Failure of Meters: In the event a meter is out of service, or registering inaccurately, the volume or quantity of gas delivered shall be determined by the most equitable method. Such methods shall include but not be limited to:

   (a) mathematical calculations and comparisons including prevailing ratio with a parallel meter,

   (b) the use of Shipper's check measuring equipment, and

   (c) comparison to deliveries under similar conditions when the meter was registering accurately.

4. **Preservation of Metering Records:** TransCanada and Shipper shall each preserve for a period of at least six (6) years all test data, charts and other similar records. Microfilms of the original documents shall be considered true records.

5. **Check Measuring Equipment:** Shipper may install, maintain and operate at its own expense, such check measuring equipment as desired, provided that such equipment shall be so installed as not to interfere with the operation of TransCanada's measuring equipment. Any pressure or volume control regulators installed by Shipper shall be operated so as not to interfere with TransCanada's measuring facilities.

6. **Rights of Parties:** The measuring equipment so installed by either party together with any building erected by it for such equipment, shall be and remain its property. However, TransCanada and Shipper shall have the right to have representatives present at the time of any installing, reading, cleaning, changing, repairing, inspecting, testing, calibrating or adjusting done in connection with the other's measuring equipment used in measuring or checking the measurement of the delivery of gas under the Contract. The records from such measuring

equipment shall remain the property of their owner, but upon request each will submit to the other its records and charts, together with calculations therefrom, for inspection and verification, subject to return within ten days after receipt thereof.

## X BILLING

1. **Monthly Billing Date:** For all contracts in effect prior to the effective date of the NEB's Decision in the RH-2-95 proceeding, TransCanada shall render bills on or before the tenth (10th) day of each month for all transportation services provided by TransCanada within Canada ("Domestic Service") and on or before the fifteenth (15th) day of each month for all transportation services provided by TransCanada to any Export Delivery Point ("Export Service"). For gas taken by Shipper in excess of the total daily quantity authorized by TransCanada, TransCanada shall also render bills for charges made pursuant to Section XXII on or before the tenth (10th) day of each month, in respect of Domestic Service, and on or before the fifteenth (15th) day of each month, in respect of Export Service.

   For all Export Service Contracts coming into effect after the effective date of the NEB's Decision in the RH-2-95 proceeding, including the renewal of any Export Service Contracts which existed prior to such date, the billing date shall be the tenth (10th) day of each month.

2. **Information:** Shipper hereby undertakes to provide TransCanada with all the information and material required by TransCanada to calculate and verify the quantity of gas actually received by TransCanada from Shipper, and the quality specifications and components thereof.

   If such information is not received by TransCanada in sufficient time prior to TransCanada rendering bills to Shipper pursuant to this Section X, such bills shall be calculated based on TransCanada's best estimate of the quantity and quality of gas actually received by TransCanada from Shipper. Any overcharges or undercharges resulting from any differences between the above estimates and the actual amounts shall be adjusted in the subsequent bill without any interest thereon.

## XI PAYMENTS

1. **Monthly Payment Date:** For all contracts in effect prior to the effective date of the NEB's Decision in the RH-2-95 proceeding, Shipper shall pay to TransCanada, at its address designated in the Contract, or shall pay to the Royal Bank of Canada, Main Branch, Calgary, Alberta, or at

other institutions if agreed to by TransCanada for deposit to the account of TransCanada so that TransCanada shall receive payment from Shipper on or before the twentieth (20th) day of each month for Domestic Service, and by the twenty-fifth (25th) day of each month for Export Service (the "Payment Date") provided by TransCanada to Shipper pursuant to the applicable toll schedules and for any charges made pursuant to Section XXII herein during the preceding month and billed by TransCanada in a statement for such month according to the nominated and/or measured deliveries, computations, prices and tolls provided in the Contract. If the Payment Date is not a Banking Day, then payment must be received by TransCanada on Shipper's account or before the first (1st) Banking Day immediately prior to the Payment Date.

For all Export Service Contracts coming into effect after the effective date of the NEB's Decision in the RH-2-95 proceeding, including the renewal of any Export Service Contracts which existed prior to such date, the payment date shall be the twentieth (20th) day of each month; provided however, if the Payment Date is not a Banking Day, then payment must be received by TransCanada on Shipper's account on or before the first (1st) Banking Day immediately prior to the Payment Date.

2. **Remedies for Non-Payment: Notwithstanding Section XVII,** if Shipper fails to pay the full amount of any bill when payment is due, TransCanada may upon four (4) Banking Days written notice immediately suspend any or all service being or to be provided to Shipper provided however that such suspension shall not relieve Shipper from any obligation to pay any rate, toll, charge or other amount payable to TransCanada. If at any time during such suspension Shipper pays the full amount payable to TransCanada, TransCanada shall within two (2) Banking Days recommence such suspended service.

**Notwithstanding Section XVII** following suspension, TransCanada may, in addition to any other remedy that may be available to it, upon four (4) Banking Days written notice to Shipper immediately:

(a) terminate any or all service being or to be provided to Shipper; and
(b) declare any and all amounts payable now or in the future by Shipper to TransCanada for any and all service to be immediately due and payable as liquidated damages and not as a penalty.

In the event Shipper disputes any part of a bill, Shipper shall nevertheless pay to TransCanada the full amount of the bill when payment is due.

If Shipper fails to pay all of the amount of any bill as herein provided when such amount is due, interest on the unpaid portion of the bill accrues daily at a rate of interest equal to the prime rate of interest of the Royal Bank of Canada as it may vary from time to time, plus one percent (1%) and the principle and accrued interest to date shall be payable and due immediately upon demand.

3. **Adjustment of Underpayment, Overpayment or Error in Billing:** If it shall be found that at any time or times Shipper has been overcharged or undercharged in any form whatsoever under the provisions of the Contract and Shipper shall have actually paid the bills containing such overcharge or undercharge, then within thirty (30) days after the final determination thereof, TransCanada shall refund by cash or credit to an invoice the amount of any such overcharge, provided however the Abandonment Charge shall be refunded only by a credit on an invoice in any subsequent month that an Abandonment Charge would be payable. Any refund shall include interest which is equal to the prime rate of interest of the Royal Bank of Canada as it may vary from time to time from the time such overcharge was paid to the date of refund, plus one percent (1%) in addition thereto. If such refund is made by a credit on an invoice from TransCanada to Shipper, then the date of the refund shall be the date upon which the invoice reflecting such credit was rendered to Shipper by TransCanada. Shipper shall pay the amount of any such undercharge, but without interest. Adjustments to the amount billed in any statement rendered by TransCanada shall be made within the following time frames:

   (a) Measurement data corrections shall be processed within six (6) months of the production month with a three (3) month rebuttal period.

   (b) The time limitation for disputes of allocations shall be six (6) months from the date of the initial month-end allocation with a three (3) month rebuttal period.

   (c) Prior period adjustment time limits shall be six (6) months from the date of the initial transportation invoice with a three (3) month rebuttal period, excluding government-required rate changes.

These time limits shall not apply in the case of deliberate omission or misrepresentation or mutual mistake of fact. Parties' other statutory or contract rights shall not be otherwise diminished by these time limits.

4. **Time of Payment Extended if Bill Delayed:** If presentation of a bill to Shipper is delayed after the tenth (10th) or the fifteenth (15th) day of the month, as applicable for domestic or export service respectively, then the time of payment shall be extended accordingly unless Shipper is responsible for such delay.

## XII DELIVERY PRESSURE

Subject to the provisions set out in subsections a) and b) below, TransCanada shall deliver gas to Shipper at TransCanada's line pressure at the delivery point or points designated in the Contract, but the minimum pressure at each delivery point shall be not less than a gauge pressure of 4000 kilopascals or such lesser pressure that is agreed to by the parties; provided, however, that:

(a) the parties shall not be required in any Contract into which these General Terms and Conditions are incorporated, to agree to delivery pressures less than the minimum contractual pressure theretofore applicable at existing delivery point; and

(b) if the deliveries to Shipper at a delivery point or an agreed upon grouping of delivery points, exceeds the Shipper’s Maximum Hourly Flow Rate without the prior consent of TransCanada, and the delivery pressure to Shipper falls below the delivery pressure agreed to in the Contract, despite reasonable preventative measures undertaken by TransCanada, then TransCanada shall, for the period of such excess deliveries, be relieved of its contractual obligation to such Shipper to deliver gas at such delivery point or area affected by the excess deliveries at the delivery pressure stipulated in the Contract.

If the receipt point or points under Shipper's Contract include that point on TransCanada's system which is immediately east of the Alberta/Saskatchewan border ("Empress"), then Shipper agrees to cause NOVA Gas Transmission Ltd. (hereinafter called "NGTL") to design and construct sufficient facilities to allow Shipper's Authorized Quantity to be delivered to TransCanada at Empress at a gauge pressure of 4137 kPa or any greater pressure which may from time to time be specified by TransCanada for all gas to

be delivered into TransCanada's system at Empress and to cause NGTL to deliver Shipper's Authorized Quantity to TransCanada at NGTL's line pressure provided that said pressure shall not be less than a gauge pressure of 3792 kPa.

For any receipt point downstream of Empress, Shipper shall do or cause others to do all that is required to allow Shipper's Authorized Quantity to be delivered to TransCanada at a pressure no less than that prevailing in TransCanada's pipeline at such receipt point at the time of delivery and no greater than the maximum allowable operating pressure of TransCanada's pipeline at such point.

## XIII WARRANTY OF TITLE TO GAS

Shipper warrants that it owns or controls, has the right to:

1. deliver or have delivered, the gas that is delivered to TransCanada under the Contract;

2. transfer the gas pursuant to Section XXIV of these General Terms and Conditions.

Shipper shall indemnify and hold harmless TransCanada against all claims, actions or damages arising from any adverse claims by third parties claiming an ownership or an interest in the gas delivered for transport to TransCanada under the Contract or transferred pursuant to Section XXIV of these General Terms and Conditions.

## XIV FORCE MAJEURE

In the event of either Shipper or TransCanada being rendered unable, wholly or in part, by force majeure to perform or comply with any obligation or condition hereof or any obligation or condition in any Contract into which these General Terms and Conditions are incorporated, such party shall give notice and full particulars of such force majeure in writing or by telegraph to the other party as soon as possible thereafter, and the obligations of the party giving such notice, other than obligations to make payments of money then due, so far as they are affected by such force majeure, shall be suspended during the continuance of any inability so caused but for no longer period, and such cause shall as far as possible be remedied with all reasonable dispatch. The term "force majeure" as used herein shall mean acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraints of governments and people, civil disturbances, explosions, breakage or accident to machinery or lines of pipe, the necessity for making repairs to or alterations of machinery or lines of pipe, freezing of wells or lines of pipe, temporary failure of TransCanada's gas supply, inability to obtain

materials, supplies, permits or labour, any laws, orders, rules, regulations, acts or restraints of any governmental body or authority, civil or military, any act or omission (including failure to deliver gas) of a supplier of gas to, or a transporter of gas to or for, TransCanada which is excused by any event or occurrence of the character herein defined as constituting force majeure, any act or omission by parties not controlled by the party having the difficulty and any other similar causes not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome.

The settlement of strikes, lockouts or other labour disputes shall be entirely within the discretion of the party having the difficulty. Under no circumstances will lack of finances be construed to constitute force majeure.

In the event of an occurrence of a force majeure, TransCanada shall curtail delivery of gas to Shipper in accordance with Section XV hereof.

## XV IMPAIRED DELIVERIES

On each day TransCanada shall determine in respect of all Contracts:

(i) the total quantities which all Shippers have requested to be delivered on that day, and

(ii) its available system capacity, including the maximum transportation on TransCanada's behalf under agreements that it has with Other Pipelines.

If due to any cause whatsoever TransCanada is unable on any day to deliver the quantities of gas Shippers would have received if such disability did not exist, then TransCanada shall order curtailment by all Shippers affected thereby in the following manner to the extent necessary to remove the effect of the disability.

If TransCanada estimates that, notwithstanding its then inability to deliver, it nevertheless will be able to meet its total minimum obligations to deliver under all Contracts TransCanada shall order daily curtailment in the following order of priority:

(a) First under interruptible service provided pursuant to the IT Toll Schedule and under summer storage service provided pursuant to the SSS Toll Schedule.

The toll for STS Overrun is the Daily Demand Toll for STS service. STS Overrun will have a higher priority than i) IT when STS Overrun is tolled at an equal or higher price than IT; and ii) SSS when STS Overrun is tolled at an equal or higher price than SSS.

STS Overrun will have a lower priority than i) IT when the STS Overrun Toll is at a lower price than IT; and ii) SSS when the STS Overrun Toll is at a lower price than SSS.

(b) Second under any gas storage program of TransCanada.

(c) Third under:

Alternate Receipts made pursuant to FT, FT-SN, FT-NR, or MFP Contracts or Diversions made pursuant to FT, FT-SN, FT-NR, or MFP Contracts, or Secondary Deliveries made pursuant to Dawn LTFP Contracts, which:

A. cause the actual flow of gas on a lateral or extension to exceed the capability of the lateral or extension, and/or

B. cause the actual flow of gas through a metering facility to exceed the capability of the metering facility, and/or

C. cause the actual flow of gas on any segment of TransCanada's integrated pipeline system (including those notional segments comprised of TransCanada's maximum transportation entitlements under transportation agreements that it has with Other Pipelines) to exceed the capability of the affected segment by an amount greater than that which would have occurred had the gas which is the subject of an Alternate Receipt and/or a Diversion or a Secondary Delivery, been received at the receipt point and delivered at the delivery point(s) or delivery area specified in the FT, FT-SN, FT-NR, MFP or Dawn LTFP Contract. Solely for the purpose of making the aforesaid determination, TransCanada may, for certain quantities, treat the point of interconnection between TransCanada's system and the system of Union Gas Limited at Parkway as a delivery point specified in those FT, FT-SN, FT-NR or

MFP Contracts which have delivery points on the segment of TransCanada's integrated system from Kirkwall to Niagara Falls.

(d) Fourth, quantities to be delivered on a best efforts basis under EMB Contracts during the period of April 1 of a year to October 31 of the same year and quantities to be delivered on a best efforts basis under STS and STS-L Contracts.

(e) Fifth proportionately under:

(i) FT, FT-SN, FT-NR, STFT, ST-SN, SNB, STS, STS-L, MFP, Herbert LTFP, Dawn LTFP, and EMB Contracts (other than, quantities to be delivered on a best efforts basis under EMB Contracts during the period of April 1 of a year to October 31 of the same year and quantities to be delivered on a best efforts basis under STS and STS-L Contracts) in amounts proportional to the Operating Demand Quantities minus the quantities to be delivered pursuant to an Alternate Receipt, a Diversion or a Secondary Delivery of such Contracts.

(ii) Alternate Receipts made pursuant to FT, FT-SN, FT-NR or MFP Contracts and/or Diversions made pursuant to FT, FT-SN, FT-NR, and MFP Contracts and/or Secondary Deliveries made pursuant to Dawn LTFP Contracts, not already curtailed pursuant to subsection (c) above in amounts to be delivered pursuant to such Alternate Receipt and/or Diversion and/or Secondary Delivery.

(For the purpose of this subsection, the Operating Demand Quantity shall be:

(A) under FT Contracts, the Contract Demand;

(B) under FT-SN Contracts, the Contract Demand;

(C) under FT-NR Contracts, the Contract Demand;

(D) under MFP Contracts, the Contract Demand;

(E) under Herbert LTFP Contracts, the Contract Demand;

(F) under Dawn LTFP Contracts, the Contract Demand;

(G) under EMB Contracts, the Contract Demand;

(H) under STS Contracts, the Daily Injection Quantity or the Daily Withdrawal Quantity, as the case may be;

(I) under STS-L Contracts, the Daily Contract Injection Quantity and the Daily Contract Withdrawal Quantity;

(J) under STFT Contracts, the Maximum Daily Quantity;

(K) under ST-SN Contracts, the Maximum Daily Quantity; and

(L) under SNB Contracts, the Contract Quantity.

## XVI DETERMINATION OF DAILY DELIVERIES

1. A Shipper taking delivery of gas under contracts and/or toll schedules for more than one class of service in one delivery area or one Export Delivery Point shall be deemed on any day to have taken delivery of Shipper's Authorized Quantity under the applicable contract and/or toll schedule in accordance with such agreement as may exist between TransCanada and the downstream operator(s). Absent such agreement, shipper shall be deemed to have taken delivery of Shipper's Authorized Quantities sequentially as follows:

(a) FT and MFP Contracts

(b) FT-SN Contract

(c) FT-NR Contract

(d) Herbert LTFP Contract

(e) Dawn LTFP Contract

(f) STFT and ST-SN Contracts

(g) EMB Contract

(g) STS and STS-L Contracts

(i) IT Contract, Delivery Quantity

(j) SSS Contract, Delivery Quantity

## XVII DEFAULT AND TERMINATION

Subject to the provisions of Section XI, Section XIV, Section XV and Section XXIII of these General Terms and Conditions, if either TransCanada or Shipper shall fail to perform any of the covenants or obligations imposed upon it under any Contract into which these General Terms and Conditions are incorporated, then in such event the other party may, at its option, terminate such Contract by proceeding as follows: the party not in default shall cause a written notice to be served on the party in default stating specifically the default under the Contract and declaring it to be the intention of the party giving the notice to terminate such Contract; thereupon the party in default shall have ten (10) days after the service of the aforesaid notice in which to remedy or remove the cause or causes stated in the default notice and if within the said ten (10) day period the party in default does so remove and remedy said cause or causes and fully indemnifies the party not in default for any and all consequences of such default, then such default notice shall be withdrawn and the Contract shall continue in full force and effect.

In the event that the party in default does not so remedy and remove the cause or causes or does not indemnify the party giving the default notice for any and all consequences of such default within the said period of ten (10) days, then, at the option of the party giving such default notice, the Contract shall terminate. Any termination of the Contract pursuant to the provisions of this Section shall be without prejudice to the right of TransCanada to collect any amounts then due to it for gas delivered or service provided prior to the date of termination, and shall be without prejudice to the right of Shipper to receive any gas which it has not received but the transportation of which has been paid prior to the date of termination, and without waiver of any other remedy to which the party not in default may be entitled for breaches of the Contract.

This Section shall not apply to any default and terminations pursuant to Section XI and Section XXIII.

## XVIII NON-WAIVER AND FUTURE DEFAULT

No waiver by TransCanada or Shipper of any one or more defaults by the other in the performance of any provisions of the Contract shall operate or be construed as a waiver of any continuing or future default or defaults, whether of a like or different character.

## XIX DELIVERY AREAS

Deliveries of gas within a delivery area shall be subject to sufficient capacity and facilities within such delivery area.

**XX DELIVERY AREA BOUNDARIES**

TransCanada's delivery areas for purposes of determining the Contract Demand applicable to the points of delivery of TransCanada's pipeline system are as follows:

Saskatchewan Southern Delivery Area or SSDA
extends from a point on TransCanada's main pipeline at the Alberta- Saskatchewan border near Empress, Alberta to a point on TransCanada's main pipeline at the Saskatchewan-Manitoba border.

Manitoba Delivery Area or MDA
extends from a point on TransCanada's main pipeline at the Saskatchewan-Manitoba border to a point on TransCanada's pipeline at the Manitoba-Ontario border to a point on TransCanada's pipeline at the International Border near Emerson, Manitoba.

Western Delivery Area or WDA
extends from a point on TransCanada's pipeline at the Manitoba- Ontario border to a point on TransCanada's pipeline 24.99 kilometres east of TransCanada's Station 80 near Geraldton, Ontario.

Northern Delivery Area or NDA
extends from a point on TransCanada's pipeline 24.99 kilometres east of TransCanada's Station 80 near Geraldton, Ontario to a point on TransCanada's pipeline 23.09 kilometres south and east respectively of TransCanada's Station 116 near North Bay, Ontario.

Sault Ste. Marie Delivery Area or SSMDA
any point on TransCanada's Sault Ste. Marie pipeline.

North Central Delivery Area or NCDA
extends from a point on TransCanada’s pipeline 23.09 kilometres south of TransCanada’s Station 116 near North Bay Ontario, to a point on TransCanada’s pipeline 0.50 kilometres south of TransCanada’s Station 127 near Barrie Ontario, provided that points of delivery to the Enbridge Gas Distribution Inc. Gas within this area are deemed for the purposes of this Tariff to be in the Central Delivery Area.

Central Delivery Area or CDA
extends from a point on TransCanada's pipeline 0.50 kilometres south of TransCanada's Station 127 near Barrie Ontario to a point on TransCanada's pipeline at the International Border near Niagara Falls, Ontario and to a point on TransCanada's pipeline 24.99 kilometres east of TransCanada's Station 134 near Bowmanville, Ontario.

Southwestern Delivery Area or SWDA
any point on TransCanada's St. Clair to Dawn pipeline.

Eastern Delivery Area or EDA
extends from a point on TransCanada's pipeline 24.99 kilometres east of TransCanada's Station 134 near Bowmanville, Ontario and from a point on TransCanada's North Bay Shortcut 23.09 kilometres east of TransCanada's Station 116 near North Bay, Ontario to a point on TransCanada's pipeline at the International Border near Philipsburg, Québec and to a point on the pipeline system of Trans Québec & Maritimes Pipeline Inc. near Québec City, Québec.

## XXI INCORPORATION IN TOLL SCHEDULES AND CONTRACTS

1. These General Terms and Conditions are incorporated in and are a part of all of TransCanada's Toll Schedules, Contracts and transportation service contracts.

2. These General Terms and Conditions are subject to the provisions of the National Energy Board Act or any other legislation passed in amendment thereto or substitution therefor.

## XXII NOMINATIONS AND UNAUTHORIZED QUANTITIES

1. **Nominations**

For service required on any day under each of Shipper's transportation contracts (for the purposes of this Section XXII the "said Contract"), Shipper shall provide TransCanada with a nomination of the quantity of gas, expressed in GJ, it desires TransCanada to deliver at the delivery point ("Shipper's nomination") or Title Transfer pursuant to Section XXIV of these General Terms and Conditions. Unless otherwise provided under the applicable Toll Schedule or as outlined under this section in the Schedule of Nomination Times below, such nominations are to be provided in writing or EDI format, or by other electronic means, so as to be received by TransCanada's Gas Control Department in Calgary on or before 12:00 hours CCT on the day

immediately preceding the day for which service is requested. Subject to the provisions of the applicable toll schedules and Sections XIV and XV of these General Terms and Conditions, TransCanada shall determine whether or not all or any portion of Shipper's nomination will be accepted.

In the event TransCanada determines that it will not accept such nomination, TransCanada shall advise Shipper, (on or before 14:00 hours CCT on the day immediately preceding the day for which service is requested), of the reduced quantity of gas, (if any) (the "quantity available") that TransCanada is prepared to deliver under the said Contract. Forthwith after receiving such advice from TransCanada but no later than 1 hour after receiving such notice on such day, Shipper shall provide a revised nomination to TransCanada which shall be no greater than the quantity available. If such revised nomination is not provided within the time allowed as required above or such revised nomination is greater than the quantity available, then the revised nomination shall be deemed to be the quantity available. If the revised nomination (delivered within the time allowed as required above) is less than the quantity available, then such lesser amount shall be the revised nomination. That portion of a Shipper's nomination or revised nomination, which TransCanada shall accept for delivery shall be known as "Shipper's Authorized Quantity" which authorized quantity shall be limited, for firm services, to Shipper's Contract Demand and, for other services, to such quantity permitted by the provisions of the Contract.

**Schedule of Nomination Times (CCT)**

| Gas Day Time | Class of Service * | Effective 0900 Hours Next Gas Day |
|---|---|---|
| 12:00 | All Services | Faxed, website & EDI (website & EDI commencing on October 1, 1997) |

****** Effective October 1, 1997 nominations for service must be received by TransCanada through its website or EDI at the time specified pursuant to Section XXII of the General Terms and Conditions. TransCanada shall not accept nominations by fax unless TransCanada's website and EDI systems are inoperative, except in the case of FT-SN and SNB Service. Nominations for FT-SN and SNB Service shall be submitted to TransCanada via fax or by other electronic means as determined from time to time by TransCanada.

**2. Definitions in Section XXII**

In this Section XXII, the following terms shall be construed to have the following meanings:

(a) "Total Allocated Quantity":

(i) for any receipt point, means the total quantity of gas which TransCanada determines has been received during any time period under all transportation service contracts with a Shipper; and

(ii) for any delivery point or delivery area, means the total quantity of gas which TransCanada determines has been delivered during any time period under all transportation service contracts with a Shipper.

(b) "Total Authorized Quantity" or “TAQ” for any day:

(i) for any receipt point, means the sum of the Shipper's Authorized Quantities under all transportation service contracts at that receipt point**.**

(ii) for any delivery point or delivery area, means the sum of the Shipper's Authorized Quantities under all transportation service contracts at a delivery point or for that delivery area.

(c) "Daily Variance" for a Shipper at any receipt or delivery point or delivery area means the absolute difference between the Total Authorized Quantity and the Total Allocated Quantity.

(d) "FT Daily Demand Charge" or “FTD” means the Daily Demand Toll for FT service from Empress to KPUC EDA, as set out in the List of Tolls.

(e) "Average Authorized Quantity" or “AAQ” for a Shipper at any receipt or delivery point or delivery area means the average Total Authorized Quantity during the preceding 30 days.

(f) "Cumulative Variance" is the absolute value accumulation of the daily differences between the Total Authorized Quantity and the Total Allocated Quantity for a Shipper at any delivery point, delivery area or receipt point.

3. **Emergency Operating Conditions**

(a) EOC Definition

“Emergency Operating Conditions” (“EOC”) means that TransCanada determines, in the exercise of its reasonable judgement, that its ability to fulfill its obligations under firm contracts is at risk due, in whole or in part, to Shipper variances during periods of extreme weather changes, and/or supply, market, pipeline interruptions, and TransCanada issues an EOC notice pursuant to subsection 3(b).

(b) EOC Notices

If TransCanada determines an EOC exists, TransCanada shall issue notice to all Shippers via High Priority Bulletin on its website setting out the following information related to the EOC:

i) EOC effective time, and

ii) anticipated duration of the EOC, and

iii) delivery points and delivery areas where EOC is in effect

In addition to such notice, TransCanada will use reasonable efforts to contact by phone those Shippers directly impacted by the EOC.

(c) EOC Effective Times

If TransCanada issues notice of EOC prior to 13:00 Central Clock Time (CCT), then the EOC takes effect on that day. If TransCanada issues notice of EOC after 13:00 CCT, then the EOC takes effect on the next day. The EOC will remain in effect until the operational condition has been remedied.

4. **Daily Balancing Fee**

On each day Shipper shall pay a "Daily Balancing Fee" equal to:

(Tier 1 Quantity times Tier 1 Fee); plus

(Tier 2 Quantity times Tier 2 Fee); plus

(Tier 3 Quantity times Tier 3 Fee); plus

(Tier 4 Quantity times Tier 4 Fee).

Where:

(a) Tier 1, 2, 3, 4 Fees and Quantities are set out in the following Table:

| | **Tier 1** | **Tier 2** | **Tier 3** | **Tier 4** |
|---|---|---|---|---|
| Minimum Quantity | Greater of:<br>2% of TAQ, or<br>2% of AAQ or<br>75 GJ | Greater of:<br>4% if TAQ, or<br>4% of AAQ, or<br>150 GJ | Greater of:<br>8% of TAQ, or<br>8% of AAQ, or<br>302 GJ | Greater of:<br>10% of TAQ, or<br>10% of AAQ, or<br>377 GJ |
| Maximum Quantity | Greater of:<br>4% of TAQ, or<br>4% of AAQ, or<br>150 GJ | Greater of:<br>8% of TAQ, or<br>8% of AAQ, or<br>302 GJ | Greater of:<br>10% of TAQ, or<br>10% of AAQ, or<br>377 GJ | ∞ (Infinity) |
| Standard Fee | 0.2 times FTD | 0.5 times FTD | 0.75 times FTDC | 1.0 times FTD |
| EOC Draft Fee | 1.0 times Index | 1.25 times Index | 1.50 times Index | 2.0 times Index |
| EOC Pack Fee | 0 | 0 | 0 | 0 |

(a) Quantity for each Tier equals that portion of the Daily Variance which is greater than the Minimum Quantity and less than the Maximum Quantity.

(b) The applicable Fee for each Tier equals:

(i) Standard Fee for days and locations where EOC are not in effect,

(ii) EOC Draft Fee for days and locations where EOC are in effect and where Shipper's Total Authorized Quantity is less than Shipper's Total Allocated Quantity, and

(iii) EOC Pack Fee for days and locations where EOC are in effect and where Shipper's Total Authorized Quantity is greater than Shipper's Total Allocated Quantity.

(c) No Daily Balancing Fee is payable on the portion of a Daily Variance which is less than 75 GJ.

(d) The Daily Balancing Fee is added to the bill for the month in which the day is included.

(e) "Index" means the highest price of gas on the day among all receipt and delivery points on the TransCanada pipeline system as published by Platts Gas Daily or such other recognized industry publication.

5. **Cumulative Balancing Fee**

On each day Shipper shall pay a "Cumulative Balancing Fee" equal to:

(Tier 1 Quantity times Tier 1 Fee); plus

(Tier 2 Quantity times Tier 2 Fee).

Where:

(a) Tier 1, 2 Fees and Quantities are set out in the following Table:

| | **Tier 1** | **Tier 2** |
|---|---|---|
| Minimum Quantity | Greater of:<br>4% of TAQ, or<br>4% of AAG, or<br>150 GJ | Greater of:<br>6% of TAQ, or<br>6% of AAQ, or<br>225 GJ |
| Maximum Quantity | Greater of:<br>6% of TAQ, or<br>6% of AAQ, or<br>225 GJ | ∞ (Infinity) |
| Standard Fee | 0.15 times FTD | 0.25 times FTD |
| EOC Draft Fee | 0.15 times FTD | 0.25 times FTD |
| EOC Pack Fee | 0 | 0 |

(b) Quantity for each Tier equals that portion of the Cumulative Variance which is greater than the Minimum Quantity and less than the Maximum Quantity.

(c) The applicable Fee for each Tier equals:

(i) Standard Fee for days and locations where EOC are not in effect,

(ii) EOC Draft Fee for days and locations where EOC are in effect and where Shipper's accumulated Total Authorized Quantity is less than Shipper's accumulated Total Allocated Quantity, and

(iii) EOC Pack Fee for days and locations where EOC are in effect and where Shipper's accumulated Total Authorized Quantity is greater than Shipper's accumulated Total Allocated Quantity.

(d) No Cumulative Balancing Fee is payable on the portion of an Absolute Cumulative Variance which is less than 150 GJ.

(e) The Cumulative Balancing Fee is added to the bill for the month in which the day is included.

(f) A Cumulative Balancing Fee is in addition to Daily Balancing Fees payable under subsection 4 of Section XXII, and an additional Cumulative Balancing Fee is payable on each day where there is an Absolute Cumulative Variance.

**6. Payback Provisions**

(a) Shippers may reduce Cumulative Variances through nomination of "Payback Quantities" which shall be nominated and authorized in accordance with these General Terms and Conditions.

TransCanada is not obligated to provide additional transportation capacity to deliver Payback Quantities.

(b) If, on any day, a Shipper nominates a Payback Quantity under subsection (d), and TransCanada is unable to deliver or receive a quantity ("Minimum Payback Quantity") equal to the lesser of:

(i) Shipper's nominated Payback Quantities, or

(ii) the greater of:

(a) two percent of the Total Authorized Quantity,

(b) two percent of the Average Authorized Quantity, and

(c) 75 GJ

then Shipper is relieved from the Cumulative Balancing Fee by a quantity ("Payback Relief Quantity") equal to the difference between:

(iii) the Minimum Payback Quantity, and

(iv) The level of Payback Quantities which TransCanada was able to deliver or receive.

The relief from Cumulative Balancing Fees shall apply for each day until TransCanada delivers or receives the Payback Relief Quantity. No Payback Relief will be granted as a result of TransCanada not authorizing a transportation service.

(c) If TransCanada determines, in its sole discretion, that its ability to meet firm obligations is at risk due to Shipper variances, and after curtailment of all discretionary transportation services that are hindering TransCanada's ability to meet its firm obligations, TransCanada may, without further notice, adjust Shipper's nominations for any day in order to reduce Shipper's Cumulative Variance to zero.

7. **Obligation to Balance Accounts**

Payments of balancing fees under this Section XXII do not give Shipper the right to receive or deliver unauthorized quantities, or incur Cumulative or Daily Variances, nor shall payment of the balancing fees be a substitute for other remedies available to TransCanada.

8. **Energy Imbalance Recovery**

(a) Cumulative energy imbalances that result from energy in transit, accumulated fuel imbalances and imbalances held under other applicable accounts, shall be recovered in the following manner:

(i) on the 20th Day of each month, TransCanada shall advise Shipper in writing of all cumulative energy imbalances attributed to Shipper arising up to the end of the 19th Day of such month and carried forward or arising from previous months, provided however that such cumulative energy imbalances for export delivery points referred to in subsection 8(b) shall be the amount by which the cumulative energy imbalance at such points exceed 50 GJ;

(ii) the cumulative energy imbalance reported to Shipper shall be aggregated at each applicable location from all of Shipper's Contracts, nomination groups and other applicable accounts;

(iii) on or before the 3rd last Day of each month, Shipper may reduce the cumulative energy imbalances reported by TransCanada.

(iv) The cumulative energy imbalance after giving effect to applicable offsetting transactions (the “Net Imbalance”), shall be determined on:

(A) the end of the 3rd last Day of such month if the cumulative energy imbalance is less than the cumulative energy imbalance on the 19th Day of such month; or

(B) the 19th Day of such month if the cumulative energy imbalance on the 3rd last Day of such month is greater than the energy balance on the 19th Day of such month.

The Net Imbalance shall be scheduled and recovered in equal amounts on each Day over the first 15 Days, or a lesser number of Days as mutually agreed to by Shipper and TransCanada, of next month (the "Recovery Period"). The amount of the Net Imbalance to be recovered each Day of the Recovery Period (the "Daily Imbalance Recovery") will be determined by TransCanada and verbally communicated to Shipper on the 2nd last Day of each month. Shipper shall nominate the Daily Imbalance Recovery on each Day of the Recovery Period as an "Imbalance Payback" under the Shipper account (nomination group) with the largest energy imbalance as determined by TransCanada based on the most recent monthly statements available.

(vi) in nominating the Daily Imbalance Recovery, Shipper will ensure that all nominations remain in balance. Any nomination received from Shipper which does not include the required Daily Imbalance Recovery will, at TransCanada's sole discretion, be either rejected or forced to balance by TransCanada. TransCanada is authorized to curtail Shipper's gas supply and market, as necessary, to balance the nomination after accounting for the Daily Imbalance Recovery;

(vii) where applicable, deliveries of the Daily Imbalance Recovery shall be the first deliveries made under the nomination on each Day of the Recovery Period; and

(viii) any imbalance shall be deemed to have occurred and shall be held at the primary receipt point specified in the transportation service agreement.

(b) Cumulative energy imbalances at export delivery points that result from rounding when converting between energy units used for daily scheduling purposes shall be subject to the following:

(i) Each Day Shipper shall be entitled to an energy imbalance of up to 5 GJ provided however, Shipper's cumulative energy imbalance at any time shall not exceed 50 GJ;

(ii) Shipper may reduce its cumulative energy imbalance on any Day by up to 10 GJ provided however, such reduction shall not result in the cumulative energy imbalance moving from a positive imbalance to a negative imbalance, or from a negative imbalance to a positive imbalance.

## XXIII FINANCIAL ASSURANCES

**1. Financial Assurance for Performance of Obligations:** TransCanada may request that Shipper (or any assignee) at any time from time to time prior to and during service, provide TransCanada with an irrevocable letter of credit or other assurance acceptable to TransCanada, in form and substance satisfactory to TransCanada and in an amount determined in accordance with subsection XXIII(3) hereof (the "Financial Assurance").

**2. Failure to Provide Financial Assurance:** TransCanada may withhold the provision of new service until TransCanada has received a requested Financial Assurance.

**Notwithstanding Section XVII,** if Shipper fails to provide a requested Financial Assurance to TransCanada within four (4) Banking Days of TransCanada's request, TransCanada may upon four (4) Banking Days written notice immediately suspend any or all service being or to be provided to Shipper provided however that any such suspension shall not relieve Shipper from any obligation to pay any rate, toll, charge or other amount payable to TransCanada. If at any time during such suspension Shipper provides such Financial Assurance to TransCanada, TransCanada shall within two (2) Banking Days recommence such suspended service.

**Notwithstanding Section XVII,** if Shipper fails to provide such Financial Assurance during such suspension, TransCanada may, in addition to any other remedy that may be available to it, upon four (4) Banking Days written notice to shipper immediately:

a) Terminate any or all service being or to be provided to Shipper; and

b) Declare any and all amounts payable now or in the future by Shipper to TransCanada for any and all service to be immediately due and payable as liquidated damages and not as a penalty.

Any notice provided by TransCanada to Shipper to withhold, suspend or terminate service pursuant to **sub-Section XXIII(2) hereof** shall be filed concurrently with the NEB.

3. **Amount of Financial Assurance:** The maximum amount of Financial Assurance TransCanada may request from a Shipper (or assignee) shall be as determined by TransCanada an amount equal to:

a) for the provision of all gas transportation and related services, other than such services referred to in **sub-Section XXIII(3)(b),** the aggregate of all rates, tolls, charges or other amounts payable to TransCanada for a period of seventy (70) days. Provided however, the amount of the Financial Assurance for all rates, tolls and charges other than demand charges shall be based on the daily average of the actual charges billed for service for the preceding twelve (12) month period with the initial forecast to be provided by Shipper; and

b) for the provision of any gas transportation and related services where TransCanada determines it must construct facilities and Shipper has executed the Financial Assurances Agreement defined in Section 5.4(c)(ii) of the Transportation Access Procedure, the aggregate of all rates, tolls, charges or other amounts payable to TransCanada for a period of seventy (70) days plus one (1) month for each remaining year of the term of such service, up to a maximum of twelve (12) months total.

Nothing in this Section XXIII shall limit Shipper's right to request the NEB to issue an order, under sub-section 71(2) of the National Energy Board Act, requiring TransCanada to receive, transport

and deliver gas offered by Shipper for transmission, or to grant such other relief as Shipper may request under the circumstances, notwithstanding Shipper's default under this Section XXIII.

## XXIV TITLE TRANSFERS

Shippers may request and TransCanada shall authorize Title Transfers subject to the following:

a. TransCanada receives a nomination satisfactory to TransCanada from each Shipper that is a party to a Title Transfer;

b. If TransCanada determines at any time that any title transfer account of a Shipper is out of balance, TransCanada may, without notice to the title transfer account holder, curtail transfers up to such amounts as TransCanada deems necessary to bring all affected title transfer accounts into balance. In so doing, TransCanada shall have no liability whatsoever to Shipper or any third party claiming through Shipper for any claims, actions or damages of any nature arising out of or in any way related to such curtailment

## XXV LIABILITY AND LIMITATION OF LIABILITY

TransCanada's and Shipper's liability to each other is limited to direct damages only. In no event, other than in the case of gross negligence or wilful default, shall either TransCanada or Shipper be liable for loss of profits, consequential, incidental, punitive, or indirect damages, in tort, contract or otherwise.

**HV-97 SCHEDULE**

| **Area** | **Heating Value** |
|---|---|
| | MJ/m3 |
| | |
| CHIPPAWA | 37.77 |
| CORNWALL | 37.69 |
| EMERSON 1 | 37.68 |
| EMERSON 2 | 37.68 |
| EMPRESS | 37.73 |
| IROQUOIS-EXP. | 37.68 |
| NAPIERVILLE | 37.68 |
| NIAGARA FALLS | 37.75 |
| PARKWAY ENBRIDGE | 37.69 |
| PARKWAY UNION | 37.68 |
| PHILIPSBURG | 37.68 |
| ST-LAZARE | 37.69 |
| SABREVOIS | 37.69 |
| SPRUCE | 37.68 |
| ST. CLAIR | 37.72 |
| NCDA, UNION GAS LIMITED | 37.69 |
| CDA, ENBRIDGE GAS DISTRIBUTION INC. | 37.69 |
| CDA, UNION GAS LIMITED | 37.68 |
| EDA, UNION GAS LIMITED | 37.68 |
| EDA, GAZ METROPOLITAIN & CO. L.P. | 37.69 |
| EDA, KINGSTON PUBLIC UTILITIES COMM | 37.68 |
| EDA, ENBRIDGE GAS DISTRIBUTION INC. | 37.69 |
| MDA, CENTRA GAS MANITOBA INC | 37.68 |
| MDA, CENTRA TRANSMISSION HOLDINGS | 37.68 |
| MDA, GLADSTONE AUSTIN | 37.68 |
| NDA, UNION GAS LIMITED | 37.68 |
| NDA, GAZ METROPOLITAIN & CO. L.P. | 37.68 |
| NDA, TRANSCANADA POWER, L.P. | 37.68 |
| SSDA, CENTRA GAS MANITOBA INC | 37.67 |
| SSDA, TRANSGAS LTD. | 37.66 |
| SSMDA UNION GAS LIMITED. | 37.71 |
| SWDA, ENBRIDGE GAS DISTRIBUTION INC | 37.68 |
| SWDA, UNION GAS LIMITED | 37.71 |
| WDA, UNION GAS LIMITED | 37.68 |
| WDA, TRANSCANADA POWER, L.P. | 37.67 |

**REFERENCE:**

Tab 12 – Terms and Conditions of Service

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

IGU requires further information to understand the requested changes to Centra's Terms and Conditions of Service

**QUESTION:**

d) For each rate class, please provide the current number of customers subscribing to sales service compared to T-Service.
e) For each year from 2011/12 to present, please provide the number of customers who have migrated from T-service to Sales Service and vice versa.

**RESPONSE:**

d) As of March 2019, the following table identifies the number of customers in each respective rate class. As noted in Centra's Application filing,[1] the total number of T-Service customers is 15.

[1] Tab 12, page 3 of 13, line 25

| Rate Class | Number of Customers |
|---|---|
| **System Supply** | |
| SRES-S | [redacted] |
| SCOM-S | |
| LGS-S | |
| HVF-S | |
| MLF-S | |
| INT-S | |
| **Fixed Rate Offering** | |
| SRES-F | [redacted] |
| SCOM-F | |
| LGS-F | |
| **WTS** | |
| SRES-W | [redacted] |
| SCOM-W | |
| LGS-W | |
| HVF-W | |
| **T-Service** | |
| HVF-T | [redacted] |
| MLF-T | |
| PSB-T | |
| PSS-T | |
| SPEC-T | |
| **TOTAL** | |

1d

e) The following table represents the number of customers that have migrated to/from T-Service by fiscal year since 2011/12.

| Fiscal Year | Migrated From T-Service to Sales Service | Migrated From Sales Service to T-Service |
|---|---|---|
| 2011/12 | 0 | 0 |
| 2012/13 | 0 | 0 |
| 2013/14 | 1 | 0 |
| 2014/15 | 1 | 2 |
| 2015/16 | 0 | 0 |
| 2016/17 | 0 | 0 |
| 2017/18 | 2 | 0 |
| 2018/19 | 0 | 0 |

**REFERENCE:**

Tab 12 – Terms and Conditions of Service

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

IGU requires further information to understand the requested changes to Centra's Terms and Conditions of Service

**QUESTION:**

f) Please provide copies of all presentations and other materials referenced on lines 6 through 15 of page 5 of Tab 12 including the October 2016 presentation.

g) Please provide the number of existing T-Service customers who use less than 2,500 GJ/day and the number of existing T-Service customers who use more than 2,500 GJ/day. Please also provide the breakdown for customers referenced in part (e) above.

h) With reference to the statement at page 6, lines 13 through 17, please quantify the 'significant daily imbalances' both in terms of the customer's daily usage and as a percentage of Centra's average daily load.

i) Please provide the current TCPL fees for imbalances referenced at line 30 of page 6 of Tab 12.

j) Based on existing usage, what is the range of financial impacts that current T-Service customers would be charged as a result of Centra's balancing fee proposal if no changes are enacted in customer operations.

k) Please provide an illustrative example of how balancing fees would be charged based on a typical event Centra has experienced. Please ensure the example shows the units or billing determinants, the per unit charge and the total charge.

l) If Centra collects gas balancing fees in excess of what Centra pays to TCPL, how will excess revenues be refunded to Centra customers and if so, how will they be proportioned?

m) What differences, if any in balancing fee collection is Centra proposing between customers who buy gas from Centra versus customers who do not buy gas from Centra?

n) What methodologies will Centra use to determine if the 50% fee level needs to be adjusted in the future and by what amount?

o) Will Centra collect balancing fees when they are due to external events beyond a customer's control such as power failures or extreme weather and if so, why?
p) For T service customers subjected to balancing fees now, how was the daily tolerance and cumulative tolerances determined?
q) Was the same methodology in determining balancing fees employed for all T service customers?
r) Are there any other indirect charges proposed to be collected by Centra related to balancing other than foregone Capacity Management revenue?
s) How will Centra confirm to customers, including special contract class customers, that it will comply with contract terms with respect to balancing charges?

**RESPONSE:**

f) Please see the response to PUB/Centra I-149 a) for a copy of the October 2016 presentation to T-Service customers. Please see the response and attachments to PUB/Centra I-149 b) for the additional information provided to T-Service customers.

g) Please see the response to PUB/Centra I-150 b). Of those customers who migrated to and from T-Service since 2011/12, none of them have average daily consumption of more than 2,500 GJ/day.

h) Please see the attachment to this response.

i) Please see the response to PUB/CENTRA I-145a.

j) The premise of this question is unclear given that the purpose of the new balancing fee structure is to incent customers to make improvements relative to their current forecasting and balancing efforts, if that is what is meant by "customer operations". Please also see the response to PUB/CENTRA I-147b.

k) The mechanics and calculation of the proposed balancing fees are provided in the pro-forma monthly reporting that Centra has been providing to all 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-149b. Please also see the response to IGU/CENTRA I-26.

l) Please see the response to IGU/CENTRA I-1a through c.

m) For T-Service customers, balancing fees, if applicable, would be itemized and recovered on the customer's next monthly bill. For all Sales Service customers (regardless of whether they are system-supplied or WTS), balancing fee collection occurs through the Transportation PGVA and related rate riders. Please also see the response to IGU/CENTRA I-1a through c.

n) 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, in which case the 50% fee level will not need to be adjusted.

   Centra will monitor the performance of T-Service customers by tracking their average and maximum daily imbalances over time, as illustrated in the response to PUB/CENTRA I-150c. Given the baseline from which performance will be assessed, which is that under the status quo methodology 11 of 15 customers know that they will never incur balancing fees and respond accordingly, it should not be difficult to demonstrate some degree of improvement.

o) 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 behaviour needed to protect the integrity and reliability of the pipeline and to 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.

As for the specific example of a power failure, Centra advised T-Service customers in their meetings with them that they should continue with the existing practice of contacting their Manitoba Hydro account representative in the event of a power failure at their facility, and that those situations would need to be assessed and addressed on a case by case basis.

p) The daily and cumulative absolute tolerances were established as a direct result of feedback from T-Service customers and their nominating agents. Centra's original proposal was to mirror the TCPL Mainline's balancing fee structure which would have provided customers with a daily absolute tolerance of 2% (on a simplified basis). However, the feedback provided during Centra's consultation with T- Service customers was that 2% was too restrictive and difficult to attain. That feedback resulted in Centra altering its original proposal to provide absolute daily and cumulative tolerances of approximately 7%.

q) Please see the response to PUB/CENTRA I-145e for a description of the current methodology. Going forward, balancing fees will consistently be modeled on the TCPL Mainline's balancing fee structure, as described in the response to PUB/CENTRA I-145a.

r) Please see the response to PUB/CENTRA I-147a.

s) Balancing fees, if applicable, will be itemized and recovered on the customer's next monthly bill. Detailed reporting will be provided as back-up to the customer's bill, an example of which can be found in Attachment 1 to PUB/CENTRA I-149b.

**Centra Gas Manitoba Inc.**
**2019/20 General Rate Application**

| | 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 | 1d Average Absolute Daily Imbalance as % of Centra's Average Daily Load |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | Customer A | 1,641 | 215 | 13% | 1,528 | 93% | |
| 3 | Customer B | 1,930 | 215 | 11% | 1,453 | 75% | |
| 4 | Customer C | 2,035 | 290 | 14% | 1,857 | 91% | |
| 5 | Customer D | 4,166 | 146 | 4% | 1,970 | 47% | |
| 6 | Customer E | 6,467 | 1,109 | 17% | 4,287 | 66% | |
| 7 | Customer F | 8,439 | 817 | 10% | 3,588 | 43% | |
| 8 | Customer G | 683 | 134 | 20% | 1,034 | 151% | |
| 9 | Customer H | 1,579 | 350 | 22% | 1,408 | 89% | |
| 10 | Customer I | | | 2% | | 44% | 2d |
| 11 | Customer J | 2,280 | 295 | 13% | 1,166 | 51% | |
| 12 | Customer K | 1,446 | 190 | 13% | 1,546 | 107% | |
| 13 | Customer L | 285 | 48 | 17% | 302 | 106% | |
| 14 | Customer M | 824 | 187 | 23% | 907 | 110% | |
| 15 | Customer N | 750 | 61 | 8% | 542 | 72% | |
| 16 | Customer O | 1,424 | 156 | 11% | 1,326 | 93% | |

17 *Note: Daily Available Volume (also referred to as Net Nomination) includes both nomination and applicable balancing nomination.

**REFERENCE:**

Tab 12 – Terms and Conditions of Service

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

IGU requires further information to understand the requested changes to Centra's Terms and Conditions of Service

**QUESTION:**

a) Confirm that under Centra's balancing fee proposal penalties for imbalances will arise for any imbalance by customers, whether positive or negative.
b) If the answer to part (a) is yes, confirm this is true regardless of whether customers in the same class have offsetting imbalances. If not confirmed, please explain how Centra's proposal will calculate and charge balancing fees where customers in the same class have offsetting imbalances.

**RESPONSE:**

a) Not confirmed. Please see the responses to PUB/CENTRA I-145c, subpart ii); and IGU/CENTRA I-26.

b) Please see the response to PUB/CENTRA I-147d.

**REFERENCE:**

Tab 12 – Terms and Conditions of Service

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

IGU requires further information to understand the requested changes to Centra's Terms and Conditions of Service

**QUESTION:**

a) Please provide a comparison of Centra's proposed tolerances and tolerance ranges with the current tolerances and tolerance ranges of other utilities in Canada, where available to Centra. Please also specifically provide the tolerance information for:
   i. TransGas Pipelines
   ii. NOVA Gas Transmission
   iii. Union Gas Limited
   iv. Xcel Energy
b) For the utilities listed in part a) and any other examples listed, please provide all tools and mechanisms in place as part of the utility service for customers to mitigate imbalances.
c) Please explain all due diligence processes Centra Gas undertook in preparation of its balancing fee proposal, including consideration and research undertaken of other utility offerings for balancing fees.
d) Please provide the results of all studies, research, and due diligence performed by Centra in the past 5 years on the balancing fee proposal.
e) For the utilities listed in part a) please explain different customer classes, rate designs and rate structures that are in place for T-Service customers, and as they may relate to balanced usage levels. Please explain if Centra Gas considered changes to its customer classes or rate offerings other than its proposed reduction for usage thresholds to 2,500GJ/day.

**RESPONSE:**

a) and b)

Please see the response to PUB/Centra I-149 c). Centra is also aware that some utilities have invested in high cost peak shaving facilities to replicate local storage in balancing their market, mitigating price risk and reducing their costs by improving their load factor. Natural gas is liquefied and stored in ultra-low temperature cryogenic tanks, with the liquefied natural gas ("LNG") then regasified and used for peak shaving purposes. Alternatively, peak shavers without liquefaction facilities may rely on LNG tanker trucks that are filled with LNG purchased from a third-party liquefaction facility to refuel their LNG storage tanks. However, these types of investments are very costly and would not appear to meet the economic efficiency test when compared with the significantly more economic alternatives that Centra routinely avails itself of and which are also available to T-Service customers or their nominating agents.

Regardless, Centra is not positioned similarly to these utilities, thus their balancing tolerances and ranges would not appear to be relevant. For example: TransGas Limited has access to numerous local storage caverns in Saskatchewan and is directly interconnected with 5 other pipeline systems as follow:

i. NGTL;
ii. TCPL Mainline;
iii. Foothills;
iv. Havre Pipeline Company; and
v. WBI (Williston Basin Interstate).

c) and d)

Given Centra's unique characteristics (no local storage and captive to the TCPL Mainline for physical deliveries), its due diligence process focused on consulting with its T-Service customers. Following the October 2016 kick-off meeting on the need for changes to the service, Centra has done the following:

i. Centra changed its original proposal to afford T-Service customers daily and cumulative absolute tolerances[1] and at higher levels than Centra's;[2]

[1] Calculated as percentages of average daily available volumes (i.e., daily nomination and applicable balancing nomination).

ii. Centra developed pro-forma reporting in response to T-Service customers' requests for pro-forma reporting to help them understand the mechanics and calculation of the proposed balancing fees. 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 1 to PUB/CENTRA I-149b;

iii. Centra 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 2 to PUB/CENTRA I-149b;

iv. Centra 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; and

v. Centra proposed in its Application to grandfather all existing T-Service customers from the need to qualify for the proposed new volumetric eligibility threshold.

e) Centra did not consider changes to its customer classes or rate offerings. As described in the response to PUB/CENTRA I-149c, one of Centra's key considerations was cost-effectiveness. Centra's proposal requires little to no system set-up and does not require additional staffing or modifications to rate design, making it highly cost effective.

Centra based its proposal on the proven, long-standing TCPL Mainline balancing fee structure. Given that physical deliveries of gas to Centra's delivery areas are from the TCPL Mainline, there is no need to re-invent the wheel on this matter.

[2] With one exception.

**REFERENCE:**

Appendix 12.1 Terms and Conditions of Service

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

**QUESTION:**

a) Please explain how Centra determined 2,500 GJ/day under normal operating conditions as an appropriate threshold for access to Transportation Service ("T-Service").
b) Please explain in detail why Centra believes the new threshold will be less challenging to serve than the previous threshold.
c) Please provide an overview of all consultation activities undertaken with industrial customers and other stakeholders including any presentations/communication documents used to discuss the proposed change for T-Service customers.
d) Please explain why Centra is proposing to remove the phrase "Such notice shall be made by telephone, electronic, or other communication device, or in person" from section H on page 30 of Appendix 12.1.
e) Please confirm Centra would grandfather existing T-service customers who use less than 2,500 GJ. Please provide a reference to the revised terms and conditions of service where this language is reflected. If the requested confirmation cannot be provided, please provide a detailed explanation.

**RESPONSE:**

a) and b)

Please see the response to PUB/CENTRA I-150a.

c) It is not clear whether the question is about consultation with T-Service customers or industrial customers and other stakeholders other than T-Service customers. If the former, please see the responses to PUB/CENTRA I-149a and b. If the latter, all Sales Service customers including industrial customers are expected to benefit from the proposed T-Service balancing fee structure because, directionally, it should reduce the

direct and indirect costs related to T-Service imbalances that are currently borne by Sales Service customers.

d) Numerous other sections [G) 1); J); J)1); K)] of the T-Service Terms & Conditions of Service require notification without such specificity and it is long-standing practice that notifications are made in the normal course via email or telephone by both Centra and T-Service customers or their nominating agents.

e) Confirmed. This commitment (pending PUB approval of Centra's proposal) is contained in Centra's GRA evidence.[1] The terms and conditions of service do not seem the appropriate place to reflect this type of commitment.

[1] Tab 12, page 6 of 13, lines 19 - 20.

**REFERENCE:**

Appendix 12.1 Terms and Conditions of Service

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

**QUESTION:**

Please provide a summary of all balancing fee penalties a T-Service customer would incur under Centra's proposal in the event of a significant plant failure assuming the following scenario:

- Day 1 - T-Service customer nominates 2,000 GJ's for following day (Day 2) delivery to the Centram Manitoba Delivery Point on the TransCanada Pipelines
  - assume account opening & closing balances at zero
- Day 2 - At 12:00 AM plant suffers a significant upset with zero natural gas consumption until repairs completed
  - plant only consumes 300 GJ's prior to upset
- Day 2 - Prior to 9:00 AM MST T-Service Customer reduces prior day (Day 1) nomination of 2,000 GJ's by the maximum allowable amount of 79% (1,580 GJ's)
  - net quantity of natural gas delivered on Day 2 totals 420 GJ's (2,000 less 1,580)
  - with consumption of 300 GJ's T-Service customer accounts hold a pack of 120 GJ's
- Day 2 T-Service customer estimates plant will be down for 30 days with zero natural gas consumption during this period
- Day 3 to 31 Zero quantities of natural gas nominated for delivery to Centra Manitoba
- Day 32 - Plant resumes operations, with natural gas consumption flowing through the plant meter for the first time since early morning Day 2

**RESPONSE:**

Assuming an opening balance of 0 GJ, the balancing fees that would be incurred in this hypothetical example would depend on:

i. The customer's daily and cumulative absolute tolerances; and

ii. Whether the customer or nominating agent elects to address the pack by selling the gas to another counterparty or parking the gas using the TCPL Mainline's Park and Loan Service ("PALS") if available.

Assuming a daily absolute tolerance of +/- 150 GJ and a cumulative absolute tolerance of +/- 300 GJ (which are representative of the absolute tolerances afforded to a T-Service customer with an average daily consumption of ~2,000 GJ/day), the following outcomes would result from the proposed balancing fee structure:

- Daily Balancing Fees - $0

  Given that the daily imbalance of 120 GJ is less than the customer's 150 GJ daily absolute tolerance, none of the 120 GJ pack imbalance would be subject to daily balancing fees.

- Cumulative Balancing Fees - $0

  There would also be no cumulative fees for the pack that was not removed from the delivery area given that the imbalance of 120 GJ is less than the customer's 300 GJ cumulative absolute tolerance.

**REFERENCE:**

Appendix 11, page 15-16 of 25, Heating Value Deferral; and Tab 8 section 8.5.5 and 8.5.6.

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

Regarding CA's Recommendation 30 on heating value deferral, Centra's position and rationale was:

> Centra accepts CA's recommendation with respect to the allocation of the disposition of the heating value deferral. Centra currently assigns heating value residuals to all customer classes on the basis of each class' contribution to total annual throughput. Heating value residuals accumulate if the heating value of gas delivered is greater or less than forecast resulting in customers consuming volumes that are greater or less than forecast. The deferral has been put in place to track the impact to gross margin that occurs when the energy content of gas is greater to or less than forecast. For most customer classes, gross margin is largely collected through volumetric rates. The Special Contract Class rate structure is predominantly fixed (with only unaccounted for gas collected volumetrically), and should not, therefore, participate in the disposition of the heating value deferral.

**QUESTION:**

a) What actual costs are recovered by Centra in the Heating Value adjustment?
b) What other indirect costs are included in the Heating Value margin deferral account aside from carrying costs and how are the indirect costs calculated?
c) How are the actual and indirect costs included in the heating value adjustment allocated across customer classes or types of service?
d) Is the practice of heating value adjustments and recovery of prior period amounts consistent across other or all Crown Corporations?
e) Do other Crown Corporations use the same process to track and recover heating value adjustments?
f) How do Centra's heating value adjustments confirm to Centra's accounting policies and procedures?

g) Please confirm that the Heating Value margin deferral account adjustments apply to all customer classes.

h) Please illustrate the overall calculation used to create the Heating Value deferral and adjustment to recover deferred amounts at the customer class or service level. Include derivation of starting rate (heating value, cubic feet, billing units by customer class), actual billed units, actual measured delivered units and allocation across service or customer class.

i) If agreements with transportation only customers are based strictly on take or pay volumes and not related to heating value, how will they be impacted by this change?

j) What changes is Centra proposing to its heating value deferral methodology? Please provide a schedule that calculates the allocation of the heating value deferral account by customer class, including underlying data for the allocator, based on Centra's proposed methodology.

k) Please provide a schedule that calculates the allocation of the heating value deferral account by customer class, including underlying data for the allocator, based on Centra's previous method.

l) Has the Special Contract Class rate structure changed since this response to be no longer "predominantly fixed"?

m) Has Centra's position on heating value deferral changed since this response was drafted?

n) Please provide a detailed schedule showing the calculation, accrual and amortization of Centra's heating value deferral account since last approved.

**RATIONALE FOR QUESTION:**

**RESPONSE:**

a) The purpose of the Heating Value Margin Deferral Account is to keep Centra and its customers whole with respect to gross margin (non-gas revenue) which would otherwise be affected by variations in the heating content of the natural gas received from the TCPL Mainline compared to the value of the heating content assumed in the design of rates.

Centra's volume forecast and approved rates are based on a constant heating value. On an actual basis heating values can fluctuate above and below that amount. If the actual heating value of natural gas delivered to customers is greater than this value, there will be more energy contained in each cubic meter of gas delivered and less volume will be required to meet the customer's energy requirements. Should the heating value be lower than this value, the opposite situation occurs. Therefore, the actual consumption by customers will vary from what is forecast due to the variation in heat content of the natural gas.

The calculation of each month's heating value margin deferral begins with the calculation of the variance in gas volumes consumed by customer class as a result of the variance in the actual heating value of gas received for that period. The approved sales rates for each customer class are then applied to each class' heating value volume variance to determine the heating value revenue deferral for the month. The calculation of the heating value cost deferral are performed in a similar manner to that for the heating value revenue deferral, with the exception of the rates applied to the volume variances, which in this case are the approved variable WACOG rates for each customer class. The calculated heating value cost deferral amounts are subtracted from the heating value revenue deferral amounts.

The net balance in the heating value deferral account represents the amount of gross margin or non-gas revenues that are associated with volume variation resulting from differences between actual gas heating values and those used as the basis for designing rates. The deferral account essentially removes this revenue from current financial results and sets it aside to be either refunded to or collected from customers in a future rate setting period.

b) There are no other costs beside carrying costs added to the Heating Value Deferral Account balance.

c) The Heating Value Deferral Account balance is allocated to each customer class based on actual volumes for each customer class since this deferral is entirely volume related.

d) and e)

Centra has not undertaken research specifically investigating heating value adjustments across other Crown Corporations.

f) As noted in part a) above, the heating value deferral reflects gross margin over or under recoveries that result from having a lower or higher heating value. By deferring these amounts and refunding or collecting in the future, Centra and its customers remain whole. This is the definition of a timing difference as discussed in Centra's significant accounting policies which are included in Note 3 of the Audited Financial Statements (Appendix 5.6).

g) Confirmed. Centra has applied Heating Value Deferral Account to all classes.

h) Please see the following formulas that calculate the balance in the heating value deferral, which is the difference between the revenue deferral and the WACOG deferral.

| |
|---|
| Heating Value Revenue Deferral = (Actual Volumes - (Actual Volumes * Actual Heating Value/Forecast Heating Value)) * Blended Commodity Base Sales Rate |
| Heating Value WACOG Deferral = (Actual Volumes - (Actual Volumes * Actual Heating Value/Forecast Heating Value)) * Blended Commodity Base WACOG Rate |

- Actual Volumes: $10^3 m^3 s$
- Blended Commodity Base Sales Rate = (Primary Gas Sales Rate * Billing %)+(Supplemental Gas Sales Rate * Billing %) + Distribution Sales Rate + Transportation Sales Rate
- Blended Commodity Base WACOG Rate = (Primary Gas WACOG Rate * Billing %)+(Supplemental Gas Sales WACOG * Billing %) + Distribution WACOG Rate + Transportation WACOG Rate

i) There are no take-or-pay arrangements with Transportation Service customers.

j) Centra is not proposing any changes to its heating value deferral methodology as part of this Application.

k) Please see the attachment to this response.

l) Special Contract Class rate structure is not changed since last GRA.

m) No, Centra's position has not changed.

n) The following schedules providing this information were included in the Application, and were redacted for commercially sensitive information.
    - Tab 8 schedules 8.6.5 2015/16 Heating Value Margin Deferral Account
    - Tab 8 schedules 8.7.5 2016/17 Heating Value Margin Deferral Account
    - Tab 8 schedules 8.8.5 2017/18 Heating Value Margin Deferral Account

Allocation of Heating Value Deferral Account by customer class for 2019/20 TY:

| | 1d | 1e | 1e | 1e | 1e | 1e | 2d,1e | 2d,1e |
|---|---|---|---|---|---|---|---|---|
| | Total | SGS | LGS | HVF | Mainline | Interruptible | Special Contract | Power Stations |
| 2015/16 Heating Value (incl carrying costs) - total balance to be allocated as per schedule 8.6.5 | [redacted] | | | | | | | |
| 2015/16 Actual Volume ($10^3M^3$) by class used to allocate the Heating Value deferral balance | | | | | | | | |
| Allocated % | 100% | | | | | | | |
| 2016/17 Heating Value (incl carrying costs) - total balance to be allocated as per schedule 8.7.5 | [redacted] | | | | | | | |
| 2016/17 Actual Volume ($10^3M^3$) by class used to allocate the Heating Value deferral balance | | | | | | | | |
| Allocated % | 100% | | | | | | | |
| 2017/18 Heating Value (incl carrying costs) - total balance to be allocated as per schedule 8.8.5 | [redacted] | | | | | | | |
| 2017/18 Actual Volume ($10^3M^3$) by class used to allocate the Heating Value deferral balance | | | | | | | | |
| Allocated % | 100% | | | | | | | |
| Total Heating Value (incl carrying costs) to be recovered from each customer classes in 2019/20 | $ 2,519,879 | [redacted] | | | | | | |

**REFERENCE:**

Appendix 11, page 16-17 of 25, Revenue to Cost (RCC) Ratios

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

Regarding CA's Recommendation 33 on RCC ratios, Centra's position and rationale included:

> Centra has previously set rates around a 97:103 range in the early and mid 1990's. While Centra views that it should in most cases strive to align rate levels to costs, it also views that under limited circumstances, deviating from unity may be a reasonable approach to provide rate stability. Proposed rate changes should consider the ability of consumers to respond to the change and to avoid rate shock. It may be worthwhile to consider RCC ratios other than unity in circumstances where large increases to a class (or classes) may create hardship for consumers. Such circumstances could include dramatic commodity price spikes that occur from time to time or phasing in methodology changes to cost allocation.

**QUESTION:**

a) Did Centra consider setting a range for RCC ratios in light of the rate changes being proposed to customer classes? Please explain.
b) Did Centra consider phasing in methodology changes to cost allocation or for capital additions? Please explain.
c) What does Centra define as rate shock in relation to short-term and long-term rate changes for customer classes?

**RESPONSE:**

a) and b)

Centra has not proposed any form of rate smoothing in its Application, but recognizes that the rate base impact of large plant additions can result in a wide range of bill impacts to its customer classes. An appropriate means of addressing bill impacts caused by such plant additions may be to temporarily set aside the concept of setting rates at a revenue/cost ratio of 1.0 for all classes, and instead adopt a zone of reasonableness in

the setting of class rates. However, Centra would expect to be kept whole for the recovery of its approved revenue requirement, which would require the "phasing in" of the impact of revenue changes between customer classes such that some customer classes would have revenue/cost ratios in excess of 1.0 and some would experience ratios less than 1.0.

c) Please see the response to CAC/CENTRA I-19a.