REVIEW OF SASKENERGY'S PROPOSED NATURAL GAS COMMODITY RATE

EFFECTIVE NOVEMBER 1, 2021

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Saskatchewan Rate Review Panel



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Executive Summary

The Saskatchewan Rate Review Panel (the "Panel") is a ministerial advisory committee established by the Minister of Crown Investments. On referral by the Minister, the Panel conducts reviews and provides opinions on the fairness and reasonableness of rate changes proposed by a Saskatchewan Crown corporation. The Minister provided the Panel with terms of reference for the review of SaskEnergy's 2021 commodity rate application on September 10, 2021. The terms of reference require the Panel to present its report to the Minister of Crown Investments no later than October 13, 2021. The Panel engaged InterGroup Consultants Ltd ("the Consultant") to provide technical assistance in its review.

The Consultant reviewed the Application, one round of responses to information requests from SaskEnergy, and the Market Update provided by SaskEnergy (including revisions to the Market Update). The review included review of the inputs to the costs of SaskEnergy's gas purchases, SaskEnergy's load forecast and the calculation of the balances in the Gas Cost Variance Account (GCVA). Based on this review, the Consultant recommends that the Panel recommend approval to the Minister of Crown Investments Corporation of the commodity rate of \$3.20/GJ as included in the revised Market Update provided on September 27, 2021 to be effective beginning November 1, 2021.

SaskEnergy indicates the proposed commodity rate is necessary to address increases in SaskEnergy's cost of purchased gas and to discharge the existing balance in the GCVA of approximately \$19 million forecast to accumulate by end of October 2021. While the GCVA balance to be discharged is material, SaskEnergy is undertaking measures to mitigate customer impacts through collection of the balance over a 24-month period. This will help to spread out the cost to be recovered over a longer recovery period and help with rate stability.

High GCVA balances put upward pressure on rates during periods of commodity price increases and create concerns regarding SaskEnergy's financial health and competitiveness as well as intergenerational equity, and further accumulation of large balances in the GCVA owing from (or to) customers should be avoided in the future. It is recommended that an update on the GCVA balance and a natural gas market update be provided by SaskEnergy to the Minister and the Panel no later than November 1, 2022 to make sure the commodity rate continues to be reasonable.

Variations in heat value from forecast continue to have an impact on GCVA balances; and can impact the quantum of the commodity rate to be collected from customers. SaskEnergy notes that it has begun a heat value business case to assess the options on how best to resolve the heat value variations.

The Consultant finds that SaskEnergy's implementation of the price risk management policy and price risk management strategy aligns with policy and strategy approved by its Board of Directors.

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1.0 INTRODUCTION

1.1 CONSULTANT'S MANDATE

On September 10, 2021, SaskEnergy filed an application with the Saskatchewan Rate Review Panel ("the Panel) to increase the commodity rate effective November 1, 2021.

The Panel was given terms of reference through an Order from the Minister of Crown Investments. The terms of reference state, in part, that: "*The Panel shall provide an opinion of the fairness and reasonableness of the commodity rate change proposed by SaskEnergy, having consideration for the following: The interests of SaskEnergy, its customers, and the public; Consistency with SaskEnergy's mandate, objectives and methodologies; Relevant industry practices and principles; and The effect of the proposed rate change on the competitiveness of SaskEnergy related to other jurisdictions." A copy of the Minister's Order is included in Appendix A to this report.*

The Panel engaged InterGroup Consultants Ltd. ("the Consultant") to assist in the review of SaskEnergy's application and prepare an independent consultant's report summarizing observations and recommendations. This report summarizes the Consultant's analysis of the application, and observations and recommendations regarding matters within the scope of the Panel's terms of reference, including the following: SaskEnergy's forecasts for the cost of gas sold; carrying costs; operating, maintenance and administration expenses; load forecast; gas supply arrangements; Gas Cost Variance Account ("GCVA"); costs related to the Price Risk Management Strategy and customer bill impacts.

1.2 REVIEW PROCESS AND TIMELINE

In preparing this report, the following information was reviewed by the Consultant:

- SaskEnergy's 2021 Commodity Rate Application;
- SaskEnergy responses to information requests;
- Market Update provided by SaskEnergy;
- Other publicly available material from previous commodity rate applications and other regulatory tribunals.

Key activities undertaken as part of the review process are summarized in Table 1-1.

Table 1-1: 2021 Commodity Rate Application Timeline and Milestones

Review Process Activity	Date
The SaskEnergy 2021 Commodity Rate Application is released.	September 10, 2021
The Consultant provided information requests to SaskEnergy on behalf of the Panel.	September 16, 2021
SaskEnergy filed responses to information requests.	September 22, 2021
The Consultant submitted a draft report to the Panel for review and comment.	September 27, 2021
The Consultant submitted an abridged draft report to SaskEnergy for review of factual accuracy, correct data interpretation and to ensure confidentiality of any proprietary information was preserved.	September 27, 2021
The Consultant participated in a conference call with the Panel to review and discuss the draft report.	October 1, 2021
The Consultant submitted its final report to the Panel.	October 4, 2021
The Panel expects to deliver its report to the Minister.	October 13, 2021

2.0 MULTI-YEAR APPLICATION

2.1 BACKGROUND

Commodity Service is provided by SaskEnergy to approximately 388,000 customers who purchase their natural gas supply from SaskEnergy. The commodity rate is a direct flow through of these costs to customers – without discount or markup.

SaskEnergy monitors its cost of gas throughout the year and targets commodity rate adjustments for the fall to align with the November to October gas year. The Application notes that the cost of providing natural gas to customers in the coming year is anticipated to be higher than the current rate of \$2.575/GJ. The last commodity rate adjustment was a rate decrease to reflect a lower price of natural gas effective April 1, 2019. SaskEnergy notes that natural gas prices have increased, essentially doubling since that time largely due to market conditions and other factors such as extreme weather events, higher liquefied natural gas exports, and higher demand.¹

2.2 COMMODITY RATE REQUEST

The Application provided on September 10, 2021 ("Application" or "Original Application") requested a commodity rate increase to 3.15/GJ, or 12.55 cents/m³, effective November 1, 2021 – a 0.575/GJ increase over the current commodity rate of 2.575/GJ (or 09.98 cents/m³).

SaskEnergy notes that the rate application is designed to:

- Increase the commodity rate to recover the higher forecast cost of gas over the 24 month forward period November 1, 2021 to October 31, 2023; and
- Clear the projected balance in the Gas Cost Variance Account (GCVA) at the end of October 2021 over the same 24 month forecast period.

SaskEnergy is recommending that the \$18.8 million GCVA balance be collected over 24 months instead of the normal 12 month collection period. SaskEnergy notes that customers have experienced low commodity rates in recent years and the 24 month collection period will allow SaskEnergy to maintain commodity price stability over a two-year period without drastically increasing the commodity rate.²

At the time the Original Application was filed, SaskEnergy had 95% of its natural gas purchases hedged for the November 1, 2021 to March 31, 2022 period, and approximately 80% of purchases price protected over the application period from November 1, 2021 to October 31, 2023.³

¹ Page 1, 2021 Commodity Rate Application.

² 1st Round Information Request, 2(a).

³ Page 14, 2021 Commodity Rate Application.

Market Update Filing

On September 24, 2024, SaskEnergy filed its Market Update⁴ to the Commodity Rate Application (referred to as the "Market Update Filing" in this report) based on September 23, 2021 market prices (compared to August 3, 2021 market prices in used in the Original Application).

SaskEnergy notes that the indicative commodity rate, based on the market update, is 12.78 cents/m³ (\$3.20/gigajoule) effective November 1, 2021 compared to 12.55 cents/m³ (\$3.15/gigajoule) in the Original Application.

Observations

The GCVA is a flow through of costs incurred by SaskEnergy to purchase natural gas on behalf of its customers. While the GCVA balance to be discharged is material, SaskEnergy is undertaking measures to mitigate customer impacts through collection of the rate over a 24 month period which will spread out the cost to be recovered. This longer recovery period will also provide greater rate stability, along with the measures implemented through SaskEnergy's gas price risk management approach.

Recommendations

The Consultant recommends that the Panel accept the proposed recovery of the GCVA balance over a 24month period in order to promote rate stability.

Further accumulation of large balances in the GCVA owing from (or to) customers should be avoided. Considering expected reductions in natural gas market prices as reviewed in Section 3, it is recommended that SaskEnergy provide an update on the GCVA balance and a natural gas market update no later than November 1, 2022.

⁴ A revised version of the Market Update was provided on September 27, 2021. The revised Market Update includes a correction to the treatment of late payment charges that was noted in the initial Market Update filing.

3.0 NATURAL GAS MARKET UPDATES

3.1 CURRENT GAS MARKET

Natural gas prices are set in an open market and can be affected by production, natural gas storage levels, and economic conditions. SaskEnergy notes that natural gas prices have been significantly stronger in 2021, and AECO natural gas prices have averaged higher for summer 2021 compared to summer 2020.

Figure 3-1 illustrates AECO monthly index historical prices and the forward price as at August 3, 2021. This notes that prices are expected to increase to over \$4.00 by 2022, and are expected to remain above \$2.00 over the period to the end of 2026.

Figure 3-1: AECO Monthly Index Historical Prices⁵



AECO Monthly Index Historical Prices

SaskEnergy notes natural gas prices have been impacted by the colder than normal weather across much of North America over the past winter, and the heat dome covering much of the continent in summer 2021 increased gas-fired power generation; demand for liquefied natural gas in Europe and Asia which resulted in LNG exports of the U.S. Gulf Coast to be running at full capacity; and a year over year increase in exports into Mexico. Incremental demand relating to these factors resulted in high prices, reduced storage injections, and raised concern about storage balances moving into winter, which compounded already high prices.⁶

⁵ Page 9, 2021 Commodity Rate Application.

⁶ Page 9, 2021 Commodity Rate Application.

The Application notes that natural gas production in Alberta was also reduced due to the heat dome, and unplanned outages at compressor stations resulted in curtailments which also resulted in additional price volatility. Production reductions had an impact on the spot and near-term price of natural gas in Alberta over the past summer. However, as approximately 50% of SaskEnergy's summer gas purchases were hedged, SaskEnergy was only exposed to higher prices on roughly half of the gas purchased. SaskEnergy indicates that these higher prices are reflected in the growth in the GCVA over the past summer, and the price of gas in storage for sale this upcoming winter.⁷

SaskEnergy communicated that external analysts indicate that by 2027 production of gas is expected to increase, including a significant increase in the Appalachia region, however, it is difficult to predict how forecast increases in production will impact forward prices. Lower prices may result due to an increase in domestic supply, or higher prices may result due to an increase in supply available for the global market.⁸

Observations

In the Consultant's view, SaskEnergy has provided sufficient information on the current and forecast gas market to support its requested commodity rate.

⁷ 1st Round IR Response 4(e).

⁸ 1st Round IR Response 4(g).

4.0 LOAD FORECASTS

A utility's load forecast is an essential aspect of developing the revenue forecast during the test years, as well as cost drivers such as required gas volumes. The cost of gas purchases included in the Application are based on normal weather load forecasts.

SaskEnergy prepares an annual load forecast based on two key variables:

- 1. **Average Use per Customer (UPC):** Historical average consumption per customer data is normalized for weather. The historic customer consumption is adjusted to remove the effects of actual temperature deviations from normal weather, which is calculated using an analysis of the temperature of the last thirty years. This allows SaskEnergy to compare customer consumption data from year to year without the effects of weather deviations.⁹
- 2. **Forecast Number of Customers:** The number of customers is estimated based on historical information as well as any new developments.

The residential sales are about 2/3 of total annual gas supplied by SaskEnergy and significantly impact annual gas sales for SaskEnergy. SaskEnergy notes that the residential use per customer has declined steadily over the past several years and this decline is expected to continue over the forecast period.

Figure 4-1 shows the change in residential use per customer over time.

Figure 4-1: Residential Use per Customer¹⁰



RESIDENTIAL USE PER CUSTOMER (WEATHER NORMALIZED)

⁹ Page 8, 2021 Commodity Rate Application.

¹⁰ Page 8, 2021 Commodity Rate Application.

SaskEnergy notes that customer usage has continued to decline across North America as end users acquire more energy efficient furnaces and appliances, install programmable thermostats, improve insulation in homes, reduce hot water usage, and generally have increased awareness of their energy consumption. New customer home constructions and multi-unit dwellings also use considerably less natural gas than existing customers and some are also replacing older less energy efficient homes.¹¹

Table 4-1 below shows actual sales for the 2018/19 and 2019/20 years, the 2020/21 full year forecast [actuals to June 2021] and forecasts for 2021/22 and 2022/23 years. The following reductions in sales are forecast over the Application period:

- A 1.2% reduction in sales in 2021/22 compared to 2020/21; and
- A further 0.5% reduction in sales of in 2022/23 compared to 2021/22 forecast [based on information in Tab 4].

Overall, by 2022/23 sales are forecast to be 1.7% lower than 2020/21. This reduction mostly relates to the reduction in residential sales [2.1% reduction].

	Residential	Commercial Small	Commercial Large	Small Industrial	Total per Tab 4	Annual Change
ľ	A	В	C	D	E=Sum(A:D)	F
2018/19	36,386	13,495	4,110	784	54,775	
2019/20	36,474	14,037	3,886	715	55,112	0.6%
2020/21	37,447	13,988	3,970	613	56,018	1.6%
2021/22	36,945	13,896	3,888	613	55,341	-1.2%
2022/23	36,672	13,913	3,880	613	55,077	-0.5%

Table 4-1: Gas Supplied by SaskEnergy (000 GJ)¹²

The natural gas purchase requirements, in addition to customer sales, also include provisions for the TransGas pipeline system for fuel gas and unaccounted for gas, as well as SaskEnergy internal usage.¹³

Observations

The load forecasts for the 2021/22 and 2022/23 years appear to be reasonable considering historical trends, including the reduction in usage per customer for residential customers as reviewed in Figure 3-1.

There are differences in information provided in Tab 4 and Schedule 1.0 of the Original Application and indicates Tab 4 includes slightly higher sales forecasts for 2021/22 and 2022/24.¹⁴

¹¹ 1st Round Information Request 5 (b).

¹² Prepared based on information in Schedule 1.0 and Tab 4 of 2021 Commodity Rate Application.

¹³ Page 8, 2021 Commodity Rate Application.

¹⁴ In 1st Round Information Request 5 (b), SaskEnergy also clarified that the "information provided in Tab 4 of the Application is based on SaskEnergy's load forecast that separates the forecast by customer class. The forecast sales in Schedule 1 utilizes this information but does not separate the information by customer class since the commodity rate is the same for all customer classes." The sales forecasts in Tab 4 are about 2.2% higher than the sales forecasts in Schedule 1.0.

SaskEnergy notes that the "information provided in Tab 4 of the Application is based on SaskEnergy's load forecast that separates the forecast by customer class. The forecast sales in Schedule 1.0 utilizes this information but does not separate the information by customer class since the commodity rate is the same for all customer classes."¹⁵ Further clarifications provided by SaskEnergy indicate that the information included in Tab 4 is created for other purposes, particularly in the forecasting of delivery revenues, and the load forecast in Schedule 1.0 is used for natural gas purchases and commodity rate calculations.

Recommendations

In the Consultant's view, the load forecast is reasonable considering continued reduction in use per customer for residential class which represents about 66% of total sales. In addition to this, the bill increases resulting from the proposed commodity rate increase in this Application may result in reduced usage by customers. Therefore, the expected reduction in sales appears to be reasonable.

It is recommended that in future applications SaskEnergy provide consistent information throughout the application so information in Tabs reconcile to the information included in schedules for rate setting purposes.

¹⁵ 1st Round Information Request 5 (b).

5.0 GAS SUPPLY OVERVIEW

5.1 SUPPLY PORTFOLIO AND PURCHASE REQUIREMENTS

The Figure 5-1 illustrates SaskEnergy's gas supply portfolio for a normal year:¹⁶

Figure 5-1: SaskEnergy's Gas Supply Portfolio for a Normal Year



SaskEnergy notes that the gas supply portfolio is designed to give the least cost mix while providing required flexibility and security of supply:

- The long-term contracts provide the required security of supply as well as the ability to execute multi-year fixed price physical contracts contemplated in the gas price risk management strategy.
- The annual contracts allow SaskEnergy to adjust to customer migration to/from SaskEnergy's regulated commodity service.
- The seasonal and spot contracts allow SaskEnergy to adjust to variations in load due to weather or to simply purchase additional summer gas to top up storage. The contracts of one-year or less in duration minimize costs, as potential premiums associated with long-term contracts are avoided.

Due to the large seasonal variance in gas consumption in Saskatchewan,¹⁷ SaskEnergy supplies gas to customers using natural gas storage to fill the gap in supply during high consumption months. Use of storage enables SaskEnergy to serve winter loads while maintaining relatively uniform monthly purchases throughout the year.¹⁸ Figure 5-2 illustrates the typical load/ supply portfolio for SaskEnergy, shows that purchases are relatively uniform throughout the year, and that storage is used to meet the daily load in winter months when demand is higher.

¹⁶ Page 12, 2021 Commodity Rate Application.

¹⁷ Approximately 65% of the gas consumed on the coldest day of the year is sourced from storage. Page 10, 2021 Commodity Rate Application.

¹⁸ Page 11, 2021 Commodity Rate Application.



Figure 5-2: Typical Load/Supply Portfolio¹⁹

SaskEnergy indicates that during normal weather situations, storage provides approximately 30% of annual natural gas requirements, 45% of a normal winter gas requirements, and 65% of gas consumed on the coldest day of the year.²⁰

SaskEnergy notes that it classifies its natural gas purchases into three distinct categories - Base Load purchases, Normal Weather purchases, and Cold Weather purchases.²¹

- **Base Load Purchases** Represent the minimum quantity of natural gas forecast to be required by SaskEnergy customers, based on an extreme warm weather scenario. This also takes into account a modest increase in the number of customers leaving SaskEnergy to purchase their gas from Gas Retailers.
- Normal Weather Purchases Represent the amount of gas SaskEnergy needs to purchase in order to meet forecasted customer requirements based on normal weather. Historical temperature data for the last 30 years is used to determine normal weather. The Normal Weather purchase requirement is forecast to be approximately 56 million GJs for the 2021-22 gas year.
- Cold Weather Purchases Represent the incremental gas purchases that are forecast to be required as a result of an extreme cold weather scenario, and also include a modest decrease in the forecasted number of customers served by Gas Retailers. The amount of additional gas required for an extremely cold winter is based on the winter of 2013-14 which was approximately a 1 in 25 year event.

¹⁹ Page 10, 2021 Commodity Rate Application.

²⁰ Page 10, 2021 Commodity Rate Application.

²¹ Tab 2.3, Commodity Price Risk Management Strategy – 2022.

SaskEnergy contracts for a quantity of natural gas based on a normal weather load forecast. In the event of a colder than normal winter, SaskEnergy purchases additional short-term gas as required. If winter weather is warmer than normal, SaskEnergy will typically exit the winter with higher than normal storage inventory levels, and reduce its gas purchases over the summer period. If gas prices remain relatively high despite a mild winter in Saskatchewan, SaskEnergy may sell some of this excess gas during the winter period.²²

Over the last several years SaskEnergy's reliance on imports from Alberta has increased as domestic production has decreased. Figure 5-3 illustrates the gas supply and demand for Saskatchewan, and shows that since 2010/11 Saskatchewan has become a net importer of natural gas. The gap in supply has been filled through purchases from Alberta. SaskEnergy notes that for the period of November 1, 2021 to October 31, 2023, it is forecasting purchasing approximately 84% of its natural gas supply from Alberta.



Figure 5-3: Change in Saskatchewan Supply and Demand ²³

In 2018, SaskEnergy noted that firm transportation capacity from Alberta would increase from 150,000 GJ/day to 170,000 GJs/day effective November 1, 2018.²⁴ Since that time, the firm transportation contract increased to 180,000 GJs/day effective November 1, 2019 and 200,000 GJs/day effective November 1, 2020.²⁵ SaskEnergy notes that "this firm transportation from Alberta is required in order to ensure a secure

²² Page 11, 2021 Commodity Rate Application.

²³ Page 5, 2021 Commodity Rate Application.

²⁴ 2018 Commodity and Delivery Service Rate Application, Page 11.

 $^{^{25}}$ 1st Round Information Request 4 (q) i).

supply of natural gas to meet customer requirements and to provide firm access to additional gas to meet the requirements of colder than normal winters."²⁶

SaskEnergy indicates that annual contracts allow it to adjust to customer migration to/from SaskEnergy's regulated commodity service.²⁷ SaskEnergy anticipates that "there may be additional customer load coming back to SaskEnergy from gas retailers" and if some customers that buy gas from retailers return to SaskEnergy then the impact could be 2 to 4 PJs of gas required to be purchased at market prices. The added annual cost to purchase two additional PJs of gas at \$8 million would be offset by commodity revenue of \$6.3 million, leaving a net cost of \$1.7 million.²⁸

Observations

SaskEnergy's supply portfolio is changing in response to decreasing availability of gas supply in Saskatchewan. The approach adopted by SaskEnergy appears to be prudent with regard to ensuring reliability of supply and maintaining flexibility to adapt to different weather conditions as well as provision to supply additional customer loads in case customers that buy gas from retailers return to SaskEnergy.

While the increased firm transportation contract ensures reliability of supply²⁹, it also increases the transportation cost paid by customers (please see Section 6.2 for the impact of transportation costs).³⁰

5.2 MAXIMUM DAILY USAGE REQUIREMENTS

In addition to ensuring adequate supply is available on an annual basis, SaskEnergy must have sufficient supply and capacity to meet the load requirements on the coldest day of the year. SaskEnergy uses a 1-in-20 peak day design criterion to determine the maximum daily usage requirements designed to consider severe winter weather in Saskatchewan. While a lower peak day design criterion may reduce costs; this must be weighed against the requirement to provide continued safe and reliable service. The maximum daily requirement (peak day) is forecast to be 608,000 GJ/day, which is an increase of 3,000 GJ/day from the maximum daily requirement forecast in the previous application.³¹ SaskEnergy notes that "this peak day requirement is forecast to be satisfied with the gas supplies".³²

Figure 5-4 summarizes the forecast supply mix for peak day requirements, and shows that the most of the supply available to meet the maximum peak day requirement comes from storage [64% of peak day requirement], followed by base supply [25% of peak day requirement]. SaskEnergy notes that "should the actual peak day requirement exceed the forecasted amount, SaskEnergy would buy additional spot gas to

²⁶ Page 10, 2021 Commodity Rate Application. 1st Round Information request 4(q).

²⁷ 2021 Commodity Rate Application, page 12.

²⁸ 1st Information Request 4 (t).

²⁹ For example, in response to 1st Round Information request 4(o) notes that "if there is no incremental capacity contracted, SaskEnergy would not have access for additional gas purchases because there is currently no additional NGTL transportation available."

³⁰ 1st Round Information request 4(q).

³¹ The maximum daily requirement was 605,000 GJ/day in 2018 Commodity and Delivery Service Rate Application.

³² Page 11, 2021 Commodity Rate Application. This peak day forecast includes the gas requirements of SaskEnergy's customers as well as the requirements of customers purchasing their gas from third party suppliers, referred to as Gas Retailers.

meet the demand. The same firm transportation capacity from Alberta contracted by SaskEnergy to meet incremental winter gas requirements would be used to meet any peak day requirements in excess of the forecast."³³ SaskEnergy notes that the firm transportation contract of 200,000 GJ/day will be used to provide base supply as well as spot purchases and the remaining contract volume is required for a colder than normal winter.³⁴



Figure 5-4: Forecast Supply Mix for Peak Day Requirement³⁵

Observations

The Consultant finds that SaskEnergy's peak day design criterion represents a reasonable balance between costs and reliability.

³³ Page 12, 2021 Commodity Rate Application.

³⁴ 1st Round Information request 4(p).

³⁵ Page 11, 2021 Commodity Rate Application.

6.0 FORECAST COST OF GAS SOLD

SaskEnergy's forecast cost of gas sold for the period from November 1, 2021 to October 31, 2023 is made up for the following components:

- 1. Cost of purchased gas;
- 2. Transportation costs;
- 3. Price management activities;
- 4. Storage costs, including interest expense;
- 5. Operating maintenance and admin expenses;
- 6. Bad debt expenses; late payment charges [offsets costs]; and
- 7. Cost of internal use.

SaskEnergy's forecasts for these components are reviewed in the following sections.

6.1 COST OF PURCHASED GAS

SaskEnergy's physical purchase contracts have historically been priced referencing the AECO monthly index or AECO daily index; however, SaskEnergy also enters into multi-year fixed price physical purchase contracts from Alberta as part of its Gas Purchase and Commodity Price Risk Management Strategy. The credit risk associated with these gas purchases is managed under the Corporate Credit Risk Management Policy.³⁶ As such, SaskEnergy's gas purchase portfolio consists of both AECO indexed purchases as well as fixed price purchases.

SaskEnergy notes that natural gas prices are influenced by a number of factors including production, demand, natural gas storage levels, and economic conditions. Figure 3-1 [see Section 3] illustrates changes in AECO natural gas prices from 2005 to 2021 (actuals at August 2021) and provides forward prices to 2026.

SaskEnergy notes forecast AECO forward prices for the Application as of August 3, 2021, and are as follows: ³⁷

- \$4.088/GJ for the period from November 2021 to March 2022;
- \$2.962/GJ for the period from April 2022 to October 2022;
- \$3.242/GJ for the period from November 2002 to March 2023; and
- \$2.504/GJ for the period from April 2023 to October 2023.

³⁶ Page 12, 2021 Commodity Rate Application.

³⁷ Schedule 1.1, 2021 Commodity Rate Application.

SaskEnergy notes that the cost of purchase gas reflects the total costs of gas divided by total volume of gas purchased (fixed price and floating).³⁸ Overall, the cost of purchase gas (including fixed price purchases) is forecast to decline from \$3.011/GJ (November 2021 to March 2022) to \$2.351/GJ (April 2023 to October 2023):

- \$3.011/GJ for the period from November 2021 to March 2022;
- \$2.544/GJ for the period from April 2022 to October 2022;
- \$2.632/GJ for the period from November 2002 to December 2022;
- \$2.634/GJ for the period from January 2023 to March 2023; and
- \$2.351/GJ for the period from April 2023 to October 2023.³⁹

SaskEnergy notes that the "TEP/AECO price differential for 2021-22 will not be determined until negotiations with suppliers are completed later this fall, within this application SaskEnergy is forecasting this TEP/AECO basis to be approximately \$0.25/GJ for gas purchased in Saskatchewan."⁴⁰ This price differential was forecast at \$0.65/GJ in the 2018 application which was "significantly higher than the typical differential".⁴¹ SaskEnergy notes that "now that Alberta has increased pipeline capacity and gas has the ability to move to market, there is a correlation between the TEP basis and Empress pricing". SaskEnergy anticipates that the TEP basis will continue to follow pricing at Empress.⁴²

In total, for the 2021/22 and 2022/23 gas years, SaskEnergy forecast as follows in the Original Application:

- For the 2021/22 gas year: Total gas purchase costs of \$151.711 million before price risk management activities. This includes Saskatchewan purchases of \$35.574 million and Alberta purchases of \$116.137 million. The gas sales for the same period are forecast to be 54.1 million GJs. This results in an average cost of gas sold of \$2.804/GJ (before price risk management activities, transportation and storage costs, and O&M costs).⁴³
- For the 2022/23 gas year: Total gas purchase costs of \$136.080 before price risk management activities. This includes Saskatchewan purchases of \$28.372 million and Alberta purchases of \$107.708 million. The gas sales for the same period are forecast to be 53.9 million GJs. This results in an average cost of gas sold of \$2.525/GJ (before price risk management activities, transportation and storage costs, and O&M costs).⁴⁴

Market Update Filing

The Market Update filing is based on September 23, 2021 market prices [compared to August 3, 2021 market prices in the Original Application], and shows that the cost of gas purchased increased compared to the Original Application for the 2021/22 and 2022/23 gas years as follows:

 $^{^{\}rm 38}$ 1st Round Information request 4 (i).

³⁹ Schedule 1.1, 2021 Commodity Rate Application.

⁴⁰ Page 13, 2021 Commodity Rate Application.

⁴¹ Pages 10 and 13, 2018 Commodity and Delivery Service Rate Application.

⁴² 1st Round Information request 4 (I) ii).

⁴³ Calculated based on Schedule 1.0, 2021 Commodity Rate Application.

⁴⁴ Calculated based on Schedule 1.0, 2021 Commodity Rate Application.

- For the 2021/22 gas year: Total gas purchase costs of \$156.086 million before price risk management activities, including Saskatchewan purchases of \$37.966 million and Alberta purchases of \$118.120 million. ⁴⁵ The total cost of purchased gas increased by \$4.375 million compared to the Original Application.
- For the 2022/23 gas year: Total gas purchase costs of \$143.002 million before price risk management activities, including Saskatchewan purchases of \$31.584 million and Alberta purchases of \$111.418 million.⁴⁶ The total cost of purchased gas increased by \$6.922 million compared to the Original Application.

6.2 TRANSPORTATION COSTS

As SaskEnergy is now purchasing a larger proportion of natural gas from Alberta [please see Figure 5-1 in Section 5.1], the cost of transportation has a larger impact on the commodity rate.⁴⁷ SaskEnergy incurs transportation costs to ship gas purchased from Alberta. SaskEnergy notes that "in order to ensure it can deliver the Alberta natural gas purchases to TEP, SaskEnergy contracts for firm transportation service from Alberta to TEP with TransGas Limited (TransGas), a wholly owned subsidiary of SaskEnergy.⁴⁸

Transportation costs are forecast to average:

- \$0.489/GJ for the period from November 2021 through March 2022;
- \$0.522/GJ for the period from April 2022 to October 2022;
- \$0.492 to \$0.493/GJ for the period from November 2022 to March 2023; and
- \$0.523/GJ for the period from April 2023 to October 2023.49

Total transportation costs are forecast to be approximately \$28.069 million for each of the 2021/22 and 2022/23 gas years, resulting in an average transportation cost of \$0.519/GJ for the 2021/22 gas year and \$0.521/GJ for the 2022/23 gas year. Higher transportation costs for summer months reflect lower gas purchases.⁵⁰

SaskEnergy notes that it "must pay firm transportation charges to move the Alberta gas into Saskatchewan. These transportation costs are forecast to average \$0.39/GJ."⁵¹ SaskEnergy also notes that the variances between \$0.39/GJ noted at page 13 of the Application and the average transportation costs ranging \$0.519/GJ and \$0.521/GJ reflect the cost of contracts for additional firm transportation in case of colder than normal weather.⁵²

⁴⁵ Schedule 1.0, 2021 Commodity Rate Application Market Update Filing.

⁴⁶ Schedule 1.0, 2021 Commodity Rate Application Market Update Filing.

⁴⁷ Page 3, 2021 Commodity Rate Application.

⁴⁸ Page 5, 2021 Commodity Rate Application.

⁴⁹ Schedule 1.1, 2021 Commodity Rate Application.

⁵⁰ 1st Round Information request 4 (d) shows the monthly transportation costs are relatively the same only vary based on the number of days in the month while gas purchases for summer months are lower as illustrated in Schedule 1.0.

⁵¹ Application, page 13.

⁵² 1st Round Information request 4 (m).

The transportation costs in the Application reflect current TransGas rates. SaskEnergy notes that the transportation costs in the Application do not include increases for TransGas transportation service rates.⁵³ The information provided by SaskEnergy shows as follows:

Fiscal	Transportation Cost per GJ in commodity rate	Rationale
2016-17	\$0.37	
2017-18	\$0.30	Contract volume increase
2018-19	\$0.39	Contract volume increase and rate increase
2019-20	\$0.46	Contract volume increase
2020-21	\$0.50	Contract volume increase and rate increase

Table 6-1: Transportation Cost per GJ⁵⁴

As noted in Section 5.1, firm transportation capacity from Alberta increased since November 1, 2018 as follows:

- From 150,000 GJ/day to 170,000 GJs/day effective November 1, 2018;
- Up to 180,000 GJs/day effective November 1, 2019; and
- Up to 200,000 GJs/day effective November 1, 2020.

SaskEnergy notes that "this firm transportation from Alberta is required in order to ensure a secure supply of natural gas to meet customer requirements and to provide firm access to additional gas to meet the requirements of colder than normal winters." ⁵⁵ The transportation cost are determined based on the 200,000 GJs/day contract regardless the actual volume transported.⁵⁶

SaskEnergy notes that approximately 70,000 GJ/day of the 200,000 GJ/day of firm transportation contracted from Alberta is reserved for potential incremental winter gas purchase requirements. This added security of supply will cost SaskEnergy customers about \$9.9 million/year for the 2021/22 and 2022/23 gas years.⁵⁷ SaskEnergy also notes that if there is no incremental capacity contracted "SaskEnergy would not have access for additional gas purchases because there is currently no additional [firm⁵⁸] NGTL transportation available."⁵⁹

The Application notes "should the winter weather be warmer than normal, SaskEnergy will typically exit the winter with higher than normal storage inventory levels, and then reduce its gas purchases accordingly over the summer period. Alternatively, if gas prices remained relatively high despite a mild winter in

⁵³ 1st Round Information request 4 (b) and (c).

⁵⁴ 1st Round Information request 4 (b).

⁵⁵ Page 10, 2021 Commodity Rate Application. 1st Round Information request 4(q).

⁵⁶ 1st Round Information request 4 (n) i).

⁵⁷ 1st Round Information request 4 (n) ii).

⁵⁸ SaskEnergy clarified that response to Information Requests #4 (o), should have specified 'firm' NGTL contracts.

⁵⁹ 1st Round Information request 4 (o).

Saskatchewan, SaskEnergy may sell some of this excess gas during the winter period."⁶⁰ SaskEnergy also notes that the gain on these sales is accounted for by reducing the cost of gas purchased and flows back through to SaskEnergy's commodity rate.⁶¹

Market Update Filing

The Market Update filing shows an increase in transportation costs from \$28.069 million for each 2021/22 and 2022/23 years in the Original Application to \$28.631 million for each of the 2021/22 and 2022/23 years (or an increase of \$0.562 million/gas year). SaskEnergy notes that the Alberta transportation service provided by TransGas consists of two parts: the TransGas receipt of toll; and Additional Cost Recovery (ACR). The ACR represents tolls paid by TransGas to NGTL in Alberta less any liquid credits and asset optimization revenues earned on Alberta side. SaskEnergy notes that the increase in the Market Update filing reflects increase in ACR.

6.3 PRICE MANAGEMENT ACTIVITIES

SaskEnergy manages its cost of gas in accordance with the Commodity Price Risk Management Strategy (hedging) approved by its Board of Directors.⁶²

SaskEnergy notes that the notion of "rate stability" still has a strong resonance with SaskEnergy's customers. SaskEnergy conducted customer research in 2020 to assess if customer preferences had changed; and notes that the majority of customers continue to indicate a preference for SaskEnergy to continue to provide stable rates. It is noted that the leading reasons for this are that customers want to avoid unexpected changes in bills and want stability for budgeting purposes.⁶³

SaskEnergy currently has "approximately 95% of its natural gas purchases hedged for the upcoming winter, November 1, 2021 to March 31, 2022, and approximately 80% of its natural gas purchases price protected over the application period, November 1, 2021 to October 31, 2023, in accordance with SaskEnergy's Commodity Price Risk Management Strategy."⁶⁴ SaskEnergy forecasts its price management activities to result in inflows of approximately \$17.704 million in 2021/22 gas year and \$10.530 million in 2022/23 gas year.⁶⁵ These inflows are included as an offset to the cost of purchased gas and reduce the cost of gas to customers.

SaskEnergy provided a further clarification that the noted inflows reflect the impacts of swaps, but exclude the impact of fixed price gas purchases. SaskEnergy noted that it was not able to separate out the impact of fixed price gas purchases, which is a form of hedging, from the index (floating) purchases in the Schedules included in the Application. SaskEnergy noted its commitment to revise its Cost of Gas model,

⁶⁰ Application, page 11.

 $^{^{\}rm 61}$ 1 $^{\rm st}$ Round Information request 4 (s).

⁶² Page 14, 2021 Commodity Rate Application.

⁶³ Page 14, 2021 Commodity Rate Application.

⁶⁴ Page 14, 2021 Commodity Rate Application.

⁶⁵ Schedule 1.0, 2021 Commodity Rate Application.

in order to show fixed price purchases as a separate line item on Schedule 1.0 and 1.1 in future applications.⁶⁶

Market Update Filing

The Market Update filing is based on September 23, 2021 market prices [compared to August 3, 2021 market prices used in the Original Application] and shows the following:

- Forecast price risk management activities inflows of \$18.770 million compared to \$17.704 million in the Original Application for the 2021/22 gas year (or an increase of \$1.066 million).
- Forecast price risk management activities inflows of \$14.284 million compared to \$10.530 million in the Original Application for the 2022/23 gas year (or an increase of \$3.754 million).

6.4 STORAGE GAS COSTS

SaskEnergy's customers incur storage gas costs when SaskEnergy withdraws gas from storage.

As reviewed in Section 5.1., due to the large seasonal variance in gas consumption in Saskatchewan, SaskEnergy supplies gas to customers using natural gas storage to fill the gap in supply during high consumption months. Use of storage enables SaskEnergy to serve winter loads while maintaining relatively uniform monthly purchases throughout the year. SaskEnergy indicates that during normal weather situations, storage provides approximately 30% of annual natural gas requirements, 45% of normal winter gas requirements, and 65% of gas consumed on the coldest day of the year.⁶⁷

SaskEnergy notes that natural gas in storage is valued at the weighted average cost of gas during the injection period of April to October, and at the end of the summer period, the value of gas injected in storage will be fixed.

At October 31, 2021, the start of winter, an estimated 18.7 million GJs of natural gas will be in storage at an estimated price of \$3.25/GJ, which will be withdrawn during November 2021 to October 2022. At October 31, 2022, an estimated 18.7 million GJs of natural gas will be in storage at an estimated price of \$3.11/GJ, which will be withdrawn during November 2022 to October 2023.⁶⁸ This results in an overall cost of \$2.761 million for the 2021/22 gas year and \$3.524 million for the 2022/23 gas year.⁶⁹

Market Update Filing

The Market Update filing based on September 23, 2021 market prices [compared to August 3, 2021 market prices used in the Original Application] shows the following updates:

• Storage gas cost of \$1.962 million compared to \$2.761 million in the Original Application for 2021/22 gas year (or a decrease of \$0.799 million).

⁶⁶ Comments provided by SaskEnergy during the technical review of Consultant's draft report.

⁶⁷ Page 10, 2021 Commodity Rate Application.

⁶⁸ Page 5, 2021 Commodity Rate Application.

⁶⁹ Schedule 1.0, 2021 Commodity Rate Application.

• Storage gas cost of \$3.594 million compared to \$3.524 million in the Original Application for 2022/23 gas year (or a decrease of \$0.070 million).

6.5 INTEREST AND OPERATING COSTS

SaskEnergy includes in its commodity rate direct operating costs, capital related costs, bad debt expenses and inventory carrying costs, as they relate to gas supply acquisition. These costs are partially offset by late payment charges. Forecast costs for the 2021/22 and 2022/23 gas years include:

- Gas in Storage Interest Expense of \$0.250 million for 2021/22 gas year and \$0.547 million for 2022/23 gas year:⁷⁰ Inventory carrying costs for gas in storage are calculated using SaskEnergy's short-term borrowing rate applied to the average monthly balance of storage inventories. The interest rates between April 2021 and October 2021 range between 0.11% and 0.15%, effective November 2021 the interest rate increases to 1.52% and further to 1.77% effective January 2022.⁷¹ SaskEnergy notes that the November 2021 forecast and the January 2022 forecast were preliminary estimates based on longer term borrowing rates instead of short term borrowing and notes "a revision to the interest rates and the associated inventory carrying costs will be provided for November 2021 through to October 2023".⁷² Information provided in response to information requests indicates that interest costs decrease to \$0.052 million for the 2021/22 gas year; and decrease to \$0.155 million for the 2022/23 gas year.⁷³
- Operating, Maintenance and Administration expenses of \$1.555 million for each of the 2021/22 and 2022/23 gas years:⁷⁴ This is an 18% increase compared to the \$1.315 million expense for the 2020/21 gas year [Schedule 2.0, page 3 of 3]. However, Tab 3 of the Application shows lower Operating, Maintenance and Administration expenses forecast for the Application period: \$1.385 million for 2021/22; and \$1.400 million for 2022/23. SaskEnergy notes that the expense forecasts included in Schedule 1.0 were preliminary budget numbers as the budget had not been finalized at the time of determining the commodity rate. The numbers included in Tab 3 are the final budget numbers.⁷⁵ In response to information requests, SaskEnergy has provided updated Schedule 1.0 tables which are consistent with lower O&M costs provided in Tab 3.⁷⁶
- Gas Supply related Bad Debt Expense of \$0.279 million for the 2021/22 gas year and \$0.277 million for the 2022/23 gas year; and Gas Supply related Late Payment Revenues of \$0.348 million for the 2021/22 gas year and \$0.347 million for the 2022/23 gas year:⁷⁷ In Tab 3 of the Application SaskEnergy notes:

"In March 2020, in response to the global pandemic, SaskEnergy implemented the Government of Saskatchewan's Crown Utility Interest Waiver Program. Under this program, any interest fees or late payment charges a customer accrues were waived. For

⁷⁰ Schedule 1.0, 2021 Commodity Rate Application.

⁷¹ Schedule 1.2, 2021 Commodity Rate Application.

⁷² 1st Round Information request 7 (d). The interest rates range from 0.16% in November 2021 and 1.03% in October 2023.

⁷³ 1st Round Information Request 7 (c) iii).

⁷⁴ Schedule 1.0, 2021 Commodity Rate Application.

⁷⁵ 1st Round Information Request 7 (a).

⁷⁶ 1st Round Information Request 7 (c) iii).

⁷⁷ Schedule 1.0, 2021 Commodity Rate Application.

customer with existing arrears and collections activities (including disconnections for nonpayment) were put on hold. This impact resulted in lowers actuals than forecast. The bill payment deferral program also led to a discontinuation of late payment charges for a period of time in 2020-21. In correlation, the bad debt expense increased during this period."

- Tab 3 shows an increase in bad debt expense from \$0.534 million (2018/19 actuals) to \$1.816 million (2019/20) and \$1.723 million (2020/21); and a forecast reduction in bad debt expense for 2021/22 and 2022/23 (\$0.780 million and \$0.548 million respectively).
- Tab 3 also shows a reduction in late payment revenues over the 2018/19 to 2020/21 period -- from \$1.198 million (2018/19 actuals), to \$0.978 million (2019/20) and \$0.560 million (2020/21). Late payment revenues are forecast to remain at the \$0.839 million level in 2021/22 and 2022/23 years.
- SaskEnergy notes in response to information requests that Schedule 1.0 included preliminary budget numbers as the budget had not been finalized at the time of determining the commodity rate.⁷⁸ Revised schedules were provided in response to information requests that reconcile to Tab 3.⁷⁹

Total forecast expenses related to the above cost categories in the Original Application were \$1.736 million for the 2021/22 gas year and \$2.032 million for the 2022/23 gas year. The revised schedules provided in response to information requests⁸⁰ show total costs at \$1.378 million for 2021/22 gas year (\$0.358 million reduction) and \$1.264 million for the 2022/23 gas year (\$0.768 million reduction).

Market Update Filing

The Market Update filing uses information consistent with Tab 3 (i.e., as provided in response to 1st Round Information Request 7 (c) iii)).

6.6 COSTS OF INTERNAL USE

SaskEnergy's gas distribution system consumes natural gas related to the following types of use:

- SaskEnergy's line and catalytic heaters located at town border stations, which ensure operation of facilities during low winter temperatures;
- Use in SaskEnergy owned buildings; and
- Lost and unaccounted for gas.⁸¹

Internal usage reduces the total cost of gas sold as these costs are recovered through delivery service rates. The forecast for 2021/22 gas year is \$2.483 million and for 2022/23 is \$2.375 million.⁸²

⁷⁸ 1st Round Information Request 7 (c) ii).

⁷⁹ 1st Round Information Request 7 (c) iii)

⁸⁰ 1st Round Information Request 7 (c) iii)

⁸¹ Page 6, 2021 Commodity Rate Application.

⁸² Schedule 1.0, 2021 Commodity Rate Application.

Market Update Filing

The Market Update filing is based on September 23, 2021 market prices [compared to August 3, 2021 market prices in the Original Application] and shows as follows:

- Cost of Internal Use of \$2.533 million compared to \$2.483 million in the Original Application for 2021/22 gas year (or an increase of \$0.050 million).
- Storage gas cost of \$2.420 million compared to \$2.375 million in the Original Application for 2022/23 gas year (or an increase of \$0.045 million).

6.7 SUMMARY

As illustrated in Table 6-2 below:

- The average cost of gas sold for the period from November 2018 to October 2019 was at \$2.83/GJ;
- The average cost of gas sold for the period from November 2019 to October 2020 was at \$2.75/GJ
- The average cost of gas sold for the period from November 2020 to October 2021 was forecast to be at \$2.97/GJ.
- The average cost of gas sold over the 2021/22 gas year is approximately \$3.033/GJ; and
- The average cost of gas sold for 2022/23 is at \$2.91/GJ.

The cost of purchases remains the primary cost driver ranging between 79% and 94% of the total cost of gas sold. The transportation cost was 14% of the total cost of gas sold in the 2018/19 gas year, at about 17% between November 2019 and October 2022, and is forecast to increase to about 18% in 2022/23 reflecting increased transportation costs.

	Average Cost per GJ Sold							
	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2020 - Oct 2021	Nov 2021 - Oct 2022	Nov 2022 - Oct 2023			
Alberta and Saskatchewan Purchases	2.223	2.400	2.802	2.804	2.526			
Price Risk Management (Inflows)/Outflows	0.078	(0.027)	(0.124)	(0.327)	(0.195)			
Costs upstream of TEP	0.399	0.464	0.513	0.519	0.521			
Cost of Purchase Gas	2.700	2.838	3.191	2.996	2.851			
Impacts from Average Cost of Gas in Storage	0.123	(0.103)	(0.210)	0.051	0.065			
Gas in Storage Interest Expense	0.008	0.007	0.001	0.005	0.010			
Gas Supply OM&A Expense	0.023	0.024	0.024	0.029	0.029			
Gas Supply Related Bad Debt Expense	0.014	0.013	0.009	0.005	0.005			
Gas Supply Related Late Payment Charges	(0.018)	(0.009)	(0.017)	(0.006)	(0.006)			
Less Cost of Internal Usage	(0.020)	(0.018)	(0.024)	(0.046)	(0.044)			
Cost of Gas Sold	2.829	2.751	2.973	3.033	2.910			

Table 6-2: Average Cost of Gas Sold, \$/GJ⁸³

Overall, in the Application total forecast cost of gas sold is \$164.088 million for the 2021/22 and \$156.802 million for 2022/23 which were updated in follow up information requests and the Market Update Filing.

Tables 6-3 and 6-4 provide a comparison of forecast cost of gas sold provided in the Original Application, and information provided during the interrogatory responses and included in the Market Update filing for 2021/22 and 2022/23.

Table 6-3: Calculation of Cost of Gas Sold for	2021/22 Gas Year ⁸⁴
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Line	Description	Original Application	1st Round IR 7 (c) iii)	Change from Original Application	Market Update Filing as corrected on Sep 27, 2021	Change from Original Application	Change from 1st Round IR 7 (c) iii)
1	Saskatchewan Purchases	\$35,574	\$35,574	\$0	\$37,966	\$2,392	\$2,392
2	Alberta Purchases	\$116,137	\$116,137	\$0	\$118,120	\$1,983	\$1,983
3	Price Risk Management (Inflows)/Outflows	(\$17,704)	(\$17,704)	\$0	(\$18,770)	(\$1,066)	(\$1,066)
4	Costs upstream of TEP	\$28,069	\$28,069	\$0	\$28,631	\$562	\$562
5	Cost of Purchase Gas	\$162,074	\$162,074	\$0	\$165,947	\$3,873	\$3,873
6	Storage Withdrawal (Injection)	\$2,761	\$2,761	\$0	\$1,962	(\$799)	(\$799)
7	Gas in Storage Interest Expense	\$250	\$52	(\$198)	\$52	(\$198)	\$0
8	Gas Supply Operating Maintenance & Admin Expenses	\$1,555	\$1,385	(\$170)	\$1,385	(\$170)	\$0
9	Gas Supply Related Bad Debt Expense	\$279	\$780	\$501	\$780	\$501	\$0
10	Less Gas Supply Related Late Payment Charges	(\$348)	(\$839)	(\$491)	(\$839)	(\$491)	\$0
11	Less Cost of Internal Usage	(\$2,483)	(\$2,475)	\$8	(\$2,533)	(\$50)	(\$58)
12	Cost of Gas Sold	\$164,088	\$163,738	-\$349	\$166,755	\$2,667	\$3,017

⁸³ Prepared based on information available from Schedule 1.0 and Schedule 2.0, 2021 Commodity Rate Application.

⁸⁴ Prepared based on information provided in Schedule 1.0, 2021 Commodity Rate Application; 1st Round Information Request 7 (c) iii) and Schedule 1.0, 2021 Commodity Rate Application Market Update.

Line	Description	Original Application	1st Round IR 7 (c) iii)	Change from Original Application	Market Update Filing as corrected on Sep 27, 2021	Change from Original Application	Change from 1st Round IR 7 (c) iii)
1	Saskatchewan Purchases	\$28,372	\$28,372	\$0	\$31,584	\$3,212	\$3,212
2	Alberta Purchases	\$107,708	\$107,708	\$0	\$111,418	\$3,710	\$3,710
3	Price Risk Management (Inflows)/Outflows	(\$10,530)	(\$10,530)	\$0	(\$14,284)	(\$3,754)	(\$3,754)
4	Costs upstream of TEP	\$28,069	\$28,069	\$0	\$28,631	\$562	\$562
5	Cost of Purchase Gas	\$153,619	\$153,619	\$0	\$157,348	\$3,729	\$3,729
6	Storage Withdrawal (Injection)	\$3,524	\$3,524	\$0	\$3,594	\$70	\$70
7	Gas in Storage Interest Expense	\$547	\$155	(\$392)	\$146	(\$401)	(\$9)
8	Gas Supply Operating Maintenance & Admin Expenses	\$1,555	\$1,400	(\$155)	\$1,400	(\$155)	\$0
9	Gas Supply Related Bad Debt Expense	\$277	\$548	\$271	\$548	\$271	\$0
10	Less Gas Supply Related Late Payment Charges	(\$347)	(\$839)	(\$492)	(\$839)	(\$492)	\$0
11	Less Cost of Internal Usage	(\$2,375)	(\$2,359)	\$16	(\$2,420)	(\$45)	(\$61)
12	Cost of Gas Sold	\$156,802	\$156,048	-\$754	\$159,777	\$2,975	\$3,729

Table 6-4: Calculation of Cost of Gas Sold for 2022/23 Gas Year⁸⁵

Tables 6-5 and 6-6 that follow summarize the calculation of total forecast cost of gas sold for 2021/22 and 2022/23.

Observations

The cost of purchased gas appears to be properly calculated and consistent with previous practice.

However, inconsistencies in the information provided have been noted (see Section 6.5). The responses to information requests⁸⁶ show a reduction in cost of purchased gas to \$163.739 million for 2021/22 and to \$156.048 million for 2022/23 with updated interest expense as well as Operating, Maintenance and Administrative Charges, Bad Debt Expense and Late Payment Revenues from Tab 3 used for rate setting purposes. The Market Update Filing increases the cost of purchased gas to \$166.755 million for 2021/22 and to \$159.777 million for 2022/23.

⁸⁵ Prepared based on information provided in Schedule 1.0, 2021 Commodity Rate Application; 1st Round Information Request 7 (c) iii) and Schedule 1.0, 2021 Commodity Rate Application Market Update.

⁸⁶ 1st Round Information Request 7 (c) iii).

Table 6-5: Calculation	of Cost of	Gas Sold for	2021/22	2 Gas Year ⁸⁷
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		Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	TOTAL
Line	Description													
1	Saskatchewan Purchases	\$3,449	\$3,564	\$3,564	\$3,219	\$3,564	\$2,554	\$2,639	\$2,554	\$2,639	\$2,639	\$2,554	\$2,639	\$35,574
2	Alberta Purchases	\$10,761	\$11,120	\$11,120	\$10,044	\$11,120	\$8,688	\$8,977	\$8,688	\$8,977	\$8,977	\$8,688	\$8,976	\$116,137
3	Price Risk Management (Inflows)/Outflows	(\$3,517)	(\$3,635)	(\$3,635)	(\$3,283)	(\$3,635)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$17,704)
4	Costs upstream of TEP	\$2,307	\$2,384	\$2,384	\$2,153	\$2,384	\$2,307	\$2,384	\$2,307	\$2,384	\$2,384	\$2,307	\$2,384	\$28,069
5	Cost of Purchase Gas	\$13,000	\$13,433	\$13,433	\$12,133	\$13,433	\$13,548	\$14,000	\$13,548	\$14,000	\$14,000	\$13,548	\$13,998	\$162,074
6	Storage Withdrawal (Injection)	\$6,160	\$13,799	\$15,982	\$12,074	\$5,905	(\$2,284)	(\$8,108)	(\$8,548)	(\$10,894)	(\$10,917)	(\$8,271)	(\$2,137)	\$2,761
7	Gas in Storage Interest Expense	\$21	\$21	\$21	\$21	\$21	\$21	\$21	\$21	\$21	\$21	\$21	\$21	\$250
8	Gas Supply Operating Maintenance & Admin Expenses	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$1,555
9	Gas Supply Related Bad Debt Expense	\$34	\$46	\$50	\$41	\$34	\$18	\$9	\$8	\$5	\$5	\$9	\$20	\$279
10	Less Gas Supply Related Late Payment Charges	(\$18)	(\$24)	(\$35)	(\$45)	(\$46)	(\$41)	(\$35)	(\$28)	(\$23)	(\$19)	(\$17)	(\$17)	(\$348)
11	Less Cost of Internal Usage	(\$192)	(\$260)	(\$331)	(\$315)	(\$369)	(\$268)	(\$249)	(\$155)	(\$95)	(\$44)	(\$100)	(\$106)	(\$2,483)
12	Cost of Gas Sold	\$19,133	\$27,146	\$29,250	\$24,038	\$19,108	\$11,124	\$5,767	\$4,976	\$3,143	\$3,175	\$5,319	\$11,909	\$164,088

Volume (Gigajoules - 000s)														
		Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	TOTAL
Line	Description													
13	Customer Sales	6,519	9,002	9,650	7,984	6,536	3,563	1,829	1,571	976	985	1,678	3,808	54,100
14	Purchases (less Fuel Gas & Line Loss)	4,691	4,847	4,847	4,378	4,847	4,388	4,534	4,388	4,534	4,534	4,388	4,534	54,914
15	Cost of Purchase Gas (GJ)	\$2.771	\$2.771	\$2.771	\$2.771	\$2.771	\$3.087	\$3.087	\$3.087	\$3.087	\$3.087	\$3.087	\$3.087	
16	Storage Withdrawal (Injection)	1,893	4,241	4,912	3,710	1,815	-740	-2,626	-2,769	-3,529	-3,536	-2,679	-692	0
17	Storage Withdrawal (Injection) Rate (GJ)	\$3.254	\$3.254	\$3.254	\$3.254	\$3.254	\$3.087	\$3.087	\$3.087	\$3.087	\$3.087	\$3.087	\$3.087	
18	Internal Usage	-65	-86	-109	-105	-126	-86	-79	-49	-29	-14	-31	-34	-814

⁸⁷ Schedule 1.0 of the 2021 Commodity Rate Application.

Table 6-6: Calculation of Cost of Gas Sold for 2022/23 Gas Year⁸⁸

		Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	TOTAL
Line	Description													
1	Saskatchewan Purchases	\$2,657	\$2,745	\$2,745	\$2,479	\$2,745	\$2,103	\$2,173	\$2,103	\$2,173	\$2,173	\$2,103	\$2,173	\$28,372
2	Alberta Purchases	\$9,648	\$9,970	\$10,005	\$9,037	\$10,005	\$8,277	\$8,553	\$8,277	\$8,553	\$8,553	\$8,277	\$8,553	\$107,708
3	Price Risk Management (Inflows)/Outflows	(\$2,092)	(\$2,162)	(\$2,162)	(\$1,952)	(\$2,162)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$10,530)
4	Costs upstream of TEP	\$2,307	\$2,384	\$2,384	\$2,153	\$2,384	\$2,307	\$2,384	\$2,307	\$2,384	\$2,384	\$2,307	\$2,384	\$28,069
5	Cost of Purchase Gas	\$12,520	\$12,937	\$12,973	\$11,717	\$12,973	\$12,687	\$13,110	\$12,687	\$13,110	\$13,110	\$12,687	\$13,110	\$153,619
6	Storage Withdrawal (Injection)	\$5,918	\$13,178	\$15,216	\$11,505	\$5,652	(\$2,147)	(\$7,597)	(\$8,009)	(\$10,204)	(\$10,226)	(\$7,750)	(\$2,012)	\$3,524
7	Gas in Storage Interest Expense	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$46	\$547
8	Gas Supply Operating Maintenance & Admin Expenses	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$130	\$1,555
9	Gas Supply Related Bad Debt Expense	\$33	\$46	\$49	\$41	\$34	\$18	\$9	\$8	\$5	\$5	\$9	\$20	\$277
10	Less Gas Supply Related Late Payment Charges	(\$18)	(\$24)	(\$35)	(\$45)	(\$45)	(\$41)	(\$35)	(\$28)	(\$23)	(\$19)	(\$17)	(\$17)	(\$347)
11	Less Cost of Internal Usage	(\$186)	(\$250)	(\$319)	(\$304)	(\$358)	(\$252)	(\$235)	(\$147)	(\$90)	(\$41)	(\$94)	(\$100)	(\$2,375)
12	Cost of Gas Sold	\$18,443	\$26,063	\$28,060	\$23,090	\$18,430	\$10,440	\$5,427	\$4,687	\$2,973	\$3,003	\$5,010	\$11,176	\$156,802

Volume (Gigajoules - 000s)														
		Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	TOTAL
Line	Description													
13	Customer Sales	6,486	8,958	9,601	7,946	6,505	3,557	1,826	1,568	975	983	1,675	3,802	53,881
14	Purchases (less Fuel Gas & Line Loss)	4,646	4,801	4,812	4,346	4,812	4,385	4,531	4,385	4,531	4,531	4,385	4,531	54,694
15	Cost of Purchase Gas (GJ)	\$2.695	\$2.695	\$2.696	\$2.696	\$2.696	\$2.893	\$2.893	\$2.893	\$2.893	\$2.893	\$2.893	\$2.893	
16	Storage Withdrawal (Injection)	1,905	4,243	4,899	3,704	1,819	-742	-2,626	-2,768	-3,527	-3,534	-2,678	-695	0
17	Storage Withdrawal (Injection) Rate (GJ)	\$3.106	\$3.106	\$3.106	\$3.106	\$3.106	\$2.893	\$2.893	\$2.893	\$2.893	\$2.893	\$2.893	\$2.893	
18	Internal Usage	-65	-86	-109	-104	-126	-86	-79	-49	-29	-14	-31	-34	-813

⁸⁸ Schedule 1.0 of the 2021 Commodity Rate Application.

7.0 GAS COST VARIANCE ACCOUNT (GCVA)

The GCVA tracks the difference between actual commodity sales revenue and actual gas costs. When actual gas costs exceed the amount recovered from commodity rates, balances accumulate that are later collected from customers. When actual gas costs are lower than the amount recovered through commodity rates, balances owing to customers are accumulated and refunded through future commodity rate adjustments. Balances in the GCVA accrue interest at SaskEnergy's short-term borrowing rate.⁸⁹

7.1 GCVA BALANCE

The commodity rate was last adjusted effective April 1, 2019. Table 7-1 sets out the calculation of the GCVA for the period from November 1, 2018 through October 31, 2021. Figure 7-1 shows that between November 2018 and October 2019 the GCVA balance remained at \$18 to \$19 million owing to customers without any significant changes. However, starting in November 2019 the Cost of Purchase Gas started to increase resulting in significant changes in the GCVA balance. From November 2019 to October 31, 2021, the GCVA balance is forecast to change from \$18.8 million **owing to customers** to \$18.8 million **owing from customers** - this is a net change of \$37.6 million as a cost to customers.

Actual heat value compared to forecast continues to have an impact to GCVA balances. SaskEnergy notes that actual heat values ranged between 38.52 MJ/m^3 in 2016/17 to 39.63 MJ/m^3 in 2020/21. The forecast heat value for the Application is $39.90 \text{ MJ/m}^3.9^0$

SaskEnergy notes that from 2016/17 to 2020/21, the impact of the actual heat value to the GCVA balance was \$13.2 million (owing to SaskEnergy from customers).⁹¹

⁸⁹ Summarized from page 7 of the 2021 Commodity Rate Application.

⁹⁰ Round Information Request 8 (a)

 $^{^{91}}$ 1st Round Information Request 8 (a).

Lino	Description	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	TOTAL
Line	Description													
1	GCVA Balance Forward at Oct 31, 2018	(\$16,764)												
2	Opening Cumulative GCVA Balance - Under/(Over) Recovery	(\$16,764)	(\$18,851)	(\$18,191)	(\$17,637)	(\$17,994)	(\$17,547)	(\$18,441)	(\$18,317)	(\$18,616)	(\$18,737)	(\$18,828)	(\$19,091)	(\$16,764)
3	Purchases - Alberta	\$9,971	\$8,370	\$8,247	\$11,557	\$9,069	\$7,821	\$7,302	\$7,292	\$7,600	\$7,512	\$7,176	\$9,607	\$101,524
4	Purchases - Saskatchewan	\$3,411	\$3,775	\$3,175	\$3,450	\$4,863	\$1,416	\$2,470	\$1,823	\$1,856	\$2,347	\$2,294	\$3,174	\$34,055
5	Less Purchase of Other Gas Sales	(\$1)	(\$1)	\$0	\$0	\$0	\$0	(\$1)	\$0	\$0	(\$0)	\$0	\$0	(\$4)
6	Price Risk Management (Inflows)/Outflows	\$1,419	\$1,342	\$1,569	\$56	\$355	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,740
7	Transportation	\$1,936	\$1,960	\$1,968	\$2,127	\$2,082	\$2,091	\$2,021	\$2,025	\$2,018	\$2,028	\$2,037	\$2,033	\$24,326
8	Cost of Purchase Gas	\$16,735	\$15,447	\$14,958	\$17,190	\$16,369	\$11,328	\$11,793	\$11,140	\$11,475	\$11,887	\$11,507	\$14,814	\$164,641
9	Storage Withdrawal (Injection)	\$3,364	\$8,777	\$13,918	\$21,561	\$3,232	(\$2,928)	(\$6,187)	(\$6,079)	(\$9,262)	(\$9,474)	(\$7,488)	(\$1,951)	\$7,481
10	Gas in Storage Interest Expense	\$38	\$38	\$38	\$38	\$38	\$38	\$38	\$38	\$38	\$38	\$38	\$38	\$459
11	Gas Supply Operating Maintenance & Admin Expenses	\$109	\$109	\$109	\$109	\$109	\$119	\$119	\$119	\$119	\$119	\$119	\$119	\$1,375
12	Gas Supply Related Bad Debt Expense	\$111	\$118	\$141	\$196	\$95	\$46	\$27	\$27	\$12	\$13	\$22	\$64	\$871
13	Less Gas Supply Related Late Payment Charges	(\$61)	(\$90)	(\$140)	(\$122)	(\$151)	(\$173)	(\$101)	(\$75)	(\$64)	(\$42)	(\$38)	(\$48)	(\$1,105)
14	Less Cost of Internal Usage	(\$86)	(\$172)	(\$143)	(\$197)	(\$257)	(\$111)	(\$75)	(\$52)	(\$44)	(\$23)	(\$32)	(\$15)	(\$1,206)
15	Cost of Gas Sold	\$20,211	\$24,227	\$28,881	\$38,774	\$19,435	\$8,319	\$5,613	\$5,118	\$2,274	\$2,517	\$4,128	\$13,021	\$172,518
16	Commodity Sales Revenue (November \$2.95/GJand April \$2.575/G.	\$22,271	\$23,540	\$28,300	\$39,107	\$18,963	\$9,188	\$5,463	\$5,392	\$2,367	\$2,581	\$4,366	\$12,742	\$174,280
17	Gain (loss) on other gas sales	0	-0	0	0	0	0	-1	0	0	-0	0	0	(\$2)
18	Period GCVA Balance	(\$2,060)	\$687	\$581	(\$333)	\$472	(\$869)	\$151	(\$274)	(\$93)	(\$64)	(\$238)	\$279	(\$1,760)
19	Period GCVA Interest	(\$26)	(\$28)	(\$27)	(\$24)	(\$25)	(\$25)	(\$27)	(\$26)	(\$27)	(\$27)	(\$25)	(\$27)	(\$314)
20	Closing Cumulative GCVA Balance (Line 2+18+19)	(\$18,851)	(\$18,191)	(\$17,637)	(\$17,994)	(\$17,547)	(\$18,441)	(\$18,317)	(\$18,616)	(\$18,737)	(\$18,828)	(\$19,091)	(\$18,839)	(\$18,839)

Table 7-1: Calculation of GCVA Balance for November 2018 to October 201992

Volume (Gigajoules - 000s)														
Line	Description	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19 0	TOTAL
21	Customer Sales	6,942	8,019	9,700	13,323	6,509	3,563	2,152	2,111	936	1,027	1,709	4,993	60,985
22	Purchases (less Fuel Gas & Line Loss)	5,754	4,899	4,710	5,586	5,425	4,870	4,588	4,695	4,949	5,106	4,931	5,758	61,270
23	Cost of Purchase Gas (\$/GJ)	\$2.908	\$3.153	\$3.176	\$3.077	\$3.017	\$2.326	\$2.571	\$2.373	\$2.318	\$2.328	\$2.334	\$2.573	
24	Storage Withdrawal (Injection)	1,218	3,177	5,038	7,804	1,170	-1,060	-2,240	-2,200	-3,353	-3,429	-2,710	-706	2,708
25	Storage Withdrawal (Injection) Rate (\$/GJ)	\$2.763	\$2.763	\$2.763	\$2.763	\$2.763	\$2.763	\$2.763	\$2.763	\$2.763	\$2.763	\$2.763	\$2.763	
26	Internal Usage	-29	-57	-48	-68	-86	-246	-196	-383	-660	-650	-512	-58	-2,993

⁹² Schedule 2.0, 2021 Commodity Rate Application.

Line	Description	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	20-ايار	Aug-20	Sep-20	Oct-20	TOTAL
1	GCVA Balance Forward at October 31, 2019	(\$18,839)												(\$18,839)
2	Opening Cumulative GCVA Balance - Under/(Over) Recovery	(\$18,839)	(\$17,389)	(\$16,408)	(\$15,570)	(\$14,267)	(\$13,107)	(\$11,923)	(\$10,883)	(\$8,981)	(\$8,489)	(\$8,164)	(\$7,512)	
3	Purchases - Alberta	\$12,918	\$9,660	\$11,716	\$7,857	\$8,790	\$7,225	\$6,622	\$5,891	\$7,376	\$9,641	\$9,779	\$10,817	\$108,292
4	Purchases - Saskatchewan	\$3,667	\$3,634	\$3,181	\$2,624	\$2,855	\$2,677	\$2,406	\$2,202	\$2,105	\$2,053	\$2,345	\$3,336	\$33,085
5	Less Purchase of Other Gas Sales	(\$309)	(\$311)	(\$304)	(\$277)	(\$287)	(\$271)	(\$289)	(\$285)	(\$280)	(\$278)	(\$279)	(\$306)	(\$3,475)
6	Price Risk Management (Inflows)/Outflows	(\$1,305)	(\$546)	(\$385)	\$443	\$253	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$1,540)
7	Transportation	\$2,227	\$2,225	\$2,227	\$2,269	\$2,271	\$2,273	\$2,278	\$2,243	\$2,278	\$2,119	\$2,144	\$2,114	\$26,665
8	Cost of Purchase Gas	\$17,199	\$14,662	\$16,435	\$12,916	\$13,882	\$11,903	\$11,018	\$10,050	\$11,478	\$13,535	\$13,989	\$15,961	\$163,028
9	Storage Withdrawal (Injection)	\$556	\$10,665	\$8,697	\$8,200	\$2,797	\$872	(\$5,412)	(\$564)	(\$8,728)	(\$11,244)	(\$9,241)	(\$2,521)	(\$5,923)
10	Gas in Storage Interest Expense	\$35	\$35	\$35	\$35	\$35	\$35	\$35	\$35	\$35	\$35	\$35	\$35	\$419
11	Gas Supply Operating Maintenance & Admin Expenses	\$119	\$119	\$119	\$119	\$119	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$1,361
12	Gas Supply Related Bad Debt Expense	\$82	\$122	\$122	\$99	\$78	\$59	\$23	\$39	\$12	\$11	\$21	\$59	\$728
13	Less Gas Supply Related Late Payment Charges	(\$44)	(\$96)	(\$100)	(\$117)	(\$80)	\$0	\$0	\$0	\$0	\$0	(\$30)	(\$43)	(\$510)
14	Less Cost of Internal Usage	(\$88)	(\$104)	(\$112)	(\$161)	(\$129)	(\$116)	(\$115)	(\$72)	(\$42)	(\$17)	(\$41)	(\$39)	(\$1,034)
15	Cost of Gas Sold	\$17,858	\$25,404	\$25,195	\$21,091	\$16,702	\$12,863	\$5,659	\$9,597	\$2,865	\$2,430	\$4,843	\$13,561	\$158,067
16	Commodity Sales Revenue (\$2.575/GJ)	\$16,477	\$24,488	\$24,414	\$19,831	\$15,583	\$11,724	\$4,682	\$7,764	\$2,431	\$2,161	\$4,256	\$11,741	\$145,553
17	Gain (loss) on other gas sales	-95	-89	-81	-64	-60	-52	-66	-70	-59	-57	-65	-84	(\$843)
18	Period GCVA Balance	\$1,476	\$1,005	\$862	\$1,323	\$1,179	\$1,190	\$1,043	\$1,903	\$493	\$326	\$652	\$1,904	\$13,358
19	Period GCVA Interest	(\$25)	(\$25)	(\$24)	(\$20)	(\$18)	(\$7)	(\$2)	(\$1)	(\$1)	(\$1)	(\$1)	(\$1)	(\$127)
20	Closing Cumulative GCVA Balance (Line 2+18+19)	(\$17,389)	(\$16,408)	(\$15,570)	(\$14,267)	(\$13,107)	(\$11,923)	(\$10,883)	(\$8,981)	(\$8,489)	(\$8,164)	(\$7,512)	(\$5,609)	(\$5,609)

Table 7-2: Calculation of GCVA Balance for November 2019 to October 202093

Volume (Gigajoules - 000s)														
Line	Description	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	TOTAL
21	Customer Sales	6,487	9,617	9,586	7,789	6,140	4,653	1,861	3,061	952	848	1,703	4,690	57,454
22	Purchases (less Fuel Gas & Line Loss)	6,285	5,166	5,967	4,396	5,010	4,327	3,732	3,268	4,033	5,047	5,060	5,585	57,877
23	Cost of Purchase Gas (\$/GJ)	\$2.736	\$2.838	\$2.754	\$2.938	\$2.771	\$2.751	\$2.952	\$3.075	\$2.846	\$2.682	\$2.765	\$2.858	
24	Storage Withdrawal (Injection)	234	4,490	3,661	3,452	1,177	367	-2,278	-238	-3,675	-4,734	-3,890	-1,062	-2,494
25	Storage Withdrawal (Injection) Rate (\$/GJ)	\$2.375	\$2.375	\$2.375	\$2.375	\$2.375	\$2.375	\$2.375	\$2.375	\$2.375	\$2.375	\$2.375	\$2.375	
26	Internal Usage	-32	-39	-43	-59	-47	-42	408	31	594	535	534	166	2,005

⁹³ Schedule 2.0, 2021 Commodity Rate Application.

Line	Description	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21 Forecast	Oct-21 Forecast	TOTAL
1	GCVA Balance Forward at October 31, 2019	(\$5,609)												(\$5,609)
2	Opening Cumulative GCVA Balance - Under/(Over) Recovery	(\$5,609)	(\$3,541)	(\$1,270)	\$848	\$3,883	\$5,684	\$8,149	\$9,706	\$11,173	\$12,058	\$13,147	\$14,821	
3	Purchases - Alberta	\$14,079	\$9,950	\$8,292	\$13,440	\$7,123	\$7,300	\$9,693	\$9,470	\$10,427	\$9,580	\$10,585	\$11,225	\$121,162
4	Purchases - Saskatchewan	\$3,629	\$2,375	\$2,168	\$2,305	\$2,454	\$1,687	\$2,018	\$1,747	\$2,184	\$2,424	\$3,224	\$3,503	\$29,717
5	Less Purchase of Other Gas Sales	(\$528)	(\$3)	(\$11)	(\$2)	(\$7)	(\$0)	(\$11)	\$0	\$0	(\$2)	\$0	\$0	(\$563)
6	Price Risk Management (Inflows)/Outflows	(\$1,182)	(\$776)	(\$1,037)	(\$2,739)	(\$999)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$6,733)
7	Transportation	\$2,321	\$2,327	\$2,328	\$2,248	\$2,248	\$2,334	\$2,353	\$2,351	\$2,353	\$2,688	\$2,307	\$2,384	\$28,242
8	Cost of Purchase Gas	\$18,318	\$13,873	\$11,741	\$15,252	\$10,818	\$11,320	\$14,052	\$13,568	\$14,964	\$14,690	\$16,116	\$17,112	\$171,825
9	Storage Withdrawal (Injection)	\$708	\$8,792	\$12,032	\$12,997	\$5,456	\$1,056	(\$6,920)	(\$7,550)	(\$11,963)	(\$11,147)	(\$10,061)	(\$3,148)	(\$9,750)
10	Gas in Storage Interest Expense	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$44
11	Gas Supply Operating Maintenance & Admin Expenses	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$110	\$1,315
12	Gas Supply Related Bad Debt Expense	\$59	\$71	\$76	\$88	\$50	\$34	\$19	\$16	\$9	\$9	\$15	\$35	\$480
13	Less Gas Supply Related Late Payment Charges	(\$50)	(\$101)	(\$86)	(\$105)	(\$144)	(\$94)	(\$89)	(\$74)	(\$39)	(\$37)	(\$43)	(\$31)	(\$894)
14	Less Cost of Internal Usage	(\$83)	(\$104)	(\$134)	(\$134)	(\$169)	(\$164)	(\$91)	(\$70)	(\$19)	(\$39)	(\$112)	(\$123)	(\$1,242)
15	Cost of Gas Sold	\$19,065	\$22,643	\$23,742	\$28,211	\$16,125	\$12,265	\$7,085	\$6,004	\$3,063	\$3,588	\$6,029	\$13,957	\$161,779
16	Commodity Sales Revenue (\$2.575/GJ)	\$16,983	\$20,373	\$21,624	\$25,176	\$14,325	\$9,801	\$5,528	\$4,538	\$2,179	\$2,501	\$4,357	\$9,872	\$137,257
17	Gain (loss) on other gas sales	14	-0	0	-0	-0	0	1	0	0	0	0	0	\$15
18	Period GCVA Balance	\$2,068	\$2,271	\$2,118	\$3,035	\$1,800	\$2,465	\$1,556	\$1,466	\$884	\$1,087	\$1,672	\$4,085	\$24,506
19	Period GCVA Interest	(\$0)	(\$0)	(\$0)	\$0	\$1	\$1	\$1	\$1	\$1	\$2	\$2	\$2	\$10
20	Closing Cumulative GCVA Balance (Line 2+18+19)	(\$3,541)	(\$1,270)	\$848	\$3,883	\$5,684	\$8,149	\$9,706	\$11,173	\$12,058	\$13,147	\$14,821	\$18,908	\$18,908

Volume (Gigajoules - 000s)														
Line	Description	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21 Forecast	Oct-21 Forecast	TOTAL
21	Customer Sales	6,711	8,137	8,579	9,962	5,692	3,894	2,189	1,777	840	998	1,692	3,834	54,372
22	Purchases (less Fuel Gas & Line Loss)	6,477	4,897	4,142	5,164	3,718	3,553	4,368	4,053	4,216	4,182	4,587	4,740	54,096
23	Cost of Purchase Gas (\$/GJ)	\$2.828	\$2.833	\$2.835	\$2.954	\$2.910	\$3.186	\$3.217	\$3.348	\$3.549	\$3.513	\$3.513	\$3.610	
24	Storage Withdrawal (Injection)	264	3,278	4,486	4,845	2,034	394	-2,580	-2,815	-4,460	-4,156	-3,751	-1,174	-3,635
25	Storage Withdrawal (Injection) Rate (\$/GJ)	\$2.682	\$2.682	\$2.682	\$2.682	\$2.682	\$2.682	\$2.682	\$2.682	\$2.682	\$2.682	\$2.682	\$2.682	
26	Internal Usage	-29	-37	-48	-47	-60	-52	401	539	1,084	972	856	268	3,846

⁹⁴ Schedule 2.0, 2021 Commodity Rate Application as updated in Market Update Filing. September and October 2021 are forecasts.


Figure 7-1: Closing Cumulative GCVA Balance: November 2018 to October 202195

⁹⁵ Prepared based on Schedule 2.0, 2021 Commodity Rate Application Market Update Filing. September and October 2021 are forecasts.

Observations

GCVA Balance

Figure 2 shows three periods impacting the GCVA balance since November 2018:⁹⁶

- November 1, 2018 to March 31, 2019: The actual cost of purchased gas [ranging between \$2.9/GJ and \$3.1/GJ] was slightly higher than the commodity rate of \$2.95/GJ. For this period, the GCVA balance changed from \$18.851 million to \$17.547 million [owing to customers]. This is a net change of \$1.304 million as a cost to customers.
- April 1, 2019 to October 31, 2019: The commodity rate changed to reflect expected lower market prices. The new commodity rate was \$2.575/GJ effective April 1, 2019 [10.2 cents/m³ based on a heat value of 38.75 MJ/m³]. The actual cost of purchased gas [ranging between \$2.3/GJ and \$2.6/GJ] was close to the commodity rate resulting in no significant change in the GCVA balance over this period [the GCVA balance changed from \$18.441 million to \$18.839 million [owing to customers]. This is a net change of \$0.398 million benefiting customers.
- November 1, 2019 to October 31, 2021: The actual cost of purchased gas [ranging between \$2.7/GJ and \$3.7/GJ] increased compared to the commodity rate resulting in sharp changes in GCVA balances. The GCVA balance forecast changed from \$18.839 million in November 1, 2019 <u>owing to customers</u> to \$18.812 million in October 31, 2021 <u>owing from customers</u>. This is a net change of \$37.651 million as a cost to customers.

Market Update Filing

The Market Update Filing by SaskEnergy shows the updated GCVA balance forecast at October 31, 2021 is \$18.908 million -- or \$0.096 million higher than the forecast included in the Original Application.

SaskEnergy is proposing to clear the GCVA balance over the 24 month period, from November 1, 2021 to October 31, 2023.

Heat Value Impacts on GCVA

Natural gas is purchased in energy (GJ) and sold to customers in volume. When heat value is higher than forecast the volume sold in m³ is lower [i.e., a lower volume is required to get the same energy] resulting in lower revenues to offset the cost of purchased gas. When heat value is lower than forecast this results in higher than expected revenues.

Heat value variances from forecast also impact commodity revenues, i.e., when heat value increases, customers require smaller volumes to achieve the same heating value, decreasing commodity revenues (which are based on volume). The GCVA mitigates SaskEnergy's financial risks related to heat value variances that impact commodity revenues. Commodity revenue variances from forecast are captured in the GCVA and collected (or refunded) in future periods. However, if amounts owed by ratepayers accrue

⁹⁶ The last change in commodity rate was effective April 1, 2019.

in the GCVA it may compound the amounts owing from ratepayers (and required commodity rate increases) in future periods.

Actual heat values ranged between 38.52 MJ/m³ in 2016/17 to 39.63 MJ/m³ in 2020/21 compared to heat value in rates at 38.75 MJ/m³.⁹⁷ SaskEnergy notes that from 2016/17 to 2020/21, the impact of the actual heat value to the GCVA balance was \$13.2 million (owing to SaskEnergy from customers).⁹⁸

A higher than forecast heat value will result in under-recovery from customers, or vice-versa. Any over (or under) recovery will be recovered through the GCVA at the time of the next commodity rate application. The overall magnitude of the under (or over) recovery and period between commodity rate adjustments may result in intergenerational inequity.

Quantum of Threshold for GCVA Balance

Commodity risk is managed by monitoring future potential changes to the GCVA. SaskEnergy notes that "in addition to monitoring the GCVA, SaskEnergy officially reviews its commodity rate twice per year, in the spring and fall, for either an April 1 or November 1 rate change. If the forecasted natural gas costs are substantially different from the forecasted commodity revenue, then a recommendation to proceed with a commodity rate application will be initiated."⁹⁹

During the review of the 2018 Commodity and Delivery Service Rate Application the Panel recommended that SaskEnergy review the basis for the +/- \$20 million quantum as the forecasted metric for the GCVA to determine if it remains appropriate. In Tab 7 of the Application SaskEnergy notes that as its "customer base has grown over the years, use per customer continues to decrease. This has resulted in SaskEnergy's gas purchases to remain relatively equal. Therefore, SaskEnergy believes the \$20 million threshold is still appropriate."

The following is noted regarding the +/- \$20 million GCVA balance threshold:

- The +/- \$20 million GCVA threshold for triggering a commodity application was implemented following the review of proposed rates effective November 1, 2000 (when the commodity rate had increased from 11 cents/m³ and was in the range of 17 cents/m³). Prior to this adjustment, the GCVA threshold was +/- \$10 million. ¹⁰⁰
- As reviewed in Figure 7-1 the GCVA balance for the 36 months period, from November 2018 to October 2021, remains under the +/- \$20 million threshold. However, the balance of the GCVA changed by more than \$37 million, from \$18 million owed to customers to about \$19 million owed from customers.
- SaskEnergy adjusts its commodity rate less frequently than other peer utilities. The information
 provided by SaskEnergy shows that most other peer utilities have more frequent rate adjustments
 that occur monthly (Edmonton, Calgary and Montreal) or quarterly (Vancouver, Winnipeg, Hamilton

⁹⁷ 1st Round Information Request 8 (a)

⁹⁸ 1st Round Information Request 8 (a).

⁹⁹ 1st Round Information Request 2 (h).

¹⁰⁰ The Panel report from November 23, 2000. <u>https://www.saskratereview.ca/docs/saskenergy_nov_23_00.pdf</u>

and Toronto).¹⁰¹ While SaskEnergy notes that it typically would review its commodity rates once or twice per year, the current rates have remained unchanged since April 1, 2019. This resulted in the GCVA balance going from about \$18 million owing to customers to about \$19 million owing from customers. This also raises concerns regarding intergenerational equity.

The Consultant has previously noted a concern that high GCVA balances may put further upward pressure on commodity rates during times of commodity price increases; and the Panel has also previously noted concerns related to high GCVA balances. The information in this application confirms the concerns raised in the previous applications as the response to 1st Round Information Request 2 (c) shows that the variance related to the GCVA between the 2021 and 2018 test years is about 67% of the total change.¹⁰² SaskEnergy acknowledges that in this rate application "collecting the GCVA is adding to the commodity rate required more than the forecast cost of gas sold."¹⁰³

Large balances owing from customers in the GCVA may also impact SaskEnergy's financial health, borrowing limits and competitiveness. The information provided indicates that the largest share of the commodity increase relates to the GVCA balance that is being collected from customers. In the Consultant's view this also sends the wrong price signal as to what the actual cost of gas is.

In the Consultant's view, the information included in this Application confirms that the proposed commodity rates:

- 1. Do not only reflect the cost of gas sold [purchased gas cost and O&M expenses]; but
- 2. Also are largely impacted by the accumulated GCVA balances over time.

Recommendations

High GCVA balances put upward pressure on rates during periods of commodity price increases and create concerns regarding SaskEnergy's financial health and competitiveness as well as intergenerational equity.

The +/-\$20 million threshold currently used was recommended when the commodity rate was proposed to increase from about 11 cents/m³ to about 17 cents/m³. The current rates are well below 17 cents/m³ and closer to the rate when the +/-\$10 million threshold was used by SaskEnergy. It is recommended that SaskEnergy revisit the basis for the \$20 million quantum as the forecasted metric for the GCVA to determine if it remains appropriate considering the lower gas prices compared to the prices when the GCVA threshold was set, and determine if there are options available to determine threshold or GCVA trigger that would ensure material GCVA balances that impact rates do not accumulate over time.

For example, the GCVA balance and threshold/trigger could be reviewed from a customer rate impact perspective with the GCVA balance threshold set so that it does not have a rate impact of +/-5%. In this case, the dollar value of the threshold would change as the cost of gas changes [i.e., when the annual cost

¹⁰¹ 1st Round Information Request 2 (h) i).

¹⁰² \$0.39/GJ change related to GCVA out of total change of \$0.58/GJ.

¹⁰³ 1st Round Information Request 2 (i) iii).

of gas is about 160 million then the dollar value of the threshold would be +/- 8 million and if the cost of gas increases the threshold would also increase or vise versa].

8.0 DETERMINATION OF COMMODITY RATE

The last commodity rate adjustment occurred effective April 1, 2019. At that time the commodity rate was decreased to reflect lower natural gas prices. Since then, natural gas prices have increased as reviewed in the prior sections of this report. The commodity rate is calculated in the Application based on a 39.90 MJ/m³ heating value.

The following information was provided by SaskEnergy during the Application review process:

- In the Application, SaskEnergy requested a commodity rate of 12.55 cents/m³, or \$3.15/GJ, effective November 1, 2021 to recover the forward cost of gas over the two year forward period from November 1, 2021 to October 31, 2023, as well as clear balance projected in the GCVA at the end of October 2021 over the same two year period.
- In response to Information Requests, SaskEnergy provided revised schedules that update Operating, Maintenance and Administrative Charges, Bad Debt Expense, and Late Payment Revenues as well as Gas in Storage interest expenses.¹⁰⁴ The calculated commodity rate of 12.51 cents/m³, or \$3.14/GJ, also includes clearing the projected balance in the GCVA at the end of October 2021.
- The September 24, 2021 Market Update filing, as corrected by SaskEnergy on September 27, 2021¹⁰⁵, shows an increased cost of gas as well as a slight increase in the GCVA balance to the end of October 2021. The requested commodity rate in the Market Update filing is 12.78 cents/m³, or \$3.20/GJ, effective November 1, 2021 that recovers the forward cost of gas over the two year forward period from November 1, 2021 to October 31, 2023, as well as clearing the projected balance in the GCVA at the end of October 2021 over the same two year period as proposed in the Application.

Table 8-1 provides the calculation of the proposed commodity rate in the Original Application, the revised calculation provided during the interrogatory process and the proposed commodity rate in the Market Update filing.

¹⁰⁴ 1st Round Information Request 7 (c) iii).

¹⁰⁵ The Market Update filing on September 24, 2021 included late payment charges as a cost to ratepayers while it should be included as an offset to the costs. On September 27, 2021 SaskEnergy provided revised schedules corrected the proposed commodity rate.

Line	Description	Original Application	1st Round IR 7 (c) iii)	Change from Original Application	Market Update Filing as corrected on Sep 27, 2021	Change from Original Application	Change from 1st Round IR 7 (c) iii)
		Α	В	C=B-A	D	E=D-A	F=D-B
1	Estimated Balance of GCVA at October 31, 2021 (000's)	\$18,811,695	\$18,811,695	\$0	\$18,908,170	\$96,475	\$96,475
2	November 2021 to October 2023 Gas Cost Forecast (000's)	\$320,889,403	\$319,878,881	-\$1,010,522	\$326,935,362	\$6,045,959	\$7,056,481
3	Total Forecast Costs to Recover (000's)	\$339,701,098	\$338,690,576	-\$1,010,522	\$345,843,531	\$6,142,434	\$7,152,956
4	November 2021 to October 2023 Forecast Sales (GJs - 000's)	107,980,597	107,980,597	0	107,980,597	0	0
5	November 2021 to October 2023 Monthly Weighted Cost per Unit of Sales	\$3.146	\$3.137	-\$0.009	\$3.203	\$0.057	\$0.066
6	Indicative Two Year Commodity Rate Customer commodity Kate Equivalent (Heating value =	\$3.15	\$3.14	-\$0.01	\$3.20	\$0.06	\$0.07
7	39.90 MJm ³)	12.55	12.51	-0.05	12.78	0.23	0.27

Table 8-1: Calculation of Commodity Rate106

The proposed commodity rate of \$3.20/GJ, or 12.78 cents/m³, in the Market Update filing would recover about \$326.935 million gas cost forecast for the period from November 1, 2021 to October 31, 2023 as well as clear the \$18.908 million forecast balance in the GCVA owing from customers.

Table 8-1 shows that in the Market Update filing:

- The cost of gas forecast increased by \$6.046 million compared to the forecast provided in the Original Application. There was also a \$0.096 million increase in the GCVA forecast balance to the end of October 2021 resulting in a total increase of \$6.142 million. This increase results in an increase in the proposed rate by 0.23 cents/m³ compared to the Original Application.
- The cost of gas forecast increased by \$7.056 million compared to the forecast provided in response to 1st Round Information Request 7 (c) iii), plus a \$0.096 million increase in GCVA forecast balance to the end of October 2021, resulting in total increase of \$7.153 million. This increase results in an increase in the proposed rate by 0.27 cents/m³ compared to the commodity rate calculated in the referenced IR response.

Impact of Heat Value

Natural gas is a mix of hydrocarbon gases and contains different energy content (or heat value) depending on the composition of natural gas. Where natural gas has a higher heat value, less gas is required to produce an equivalent amount of heating energy. Heat value may vary depending on where natural gas is sourced from and how much it is processed prior to being delivered to customers. SaskEnergy notes that heat value of natural gas determines the amount of energy released when the natural gas is consumed. The heat value of the natural gas in Saskatchewan has been increasing as a majority of the natural gas in Saskatchewan is associated with oil production which has a higher heat value than conventional production

¹⁰⁶ Schedule 3.0 in the September 10, 2021 Filing, Schedule 3.0 provided in response to 1st Round Information Request 7 (c) iii) and Schedule 3.0 provided in September 24, 2021 Market Update filing.

and there has also been an increase in heat value on the gas being imported by SaskEnergy on interconnected pipelines.¹⁰⁷

Information provided by SaskEnergy shows actual heat values ranging between 38.52 MJ/m³ in 2016/17 to 39.63 MJ/m³ in 2020/21 compared to the 38.75 MJ/m³ heat value in rates.¹⁰⁸

Concerns have been raised in past proceedings regarding variations in heat value that result in some customers paying more than others to achieve the same heating energy, depending on geographic location. Information Request 2 (g) shows variances in heat value result in residential and commercial bill variances ranging between -8% [where customers pay less than the average bill in other locations] and +4% [where customers pay more than the average bill in other locations] depending on geographic location. This results in ongoing fairness concerns for customers.

Heat value variances from forecast also impact commodity revenues, i.e., when heat value is higher than forecast customers require smaller volumes to achieve the same heating value, decreasing commodity revenues (which are based on volume). The GCVA mitigates SaskEnergy's financial risks related to heat value variances that impact commodity revenues. Commodity revenue variances from forecast are captured in the GCVA and collected (or refunded) in future periods. However, if amounts owed by customers accrue in the GCVA it may compound the amounts owing from customers (and required commodity rate increases) in future periods. SaskEnergy notes that for the last five years (2016/17 to 2020/21), the impact of the actual heat value to the GCVA balance was \$13.2 million (owing to SaskEnergy from customers).¹⁰⁹

SaskEnergy notes that it has begun a heat value business case to assess the options on how best to resolve the heat value variations.¹¹⁰

Observations

The Consultant reviewed the proposed commodity rate calculation and finds that it uses an approach consistent with previous applications.

SaskEnergy's Application proposed two measures related to the determination of the quantum of the proposed commodity rate that merit careful review and consideration:

- Proposal for a multi-year cost of gas coverage period that focuses on cost of gas over the two year forward period from November 1, 2021 to October 31, 2023.
- Recovery of GCVA balance owing from customers at end of October 2021 over a two-year period.

As reviewed in Section 2.2, the information provided in response to 1st Round Information Request 2 (b) i) shows that the approach proposed by SaskEnergy in the application (a two year rate increase with the GCVA balance collected over two years) provides for lower bill impacts and greater rate stability than setting rate increases separately for the 2021/22 and 2022/23 gas years. More specifically, the information

¹⁰⁷ Page 7, 2021 Commodity Rate Application.

¹⁰⁸ 1st Round Information Request 8 (a)

¹⁰⁹ 1st Round Information Request 8 (a).

¹¹⁰ 1st Round Information Request 2 (f).

provided by SaskEnergy shows that compared to the 25.8% rate increase effective November 1, 2021 proposed in the Application:

- If the rates were set effective November 1, 2021 to cover the costs for the period from November 1, 2021 to October 31, 2022, followed by a rate adjustment effective November 1, 2022 to cover the costs for the period from November 1, 2022 to October 31, 2023, while assuming the GCVA balance was still recovered over 24 months:
 - The required rate **increase** would be 28.0%, effective November 1, 2021;
 - This would be followed by a rate **<u>decrease</u>** of 4.0% effective November 1, 2022.
- If the rates were set effective November 1, 2021 to cover the costs for the period from November 1, 2021 to October 31, 2022 followed by a rate adjustment effective November 1, 2022 to cover the costs for the period from November 1, 2022 to October 31, 2023, assuming the GCVA balance was recovered over 12 months:
 - The required rate increase would be 35.0% effective November 1, 2021;
 - This would be followed by a rate **<u>decrease</u>** of 14.4% effective November 1, 2022.

The Consultant has concerns that the GCVA is not working effectively based on the core purpose and function of the account as outlined below:

- The GCVA is a mechanism that tracks variances between actual commodity sales revenue and actual natural gas costs.
- The purpose of the GCVA is to provide SaskEnergy the opportunity to recover the costs of gas sold to customers without mark-up. SaskEnergy would normally design a commodity rate that targets a GCVA balance of zero at the end of the test period (a practice that SaskEnergy notes is similar to other jurisdictions).¹¹¹ Rate design principles target a GCVA balance of zero to minimize the impact of intergenerational equity/ fairness. SaskEnergy has noted that most utilities refund/collected balances within a 12 month period. However, between April 2019 [the last time the commodity rate was changed] and November 1, 2021 [the proposed date for new commodity rates] the GCVA balance changed by more than \$37.0 million.
- In response to 1st Round Information Request 2 (i) i) SaskEnergy notes that it "has a fairly stable customer base, the same customers that caused the GCVA balance are essentially the same customers from whom the GCVA is recovered or refunded. SaskEnergy estimates the intergenerational fairness would impact less than 1% of the customers".
- As reviewed in section 8.2, SaskEnergy has a +/- \$20 million forecast metric for GCVA for triggering a commodity rate change. The quantum for the metric was set about 18-20 years ago when commodity rates were in the range of \$4 to \$6/GJ (much higher than current rates). While the GCVA balance was within the +/- \$20 million threshold it changed by more than \$37 million, from \$18 million owed to customers to about \$19 million owed from customers.

¹¹¹ 1st Round Information Request 1(d), 2018 Commodity and Delivery Service Rate Application.

• The response to 1st Round Information Request 2 (c) shows that the variance related to the GCVA between 2021 and 2018 test years is about 67% of the total rate change.¹¹² SaskEnergy acknowledges that in this rate application "collecting the GCVA is adding to the commodity rate required more than the forecast cost of gas sold."¹¹³

As reviewed in Section 8.2, variations in heat value from forecast continues to have an impact on GCVA balances; and can impact the quantum of the commodity rate to be collected from customers.

Recommendations

Consultant has concerns that the GCVA is not working effectively based on core purpose and function of the account. Two issues are noted:

- Balances accumulated in the GCVA to the established +/- \$20 million threshold can create material rate impacts as occurred in this application (67% of the commodity rate change relates to the collection of the GCVA balance). This would appear to alter the core purpose and function of the account.
- 2. Frequency of rate adjustments can also result in intergenerational equity issues for current and future customers.

The Consultant recommends that SaskEnergy be urged to continue to explore measures to ensure that commodity rates are adjusted more regularly to ensure material fund balances do not accumulate. This may include adjusting the GCVA balance threshold (see Section 7.1).

The Consultant also recommends that the Panel continue to urge SaskEnergy to pursue measures required to shift to billing in energy.

¹¹² \$0.39/GJ change related to GCVA out of total change of \$0.58/GJ.

¹¹³ 1st Round Information Request 2 (i) iii).

9.0 PRICE RISK MANAGEMENT STRATEGY AND POLICY

9.1 STRATEGY

SaskEnergy manages its cost of gas in accordance with a Commodity Price Risk Management Strategy ("Strategy") that is approved by the Board of Directors. The Strategy allows SaskEnergy to manage the long-term price of its gas purchases through financial instruments and fixed price physical gas purchases at AECO. SaskEnergy indicates that while this approach may mitigate the impacts of market volatility in the short term, it cannot shield customers from longer term impacts of rising and falling natural gas prices.¹¹⁴

Each year the Strategy specifies hedge targets as a percent of forecast natural gas purchases based on normal weather. Price risk management limits are set as a minimum and maximum of daily volume of natural gas to be hedged prior to the start of each season. SaskEnergy uses both financial transactions and physical fixed price gas purchases to manage its cost of gas, and the Strategy outlines the types of authorized transactions that may be made over the period, the types of risks related to the authorized transactions and how they are managed.

The Application outlines the two primary objectives of gas price risk management that must be balanced against each other in any commodity rate application:¹¹⁵

- 1. To provide customers with rate stability; and
- 2. To offer rates that are comparable to the market price of natural gas and competitive with other Canadian utilities.

The strategy endeavors to provide a competitive cost of natural gas while minimizing the risks associated with volatility of natural gas prices.

Figure 9-1 summarizes the relative stability in the SaskEnergy Commodity rate over the past 10 years compared to historic AECO/NIT prices. SaskEnergy notes that in comparison to AECO prices, the commodity rate has been very stable. During periods of rising AECO prices, the rate has outperformed the market, and when prices are declining, it underperforms AECO prices.¹¹⁶

¹¹⁴ Page 14, 2021 Commodity Rate Application.

¹¹⁵ Page 14, 2021 Commodity Rate Application.

¹¹⁶ 1st Round IRs, Response to 11(b).



Figure 9-1: SaskEnergy Commodity Rate vs. AECO Price¹¹⁷

SaskEnergy currently has approximately 95% of its natural gas purchases hedged for the upcoming winter and approximately 80% of its natural gas purchase price protected over the application period.¹¹⁸

Observations

The Panel's Terms of Reference require the Panel to check to ensure that SaskEnergy's natural gas price management strategy is executed as approved by the SaskEnergy Board of Directors, however, the Strategy and any details of price management transactions or gas purchase contracts cannot be publicly released.

SaskEnergy has provided the Consultant with information that outlines the basis for recommending the current strategy. SaskEnergy notes that customer surveys continue to confirm a customer preference for stable rates, as customers want to avoid unexpected changes in bills and desire stability for budgeting purposes.¹¹⁹

The natural gas price management strategy appears to be being executed as approved.

9.2 POLICY

SaskEnergy maintains a Commodity Price Risk Management Policy ("Policy") that provides a framework and principles to manage risks (such as market risks, regulatory risks, credit risks and interest rate risks) that

¹¹⁷ 1st Round Information Request 1(b).

¹¹⁸ Page 14, 2021 Commodity Rate Application.

¹¹⁹ Application, Page 14.

may be associated with the purchase and sale of natural gas and commodity derivative transactions associated with these activities.

The Policy specifies objectives, reporting principles and risk management systems, and outlines the roles and responsibilities of the Board of Directors, Executive Committee, Commodity Risk Management Committee, Front Office, Middle Office and Back Office regarding implementation of commodity activities, strategies and transactions. The Policy is subject to formal review by the Audit and Finance committee every two years. Any changes in the policy that are considered material are reviewed by the Board of Directors. Procedures are subject to review by the Commodity Risk Management Committee annually.

Audit Services reports biannually on compliance with the Policy and procedures; and at any time, recommendations for corrective action may be made by Audit Services, if appropriate. Audit Services also reviews a sample of gas marketing tickets monthly.

SaskEnergy notes that the last internal audit review was completed in October 2019, and indicated compliance to the documented policies, procedures, and strategies relating to commodity activities; and that controls were functioning effectively. An external review of the Commodity Risk Management Policy and Procedures has not directly been undertaken by SaskEnergy's external auditors. However, certain procedures, including the review of transaction tickets, are part of the CEO/CFO certification process and are reviewed during the annual external audit.

Observations

The Panel's Terms of Reference require the Panel to check to see that SaskEnergy's price risk management practices are aligned with the SaskEnergy Board of Directors approved policy and procedures for engaging in gas price management activities. SaskEnergy has provided information on a confidential basis that indicates compliance with the Board of Director's approved policy and procedures for engaging in gas price management activities.

10.0 CUSTOMER IMPACTS

Customer bills include a Commodity Rate, a Delivery Rate and a Basic Monthly Charge, and bill impacts will vary depending on customer class and usage levels.

The Application provides bill impacts for each customer class at different consumption levels. Table 10-1 below summarizes the average bill impact for each rate class assuming the proposed commodity rate of 12.55 cents/m³ (\$3.15/GJ), effective November 1, 2021, proposed in the Application as well as the range of bill impacts as provided by SaskEnergy. In summary, the estimated bill impacts by customer class are as follows:

- **Residential Customers:** Total bill impacts range from 8% to 11% depending on usage (with an average bill impact of 8.4%). The Application indicates 70% of customers in this class use less natural gas than the average and will experience a bill impact of 8% or less.¹²⁰
- **Commercial Small:** Total bill impacts range from 9% to 14% depending on usage (with an average bill impact of 11.9%). The Application indicates 62% of customers in this class use less natural gas than the average and will experience a bill impact of about 9%.¹²¹
- **Commercial Large:** Total bill impacts range from 14% to 15% depending on usage (with an average bill impact of 14.4%). The Application indicates that 71% of customers in this class use less natural gas than the average and will experience a bill impact of about 14%.¹²²
- Small Industrial: Small Industrial customers will see about 17.8% average rate increase.

 $^{^{\}rm 120}$ Page 15 and Tab 5, 2021Commodity Rate Application.

¹²¹ Page 15 and Tab 5, 2021 Commodity Rate Application.

¹²² Page 15 and Tab 5, 2021 Commodity Rate Application.

Table 10-1: Annual Bill Impact by Customer Consumption(Based on 2020-21 Customer Numbers and Use)

	Customers by Consumption Total Annual Bill		Bill Impact				
	% Customers	Use	Avg Use	Current	Proposed	theory	0/ //
		m ⁻ /year	m-/year	\$/year	\$/year	\$/year	%/year
Residential							
Low	70%	(0 - 3,000)	2,069	\$690	\$743	\$53	8%
Medium	28%	(3,001 - 7,000)	3,918	\$1,058	\$1,159	\$101	10%
High	2%	(Over 7,000)	9,819	\$2,233	\$2,486	\$252	11%
Commercial Small							
Low	62%	(0 - 10,000)	4,412	\$1,260	\$1,374	\$113	9%
Medium	34%	(10,000 - 50,000)	28,935	\$5,696	\$6,440	\$744	13%
High	5%	(Over 50,000)	83,713	\$15,606	\$17,757	\$2,151	14%
Commercial Large							
Low	71%	(0 - 200,000)	106,874	\$19,625	\$22,372	\$2,747	14%
Medium	25%	(200,001 - 400,000)	320,380	\$55,537	\$63,770	\$8,234	15%
High	4%	(Over 400,000)	518,801	\$88,911	\$102,244	\$13,333	15%

(Based on 2020-21 customer numbers and usage)

Numbers may not add up precisely due to rounding.

Table 10-1 illustrates the bill impacts for different customer classes based on information provided in the Original Application:

- Residential Class:
 - With the proposed commodity rate increase in the Application, residential customers will see an average total monthly bill increase of \$5.65/month or 8.4%.¹²⁴
 - Approximately 70% of residential customers use 3,000 m³ or less annually and would see bill increases of \$4.41 or less per month with the recommended commodity rate increase (8% or less).
 - About 28% of residential customers use between 3,001 and 7,000 m³ annually and would have monthly bill impact of \$8.42 (10% or less).
 - Approximately 2% of residential customers use over 7,000 m³ annually and would see a monthly bill increase of about \$21 (11% or less).
- Commercial Small:
 - With the proposed commodity rate increase in the Application, commercial small customers will see an average total monthly bill increase of \$27.63/month or 11.9%.¹²⁵

¹²³ Tab 5, 2021 Commodity Rate Application.

¹²⁴ Page 15, 2021 Commodity Rate Application.

¹²⁵ Page 15, 2021 Commodity Rate Application.

- Approximately 62% of commercial small customers use 10,000 m³ or less annually and would see bill increases of \$9.42 or less per month with the recommended commodity rate increase (9% or less).
- About 34% of commercial small customers use between 10,001 and 50,000 m³ annually and would have monthly bill impact of \$62 (13% or less).
- Approximately 5% of commercial small customers use over 50,000 m³ annually and would see a monthly bill increase of about \$179 (14% or less).
- Commercial Large:
 - With the proposed commodity rate increase in the Application, commercial large customers will see an average total monthly bill increase of \$361/month or 14.4%.¹²⁶
 - Approximately 71% of commercial large customers use 200,000 m³ or less annually and would see bill increases of \$229 or less per month with the recommended commodity rate increase (14% or less).
 - About 25% of commercial large customers use between 200,001 and 400,000 m³ annually and would have monthly bill impact of \$686 (15% or less).
 - Approximately 4% of commercial large customers use over 400,000 m³ annually and would see a monthly bill increase of about \$1,111 (15% or less).

Figure 10-1 shows distribution of residential class customers by consumption levels and shows that most of the residential customers use natural gas between 1,500 m³ and 3,000 m³ that confirms that most of the residential customers would see bill impacts close to the average bill impacts noted in the Original Application.

¹²⁶ Page 15, 2021 Commodity Rate Application.





Market Update Filing

Market Update filing, as revised by SaskEnergy on September 27, 2021, shows higher bill impacts compared to the bill impacts provided in the Original Application.

- **Residential Customers:** Total bill impacts of 9.2% on average residential customer compared to 8.4% in the Original Application.
- **Commercial Small:** Total bill impacts of 12.9% on average commercial small customer compared to 11.9% in the Original Application.
- **Commercial Large:** Total bill impacts of 15.7% on average commercial large customer compared to 14.4% in the Original Application.
- **Small Industrial:** Total bill impacts of 19.4% on average commercial large customer compared to 17.8% in the Original Application.

Observations

The information provided by SaskEnergy shows that all customer classes, particularly commercial and industrial customers will see higher bill impacts that result in part to due to longer periods between SaskEnergy rate adjustments, including the impact of accumulated balances in the GCVA.

11.0 COMPETITIVENESS

The Terms of Reference for the Panel's review requires that the Panel provide an opinion regarding the fairness and reasonableness of SaskEnergy's proposed commodity rate having consideration for the effect of the proposed commodity rate change on the competitiveness of the Crown Corporation related to other jurisdictions. The Consultant undertook a review of the competitiveness of SaskEnergy's proposed rate changes from a customer bill perspective.

- SaskEnergy notes that components that make up cost of gas are essentially the same across utilities. However, most other major Canadian utilities no longer hedge – and natural gas purchases are transacted at current market prices.¹²⁷
- With respect to rate design, SaskEnergy notes that most utilities use a 12-month test period which includes the forward market prices for the next 12 months. The GCVA for these utilities is refunded/ collected over a 12-month period. Alberta uses only a one-month test period – its rate design aims to collect and refund GCVA balances over one month.¹²⁸

Figure 11-1 shows comparison of commodity rates applicable as of August 1, 2021, including a proposed rate for SaskEnergy effective November 1, 2021.



Figure 11-1: Current Commodity Rates (as of August 1, 2021)¹²⁹

Figure 11-2 below provides customer bill comparisons for Regina and other major Canadian urban centres from October 2020 to September 2021, considering the impact that the combined commodity and delivery charges have on customer bills. Figure 11-2 also shows the effect of the proposed SaskEnergy commodity rate increase.

¹²⁷ 1st Round Information Request 2 (h) ii).

¹²⁸ Ibid.

¹²⁹ Tab 6, 2021 Commodity Rate Application.



Figure 11-2: Residential Annual Total Bill (October 2020 – September 2021)¹³⁰





 $^{^{130}}$ 1st Round Information Request 2 (h) iii). 131 Ibid.



Figure 11-4: Commercial Large Annual Total Bill (October 2020 – September 2021)¹³²

Observations

SaskEnergy's cost of gas is influenced by its price risk management approach, and the proposed commodity rate is significantly impacted by accumulation of GCVA balances as well as the proposed 24 month collection period in this Application. Other factors that may affect the cost of gas for SaskEnergy include source of supply [reduced Saskatchewan supply and increased import from Alberta], pricing point and transportation costs, and the requirement to ensure sufficient transportation capacity and storage to address extreme Saskatchewan winters.

SaskEnergy is the only major Canadian gas utility that provides for price risk management through hedging; and the current application is designed to provide a higher degree of stability in customer rates over the two year application period as 80% of the purchases are price protected.¹³³ This approach reflects stated customer preferences related to rate stability.

As reviewed in Section 7.1, large balances owing from customers in the GCVA impact the current proposed commodity rate.

¹³² Ibid.

¹³³ Page 14, 2021 Commodity Rate Application.

12.0 RENEWABLE NATURAL GAS

Renewable Natural Gas (RNG) is upgraded biogas produced from organic waste from farms, forests, landfills and waste water treatment plants; that is captured, processed and injected into pipeline systems to be used in the same way as conventional natural gas.¹³⁴

SaskEnergy is contemplating a Renewable Natural Gas Strategy that includes potential for purchase of up to 100,000 GJ/year¹³⁵ of RNG, from Saskatchewan producers, at a maximum cost of \$30/GJ. SaskEnergy indicates that under a potential future program, purchases would be offered to SaskEnergy customers via a "RNG Opt-in" program that would allow customers to purchase RNG for their own consumption; and customers could select what percentage of RNG they would like to blend with their existing gas stream. The costs of the RNG would be billed directly to these customers. The Application notes that if the program is not fully subscribed, the remaining costs would be blended into SaskEnergy's cost of gas sold and included in the commodity rate. The impact on costs to the commodity rate could range from zero to \$0.06/GJ.¹³⁶

SaskEnergy notes that the approach outlined in the application aligns with what other natural gas utilities are now doing; indicating that similar programs have been implemented in British Columbia and Quebec.¹³⁷ More specifically, the suggested \$30/GJ cost was provided "to mirror the approach in British Columbia", and FortisBC can pay up to \$30/GJ for pipeline quality, purified biomethane.

SaskEnergy provided summary information about RNG programs undertaken in these jurisdictions in response to information requests. this information is summarized in Table 11-1.

¹³⁴ Application, page 16.

¹³⁵ SaskEnergy notes in 1st Round IR 6(d)(ii) that it has no knowledge of RNG production in Saskatchewan at this time and the 100,000 GJ/year amount is a guestimate. FortisBC has indicated that RNG supply is limited within BC with an annual production of approximately 500,000 GJ/year.

¹³⁶ SaskEnergy clarified in response to Information Request 6(e) that \$0.60/GJ would be about 1.9% of the proposed commodity rate.

¹³⁷ SaskEnergy 2021 Commodity Rate Application, page 16.

Jurisdiction	Description ¹³⁸	Price offered ¹³⁹	
British Columbia (FortisBC)	FortisBC customers can choose to designate 5, 10, 25 or 100 per cent of the natural gas they use as RNG. Customers also receive a credit on the BC carbon tax on their bill, depending on the RNG blend selected. This program was developed in 2011.	\$11.830/GJ ¹⁴⁰	
	The RNG program is currently closed to new subscribers until additional supply can be brought online. As of September 2018, FortisBC indicated on its website that it had 10,000 customers in its RNG program.		
Quebec (Energir)	Energir has committed to have 5% of the gas injected into its existing network be RNG by 2025, replacing traditional natural gas. Energir customers can also sign up for a wit list to have a portion of their household consumption be fed by RNG. Customers requests are filled on a first-come, first enrolled basis.	\$13.71GJ	
	Energir has a wait list for residential and commercial customers. SaskEnergy was not able to determine the number of customers currently enrolled in the Energir program.		

Table 12-1: Summary of Programs in Other Jurisdictions

SaskEnergy notes that implementation of any RNG strategy would also include the following elements:

- Configuration of the distribution system to allow for RNG to be brought onto the system (completed);
- 2. Initiation of a governance process to allow SaskEnergy to purchase RNG once it becomes available to blend with its existing gas stream and allow for the program to be initiated; and
- 3. Development of an "RNG Opt-in" program to allow customers that opt in to purchase an annual quantity of RNG to supplement their conventional natural gas mix.

RNG needs to meet gas quality specifications to ensure that it does not have adverse effects on the distribution system or its customer's natural gas appliances. SaskEnergy notes that it has completed work to ensure it can accept RNG on to its pipeline system – and is positioned to move to its next phase of its RNG strategy. SaskEnergy also clarified that RNG producers in Saskatchewan would transport their

¹³⁸ 1st Round IR Response 6(b) and (c)(i) and (iii)

¹³⁹ 1st Round IR Response, 6(c)(ii)

¹⁴⁰ 1st Round IR Response, 6(c)(ii) notes this is rate as of January 1, 2021.

supply to TEP through TransGas facilities; and TransGas has equipment in place for measuring gas quality at certain locations.¹⁴¹

Observations

SaskEnergy notes that this initiative is at the very early stages of development. More specifically, no strategy or administrative structure for the program has been developed¹⁴²; and there has been no survey of customers to determine their interest in opting into a RNG program.¹⁴³ SaskEnergy also indicates that it has no knowledge of any RNG production in Saskatchewan at this time.¹⁴⁴

SaskEnergy notes that as part of its review process it would like to have the Panel comment on the potential to offer RNG in Saskatchewan. Following Panel consideration of the potential service offering from a regulatory perspective, SaskEnergy would undertake additional internal studies prior to bringing a program forward for approval through is governance process.¹⁴⁵

SaskEnergy confirmed that there are no costs associated with RNG within the Rate Application.¹⁴⁶

Recommendation

SaskEnergy has provided only very preliminary information on the RNG program; and indicates that at this stage there is not sufficient information to determine bill impacts for average residential customers if the program is not fully subscribed.

The consultant recommends that the Panel request SaskEnergy to provide further and better information that would allow the Panel to properly consider the potential benefits, costs, or other issues that such a program may present. Issues to consider would include:

- 1. The potential demand for the RNG from SaskEnergy's customers.
- 2. Whether there is a sufficient source of RNG supply available.
- 3. Administrative details of the program.
- 4. Cost for RNG for customers that opt in and potential cost impacts to customers that do not opt in if the program is not fully subscribed.
- 5. Review of approaches applied in other jurisdictions and how these may be applicable or not applicable for Saskatchewan.

¹⁴¹ 1st Round IR Response 6(f).

 $^{^{142}}$ 1st Round IR Response 6(d) - SaskEnergy notes that it will determine the administrative structure required for this program once it has more information.

¹⁴³ 1st Round IR response 6(e).

¹⁴⁴ 1st Round IR Response 6(d).

¹⁴⁵ SaskEnergy 2021 Commodity Rate Application, Rd 1 IR response 6(a)(ii).

¹⁴⁶ 1st Round IR Response 6(d).

13.0 IMPLEMENTATION OF PREVIOUS PANEL RECOMMENDATIONS

The Panel provided the following recommendations in its report to the Minister regarding SaskEnergy's 2018 Commodity and Delivery Service Rate Application (dated February 4, 2019):

Recommendations to the Minister

- Recommendation #2: That the Panel's approval for the interim commodity rate decrease effective November 1, 2018 of \$3.65/GJ to \$2.96/GJ be confirmed.
- Recommendation #3: That the Panel's proposed commodity rate effective April 1, 2019 that would see a further decrease to \$2.65/GJ be revised to \$2.575/GJ to eliminate any outstanding balance in the GCVA by March 31, 2020.

SaskEnergy notes that the interim rate increase of \$2.95/GJ was implemented on November 1, 2018; and the Panel's recommended commodity rate of \$2.575 was implemented on April 1, 2019.

Recommendations to SaskEnergy

• Recommendation #7: That SaskEnergy review the basis for the \$20 million quantum as the forecasted metric for the GCVA to determine if it remains appropriate.

SaskEnergy notes that as its customer base has grown over the years, use per customer continues to decrease. This has resulted in SaskEnergy's gas purchases remaining relatively equal. SaskEnergy believes the \$20 million threshold is still appropriate.

Observations

Panel recommendations to the Minister appear to have been implemented as outlined in the Panel's report. The Panel made two separate recommendations to SaskEnergy that are relevant to the current review:

- Recommendation #7 for SaskEnergy to review the basis for the \$20 million quantum as the forecasted metric for the GCVA to determine if it remains appropriate.
- Recommendation #13 that SaskEnergy pursue measures required to shift to billing in energy as soon as possible.

Earlier sections of this report have identified ongoing concerns with the +/- \$20 million quantum for the GCVA (see in particular Sections 7.0 and 8.0 of this report). As reviewed in Section 8.2, variations in heat value from forecast also continues to have an impact on GCVA balances; and can impact the quantum of the commodity rate to be collected from customers.

Recommendation

The above noted recommendations to SaskEnergy continue to be of concern in this Application. Observations and recommendations are outlined in Section 7.0 and Section 8.0 of this report.

14.0 MINIMUM FILING REQUIREMENTS

SaskEnergy was directed by the Crown Investments Corporation to provide an application that met the minimum filing requirements outlined in Schedule 4.0 of the Application.

Observations

The Consultant finds that SaskEnergy's Application addressed the required minimum filing requirements.

15.0 SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS

15.1 SUMMARY OF OBSERVATIONS

The following is a summary of observations made in previous sections of the report.

Two-Year Rate Request

The GCVA is a flow through of costs incurred by SaskEnergy to purchase natural gas on behalf of its customers. While the GCVA balance to be discharged is material, SaskEnergy is undertaking measures to mitigate customer impacts through collection of the rate over a 24 month period which will spread out the cost to be recovered. This longer recovery period will also provide greater rate stability, along with the measures implemented through SaskEnergy's gas price risk management approach.

Natural Gas Market Updates

In the Consultant's view, SaskEnergy has provided sufficient information on the current and forecast gas market to support its requested commodity rate.

Load Forecasts

The load forecasts for the 2021/22 and 2022/23 years appear to be reasonable considering historical trends, including the reduction in usage per customer for residential customers as reviewed in Figure 3-1.

There are differences in information provided in Tab 4 and Schedule 1.0 of the Original Application and indicates Tab 4 includes slightly higher sales forecasts for 2021/22 and 2022/24.

SaskEnergy notes that the "information provided in Tab 4 of the Application is based on SaskEnergy's load forecast that separates the forecast by customer class. The forecast sales in Schedule 1.0 utilizes this information but does not separate the information by customer class since the commodity rate is the same for all customer classes." Further clarifications provided by SaskEnergy indicate that the information included in Tab 4 is created for other purposes, particularly in the forecasting of delivery revenues, and the load forecast in Schedule 1.0 is used for natural gas purchases and commodity rate calculations.

Gas Supply Overview

SaskEnergy's supply portfolio is changing in response to decreasing availability of gas supply in Saskatchewan. The approach adopted by SaskEnergy appears to be prudent with regard to ensuring reliability of supply and maintaining flexibility to adapt to different weather conditions as well as provision to supply additional customer loads in case customers that buy gas from retailers return to SaskEnergy.

While the increased firm transportation contract ensures reliability of supply, it also increases the transportation cost paid by customers (please see Section 6.2 for the impact of transportation costs).

The Consultant finds that SaskEnergy's peak day design criterion represents a reasonable balance between costs and reliability.

Forecast Cost of Gas Sold

The cost of purchased gas appears to be properly calculated and consistent with previous practice.

However, inconsistencies in the information provided have been noted (see Section 6.5). The response to information requests show a reduction in cost of purchased gas to \$163.739 million for 2021/22 and to \$156.048 million for 2022/23 with updated interest expense as well as Operating, Maintenance and Administrative Charges, Bad Debt Expense and Late Payment Revenues from Tab 3 used for rate setting purposes. The Market Update Filing increases the cost of purchased gas to \$166.755 million for 2021/22 and to \$159.777 million for 2022/23.

Gas Cost Variance Account

Figure 2 shows three periods impacting the GCVA balance since November 2018:

- **November 1, 2018 to March 31, 2019**: The actual cost of purchased gas [ranging between \$2.9/GJ and \$3.1/GJ] was slightly higher than the commodity rate of \$2.95/GJ. For this period, the GCVA balance changed from \$18.851 million to \$17.547 million [owing to customers]. This is a net change of \$1.304 million as a cost to customers.
- April 1, 2019 to October 31, 2019: The commodity rate changed to reflect expected lower market prices. The new commodity rate was \$2.575/GJ effective April 1, 2019 [10.2 cents/m³ based on a heat value of 38.75 MJ/m³]. The actual cost of purchased gas [ranging between \$2.3/GJ and \$2.6/GJ] was close to the commodity rate resulting in no significant change in the GCVA balance over this period [the GCVA balance changed from \$18.441 million to \$18.839 million [owing to customers]. This is a net change of \$0.398 million benefiting customers.
- November 1, 2019 to October 31, 2021: The actual cost of purchased gas [ranging between \$2.7/GJ and \$3.7/GJ] increased compared to the commodity rate resulting in sharp changes in GCVA balances. The GCVA balance forecast changed from \$18.839 million in November 1, 2019 owing to customers to \$18.812 million in October 31, 2021 owing from customers. This is a net change of \$37.651 million as a cost to customers.

Market Update Filing

The Market Update Filing by SaskEnergy shows the updated GCVA balance forecast at October 31, 2021 is \$18.908 million -- or \$0.096 million higher than the forecast included in the Original Application.

SaskEnergy is proposing to clear the GCVA balance over the 24 month period, from November 1, 2021 to October 31, 2023.

Heat Value Impacts on GCVA

Heat value variances from forecast also impact commodity revenues, i.e., when heat value increases, customers require smaller volumes to achieve the same heating value, decreasing commodity revenues (which are based on volume). The GCVA mitigates SaskEnergy's financial risks related to heat value

variances that impact commodity revenues. Commodity revenue variances from forecast are captured in the GCVA and collected (or refunded) in future periods. However, if amounts owed by ratepayers accrue in the GCVA it may compound the amounts owing from ratepayers (and required commodity rate increases) in future periods.

Actual heat values ranged between 38.52 MJ/m^3 in 2016/17 to 39.63 MJ/m^3 in 2020/21 compared to heat value in rates at 38.75 MJ/m^3 . SaskEnergy notes that from 2016/17 to 2020/21, the impact of the actual heat value to the GCVA balance was \$13.2 million (owing to SaskEnergy from customers).

A higher than forecast heat value will result in under-recovery from customers, or vice-versa. Any over (or under) recovery will be recovered through the GCVA at the time of the next commodity rate application. The overall magnitude of the under (or over) recovery and period between commodity rate adjustments may result in intergenerational inequity.

Quantum of Threshold for GCVA Balance

Commodity risk is managed by monitoring future potential changes to the GCVA. SaskEnergy notes that "in addition to monitoring the GCVA, SaskEnergy officially reviews its commodity rate twice per year, in the spring and fall, for either an April 1 or November 1 rate change. If the forecasted natural gas costs are substantially different from the forecasted commodity revenue, then a recommendation to proceed with a commodity rate application will be initiated."

During the review of the 2018 Commodity and Delivery Service Rate Application the Panel recommended that SaskEnergy review the basis for the +/- \$20 million quantum as the forecasted metric for the GCVA to determine if it remains appropriate. In Tab 7 of the Application SaskEnergy notes that as its "customer base has grown over the years, use per customer continues to decrease. This has resulted in SaskEnergy's gas purchases to remain relatively equal. Therefore, SaskEnergy believes the \$20 million threshold is still appropriate."

The following is noted regarding the +/- \$20 million GCVA balance threshold:

- The +/- \$20 million GCVA threshold for triggering a commodity application was implemented following the review of proposed rates effective November 1, 2000 (when the commodity rate had increased from 11 cents/m³ and was in the range of 17 cents/m³). Prior to this adjustment, the GCVA threshold was +/- \$10 million.
- As reviewed in Figure 7-1 the GCVA balance for the 36 months period, from November 2018 to October 2021, remains under the +/- \$20 million threshold. However, the balance of the GCVA changed by more than \$37 million, from \$18 million owed to customers to about \$19 million owed from customers.
- SaskEnergy adjusts its commodity rate less frequently than other peer utilities. The information
 provided by SaskEnergy shows that most other peer utilities have more frequent rate
 adjustments that occur monthly (Edmonton, Calgary and Montreal) or quarterly (Vancouver,
 Winnipeg, Hamilton and Toronto). While SaskEnergy notes that it typically would review its
 commodity rates once or twice per year, the current rates have remained unchanged since April
 1, 2019. This resulted in the GCVA balance going from about \$18 million owing to customers to

about \$19 million owing from customers. This also raises concerns regarding intergenerational equity.

The Consultant has previously noted a concern that high GCVA balances may put further upward pressure on commodity rates during times of commodity price increases; and the Panel has also previously noted concerns related to high GCVA balances. The information in this application confirms the concerns raised in the previous applications as the response to 1st Round Information Request 2 (c) shows that the variance related to the GCVA between the 2021 and 2018 test years is about 67% of the total change. SaskEnergy acknowledges that in this rate application "collecting the GCVA is adding to the commodity rate required more than the forecast cost of gas sold."

Large balances owing from customers in the GCVA may also impact SaskEnergy's financial health, borrowing limits and competitiveness. The information provided indicates that the largest share of the commodity increase relates to the GVCA balance that is being collected from customers. In the Consultant's view this also sends the wrong price signal as to what the actual cost of gas is.

In the Consultant's view, the information included in this Application confirms that the proposed commodity rates:

- 1. Do not only reflect the cost of gas sold [purchased gas cost and O&M expenses]; but
- 2. Also are largely impacted by the accumulated GCVA balances over time.

Determination of Commodity Rate

The Consultant reviewed the proposed commodity rate calculation and finds that it uses an approach consistent with previous applications.

SaskEnergy's Application proposed two measures related to the determination of the quantum of the proposed commodity rate that merit careful review and consideration:

- Proposal for a multi-year cost of gas coverage period that focuses on cost of gas over the two year forward period from November 1, 2021 to October 31, 2023.
- Recovery of GCVA balance owing from customers at end of October 2021 over a two-year period.

As reviewed in Section 2.2, the information provided in response to 1st Round Information Request 2 (b) i) shows that the approach proposed by SaskEnergy in the application (a two year rate increase with the GCVA balance collected over two years) provides for lower bill impacts and greater rate stability than setting rate increases separately for the 2021/22 and 2022/23 gas years. More specifically, the information provided by SaskEnergy shows that compared to the 25.8% rate increase effective November 1, 2021 proposed in the Application:

• If the rates were set effective November 1, 2021 to cover the costs for the period from November 1, 2021 to October 31, 2022, followed by a rate adjustment effective November 1, 2022 to cover the costs for the period from November 1, 2022 to October 31, 2023, while assuming the GCVA balance was still recovered over 24 months:

- The required rate increase would be 28.0%, effective November 1, 2021; and
- This would be followed by a rate decrease of 4.0% effective November 1, 2022.
- If the rates were set effective November 1, 2021 to cover the costs for the period from November 1, 2021 to October 31, 2022 followed by a rate adjustment effective November 1, 2022 to cover the costs for the period from November 1, 2022 to October 31, 2023, assuming the GCVA balance was recovered over 12 months:
 - The required rate increase would be 35.0% effective November 1, 2021; and
 - This would be followed by a rate decrease of 14.4% effective November 1, 2022.

The Consultant has concerns that the GCVA is not working effectively based on the core purpose and function of the account as outlined below:

- The GCVA is a mechanism that tracks variances between actual commodity sales revenue and actual natural gas costs.
- The purpose of the GCVA is to provide SaskEnergy the opportunity to recover the costs of gas sold to customers without mark-up. SaskEnergy would normally design a commodity rate that targets a GCVA balance of zero at the end of the test period (a practice that SaskEnergy notes is similar to other jurisdictions). Rate design principles target a GCVA balance of zero to minimize the impact of intergenerational equity/ fairness. SaskEnergy has noted that most utilities refund/collected balances within a 12 month period. However, between April 2019 [the last time the commodity rate was changed] and November 1, 2021 [the proposed date for new commodity rates] the GCVA balance changed by more than \$37.0 million.
- In response to 1st Round Information Request 2 (i) i) SaskEnergy notes that it "has a fairly stable customer base, the same customers that caused the GCVA balance are essentially the same customers from whom the GCVA is recovered or refunded. SaskEnergy estimates the intergenerational fairness would impact less than 1% of the customers".
- As reviewed in section 8.2, SaskEnergy has a +/- \$20 million forecast metric for GCVA for triggering a commodity rate change. The quantum for the metric was set about 18-20 years ago when commodity rates were in the range of \$4 to \$6/GJ (much higher than current rates). While the GCVA balance was within the +/- \$20 million threshold it changed by more than \$37 million, from \$18 million owed to customers to about \$19 million owed from customers.
- The response to 1st Round Information Request 2 (c) shows that the variance related to the GCVA between 2021 and 2018 test years is about 67% of the total rate change. SaskEnergy acknowledges that in this rate application "collecting the GCVA is adding to the commodity rate required more than the forecast cost of gas sold."

As reviewed in Section 8.2, variations in heat value from forecast continues to have an impact on GCVA balances; and can impact the quantum of the commodity rate to be collected from customers.

Price Risk Management Strategy and Policy

The Panel's Terms of Reference require the Panel to check to ensure that SaskEnergy's natural gas price management strategy is executed as approved by the SaskEnergy Board of Directors, however, the

Strategy and any details of price management transactions or gas purchase contracts cannot be publicly released.

SaskEnergy has provided the Consultant with information that outlines the basis for recommending the current strategy. SaskEnergy notes that customer surveys continue to confirm a customer preference for stable rates, as customers want to avoid unexpected changes in bills and desire stability for budgeting purposes.

The natural gas price management strategy appears to be being executed as approved.

The Panel's Terms of Reference require the Panel to check to see that SaskEnergy's price risk management practices are aligned with the SaskEnergy Board of Directors approved policy and procedures for engaging in gas price management activities. SaskEnergy has provided information on a confidential basis that indicates compliance with the Board of Director's approved policy and procedures for engaging in gas price management activities.

Customer Impacts

The information provided by SaskEnergy shows that all customer classes, particularly commercial and industrial customers will see higher bill impacts that result in part to due to longer periods between SaskEnergy rate adjustments, including the impact of accumulated balances in the GCVA.

Competitiveness

SaskEnergy's cost of gas is influenced by its price risk management approach, and the proposed commodity rate is significantly impacted by accumulation of GCVA balances as well as the proposed 24 month collection period in this Application. Other factors that may affect the cost of gas for SaskEnergy include source of supply [reduced Saskatchewan supply and increased import from Alberta], pricing point and transportation costs, and the requirement to ensure sufficient transportation capacity and storage to address extreme Saskatchewan winters.

SaskEnergy is the only major Canadian gas utility that provides for price risk management through hedging; and the current application is designed to provide a higher degree of stability in customer rates over the next two year application period as 80% of the purchases are price protected. This approach reflects stated customer preferences related to rate stability.

As reviewed in section 7.1, large balances owing from customers in the GCVA impacted the current proposed commodity rate.

Renewable Natural Gas

SaskEnergy notes that this initiative is at the very early stages of development. More specifically, no strategy or administrative structure for the program has been developed; and there has been no survey of customers to determine their interest in opting into a RNG program. SaskEnergy also indicates that it has no knowledge of any RNG production in Saskatchewan at this time.

SaskEnergy notes that as part of its review process it would like to have the Panel comment on the potential to offer RNG in Saskatchewan. Following Panel consideration of the potential service offering from a regulatory perspective, SaskEnergy would undertake additional internal studies prior to bringing a program forward for approval through is governance process.

SaskEnergy confirmed that there are no costs associated with RNG within the Rate Application.

Implementation of Previous Panel Recommendations

Panel recommendations to the Minister appear to have been implemented as outlined in the Panel's report. The Panel made two separate recommendations to SaskEnergy that are relevant to the current review:

- Recommendation #7 for SaskEnergy to review the basis for the \$20 million quantum as the forecasted metric for the GCVA to determine if it remains appropriate.
- Recommendation #13 that SaskEnergy pursue measures required to shift to billing in energy as soon as possible.

Earlier sections of this report have identified ongoing concerns with the +/- \$20 million quantum for the GCVA (see in particular Sections 7.0 and 8.0 of this report). As reviewed in Section 8.2, variations in heat value from forecast also continues to have an impact on GCVA balances; and can impact the quantum of the commodity rate to be collected from customers.

Minimum Filing Requirements

The Consultant finds that SaskEnergy's Application addressed the required minimum filing requirements.

15.2 SUMMARY OF RECOMMENDATIONS

The Consultant recommends to the Panel that:

Two-Year Rate Request

- The Consultant recommends that the Panel accept the proposed recovery of the GCVA balance over a 24-month period in order to promote rate stability.
- Further accumulation of large balances in the GCVA owing from (or to) customers should be avoided. It is recommended that SaskEnergy provide an update on the GCVA balance and a natural gas market updates no later than November 1, 2022.

Load Forecasts

• In the Consultant's view, the load forecast is reasonable considering continued reduction in use per customer for residential class which represents about 66% of total sales. In addition to this, the bill increases resulting from the proposed commodity rate increase in this Application may result in reduced usage by customers. Therefore, the expected reduction in sales appears to be reasonable.

• It is recommended that in future applications SaskEnergy provide consistent information throughout the application so information in Tabs reconcile to the information included in schedules for rate setting purposes.

Gas Cost Variance Account

- High GCVA balances put upward pressure on rates during periods of commodity price increases and create concerns regarding SaskEnergy's financial health and competitiveness as well as intergenerational equity.
- The +/-\$20 million threshold was recommended when the commodity rate was proposed to increase from about 11 cents/m³ to about 17 cents/m³. The current rates are well below 17 cents/m³ and close to the rate when +/-\$10 million threshold was used by SaskEnergy. It is recommended that SaskEnergy review the basis for the \$20 million quantum as the forecasted metric for the GCVA to determine if it remains appropriate considering much lower gas prices compared to the prices when the GCVA threshold was set, and determine if there are options available to determine threshold or GCVA trigger that would ensure material GCVA balances that impact rates do not accumulate over time.
- For example, the GCVA balance and threshold/trigger could be reviewed from a customer rate impact perspective with the GCVA balance threshold set so that it does not have a rate impact of +/-5%. In this case, the dollar value of the threshold would change as the cost of gas changes [i.e., when the annual cost of gas is about \$160 million then the dollar value of the threshold would be +/- \$8 million and if the cost of gas increases the threshold would also increase or vise versa].

Determination of Commodity Rate

- The Consultant recommends that SaskEnergy be urged to continue to explore measures to ensure that commodity rates are adjusted more regularly to ensure material fund balances do not accumulate.
- The recommendation regarding the GCVA balance threshold is provided in section 7.1.
- The Consultant also recommends that the Panel continue to urge SaskEnergy to pursue measures required to shift to billing in energy.

Renewable Natural Gas

- The consultant recommends that the Panel request SaskEnergy to provide further and better information that would allow the Panel to properly consider the potential benefits, costs, or other issues that such a program may present. Issues to consider would include:
 - 1. The potential demand for the RNG from SaskEnergy's customers.
 - 2. Whether there is a sufficient source of RNG supply available.
 - 3. Administrative details of the program.
 - 4. Cost for RNG for customers that opt in and potential cost impacts to customers that do not opt in if the program is not fully subscribed.

5. Review of approaches applied in other jurisdictions and how these may be applicable or not applicable for Saskatchewan.

Implementation of Previous Panel Recommendations

• Some of the previous recommendations to SaskEnergy continue to be of concern in this Application as reviewed in section 13.0 of this report.

APPENDIX A SASKENERGY NATURAL GAS COMMODITY RATE CHANGE PROPOSAL TERMS OF REFERENCE


Minister's Order

SaskEnergy Natural Gas Commodity Rate Change Proposal

Terms of Reference

WHEREAS by a Minister's Order dated December 22, 2018 (the "2018 Order"), issued pursuant to Section 15 of *The Executive Government Administration Act*, the Minister of Crown Investments Corporation appointed a Ministerial Advisory Committee known as the Saskatchewan Rate Review Panel;

AND WHEREAS the 2018 Order provides for specific terms of reference for each rate change review to be attached by further Minister's Order;

AND WHEREAS it is desirable to establish terms of reference for a SaskEnergy Commodity Rate Change Review and to attach the terms of reference to the 2018 Order;

NOW THEREFORE, I hereby amend the 2018 Order by attaching **"Schedule B: SaskEnergy Commodity Rate Change Proposal"**.

Dated at Regina, Saskatchewan this 10th day of September 2021

On morgan

Minister of Crown Investments Corporation

Schedule B: SaskEnergy Commodity Rate Change Proposal

Terms of Reference

The Saskatchewan Rate Review Panel (the Panel) is requested to conduct a review of the SaskEnergy request for an increase to its natural gas commodity rate effective November 1, 2021.

Cabinet may implement any rate change adjustment on an interim basis pending receipt of the Panel's recommendation(s).

The Panel shall function within its mandate and operational terms of reference as specified in the Minister's Order dated December 22, 2018. The Panel shall provide an opinion of the fairness and reasonableness of the commodity rate change proposed by SaskEnergy, having consideration for the following:

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

COMMODITY RATE REVIEW

In conducting its Commodity Rate Review, the Panel will:

- A) Consider the reasonableness of the proposed commodity rate change in the context of:
 - (i) The cost of gas anticipated by SaskEnergy for the effective term;
 - (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 the SaskEnergy contractual commitments.
- B) Consider the impact changing market prices will have on the commodity rate proposed by SaskEnergy.
- C) Check to ensure that the SaskEnergy 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) Consider the principle that SaskEnergy passes on the cost of gas to consumers without discount or mark-up as a given.

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 the commodity rate change proposed by SaskEnergy.

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 in fulfilling its mandate and these Terms of Reference.

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

The Panel shall provide members of the public with the opportunity to review and comment on the SaskEnergy commodity 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 Corporation.

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

Questions from the public, 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 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.

CONFIDENTIALITY

Consistent with the "Confidentiality Guidelines" for the Panel, the Panel will not publicly release or require SaskEnergy to publicly release confidential information supplied by SaskEnergy 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 the SaskEnergy commodity 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 SaskEnergy confidential information.

CONDUCT OF THE REVIEW

The Panel will present its report to the Minister of Crown Investments Corporation no later than October 13, 2021.