REVIEW OF SASKENERGY'S PROPOSED NATURAL GAS DELIVERY AND COMMODITY RATES FOR TEST YEAR 2019/20

EFFECTIVE APRIL 1, 2019

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Submitted to:

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 (the Minister). 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 2018 Commodity and Delivery Service Rate Application (the Application) for the 2019/20 test year. The Panel engaged InterGroup Consultant's Ltd (the Consultant) to assist in the review of SaskEnergy's Application and to prepare an independent report together with a summary of their observations and recommendations to the Panel.

SaskEnergy is applying for an overall 10.8% average bill decrease effective April 1, 2019. This includes the following changes to bills:

- An interim commodity rate decrease effective November 1, 2018 [decrease from 13.87 cents/ cubic metre or $3.65/GJ to 11.36 cents/ cubic metre or $2.93/GJ[1]] followed by;
- A final commodity rate proposed effective April 1, 2019 that would see a further decrease to 10.20 cents/ cubic metre or $2.63/GJ; and
- A delivery service rate increase of 3.7% effective April 1, 2019.

If approved, Residential customers would experience an overall average bill decrease of $6.74 to monthly bills. The average monthly decrease for residential and other customer classes will vary depending on customer usage.

The interim rate of 11.36 cents/m^3 is based on $2.93/GJ and a 38.75 MJ/$m^3$ heating value and would be in effect until March 31, 2019. This would result in a GCVA balance of $11.123 million owing to customers from SaskEnergy. The final rate of 10.20 cents/kW.h ($2.63/GJ) would result in a GCVA balance of $3.351 million by March 31, 2020 [assuming a 38.75 MJ/m^3 heat value].

The main drivers for the overall **revenue requirement** are summarized in Figure E-1 below.

[1] In the Mid-Application Update SaskEnergy updated the heat value from 38.5 MJ/m^3 included in the Original Application filing to 38.75 MJ/m^3. With this update the 11.36 cents/ cubic metre results in $2.93/GJ [compared to $2.95/GJ in the Original Application] and 10.20 cents/ cubic metre results in $2.63/GJ [compared to $2.65/GJ in the Original Application].

Figure E-1-1: Share of Revenue Requirement Change from 2017/18 Test Year to 2019/20 Test Year[2]

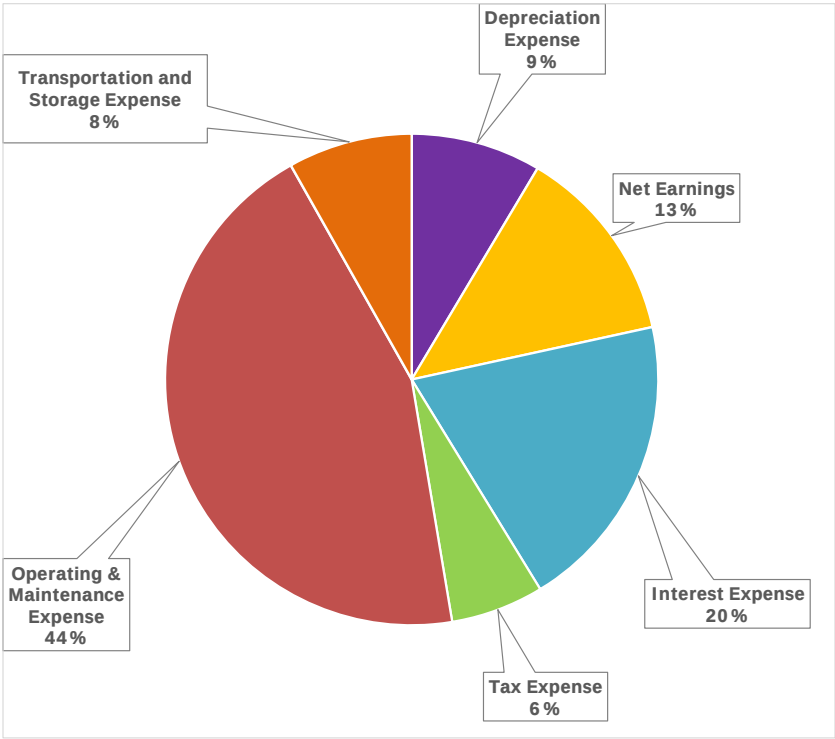

Figure E-1 notes that most of the test year revenue requirement increase is driven by increases related to operating and maintenance expense ($10.316 million or 44% of the change in revenue requirement), interest expense ($4.568 million or 20% of the change in revenue requirement), and net earnings ($3.024 million or 13% of the change in revenue requirement).

Operation and maintenance spending is forecast to materially increase compared to the 2017/18 test year forecasts, and most recent actuals – with the following key areas of concern noted.

- There is a significant increase in **labour expense** in 2018/19 forecast compared to 2017/18 fiscal year actuals [$6.358 million] and a further increase in the 2019/20 forecast [$5.707 million]. The increase in labour costs reflect an increase in the number of FTEs [50 FTE increase in 2018/19 and an additional 11 FTEs in 2019/20], and an increase in average labour costs.

- **External Services** increase materially from $34.156 million in 2017/18 fiscal year to $40.373 million in 2018/19 fiscal and $44.109 million in 2019/20 fiscal. The most material increase in external services relates to the transition to Hosting Services [$4.9 million increase].

[2] Prepared based on Table 3-1.

SaskEnergy has increased its annual safety and infrastructure renewal investment from $7.0 million in 2008 to about $68 million during the application period, and expects annual investment to continue at these levels into the future. While the capital program is outside of the scope for this review, spending on capital impacts depreciation, capital tax, interest expense and income. Increases in depreciation expense and net income are two key drivers for the test year rate increase.

This review has identified a number of customer fairness concerns that should be taken into consideration by the Panel in making its recommendations.

- **Ongoing Fiscal Restraint Measures:** Prior Consultant's Reports have highlighted material fairness concerns for ratepayers that result from the application of fiscal restraint measures after SaskEnergy's business plans have been approved; and the regularized implementation of restraint measures outside of test year forecasts. These concerns remain and are augmented by material divergences noted between test year and actual forecasts for 2016/17 and 2017/18. SaskEnergy has achieved material cost reductions compared to forecasts, but ratepayers have not benefited from these cost reductions and have continued to pay rates that reflect materially higher costs. This raises profound concerns regarding transparency and fairness in rate setting. This concern is discussed in detail in Section 2 and in Section 3 (see pages 3-3 through 3-10) of the Consultant's Report.

- **Cross-Subsidization of other Non-Regulated Subsidiaries by LDC customers**: There are areas in the application where SaskEnergy's non-regulated businesses appear to be subsidized by customer rates. This includes expenses related to SaskEnergy Incorporated (consolidated entity) in the calculation of corporate capital tax expense. This is discussed in detail in Section 3.4 (Tax Expense) of the Consultant's report.

- **Recognition of Customer Provided Capital for Future Cost of Removal:** SaskEnergy collects funds from customers for future cost of removal. Prior to 2013, the cost of removal was built into depreciation expense, and as a result reduced rate base and return on rate base. Since transitioning to IFRS, depreciation of decommissioning assets and accretion expense have been included in revenue requirement. However, there is no offset to rate base to recognize that customers' funds are being used by SaskEnergy at no cost. This concern is discussed in Section 3.6.2 of the Consultant's Report (Capital Structure and Return on Rate Base).

- Material concerns related to **heat value variance impacts** on customer bills, on net revenues, and the GCVA have been noted by the consultant, SaskEnergy and the Panel in prior years. Variations in heat value result in some customers paying more than others to achieve the same heating energy, depending on geographic location. This has resulted in ongoing fairness concerns for ratepayers and other stakeholders. The consultant recommends that the Panel continue to urge SaskEnergy to pursue measures required to shift to billing in energy as soon as possible. See discussion in Section 10 of the Consultant's Report.

The financial impact of these concerns should be considered in light of the following factors identified in the review:

- A miscalculation of transportation and storage expense in the test year which is estimated to result in an underestimation of test year transportation and storage expense.

- Revenues from Asset Optimization are likely conservatively forecast and are likely to be much higher than estimated for the test year.

- The significantly higher ROE for 2017/18 of 20.8% [weather normalized at 18.6%] compared to the target ROE of 8.3%; as well as the fact that the weather normalized ROE for the distribution utility for last five years averaged 9.90% and the average for the last ten years was at 8.70%.

The rates proposed for the 2019/20 test year result in a movement away from SaskEnergy's long term target for the Basic Monthly Charge (BMC), and SaskEnergy indicates that in order to maintain the BMC at its long term target of 75% of costs that all of the required rate increase would need to be shifted to the BMC. SaskEnergy should be encouraged to continue to make progress towards established targets and to review its long term policy objectives in this regard to determine if its targets continue to be reasonable. For further detail see Section 9 of the Consultant's Report.

The proposed commodity rate calculation appears consistent with previous applications – however, SaskEnergy has proposed two measures related to the determination of the quantum of the proposed commodity rate that are unique compared to prior applications and merit careful consideration: (1) proposal for an interim rate implemented effective November 1, 2018 and a final rate implemented effective April 1, 2019; and (2) proposal to set a commodity rate effective April 1, 2019 that does not fully clear the balance in the GCVA. These concerns are described in further detail in Section 15 and Section 16 of the report.

The Consultant notes that with the implementation of proposed rate changes SaskEnergy's delivery service rates are expected to remain lower than the average for major centres for all customer classes. The commodity portion of the bills will be in the mid-point of surveyed major centres. Based on these observations, the Consultant concludes that SaskEnergy's rates will remain competitive with other jurisdictions if the requested rate changes are implemented (this is discussed in Section 17 and 18 of the Consultant's Report).

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1.0 INTRODUCTION

1.1 CONSULTANT'S MANDATE

On September 27, 2018, SaskEnergy filed the 2018 Commodity and Delivery Service Application (the Application) with the Saskatchewan Rate Review Panel (the Panel) seeking to lower the Commodity Rate by 26.5% to 10.20 cents per cubic metre ($2.65/gigajoule) and to increase delivery service rates by an average of 3.7% effective April 1, 2019. SaskEnergy also sought an interim Commodity Rate decrease, effective November 1, 2018, that would lower the Commodity Rate to 11.36 cents per cubic meter ($2.95 per gigajoule).

The Panel was given terms of reference through an Order from the Minister of Crown Investments (the Minister). The Terms of Reference state, in part, that:

> *"The Panel shall provide an opinion of the fairness and reasonableness of SaskEnergy's proposed commodity and delivery rate change having consideration for the following:*
>
> - *The interests of the Crown corporation, its customers and the public;*
> - *Consistency with the Crown corporation's mandate, objectives and methodologies;*
> - *Relevant industry practices and principles; and*
> - *The effect of the proposed delivery rate change on the competitiveness of the Crown Corporation 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; observations on the reasonableness of forecasts, proposed revenue requirements, rate design and other matters; and recommendations to the Panel.

1.2 REVIEW PROCESS AND TIMELINE

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

- SaskEnergy's 2018 natural gas commodity and delivery service rate application for the 2019/20 test year;
- Responses to two rounds of information requests (IRs) to SaskEnergy;
- Recordings from the October 17, 2018 public meeting held by the Panel;
- Submissions made by the public to the Panel; and
- Other publicly available material from previous delivery rate applications and other regulatory tribunals.

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

Table 1-1: Timeline and Milestones

Review Process Activity	Date
SaskEnergy files Application.	September 27, 2018
The Consultant provided 1st Round IRs to SaskEnergy on behalf of the Panel.	October 12, 2018
SaskEnergy response to 1st Round Commodity & Delivery IRs.	October 26, 2018
Chair and Consultant met with SaskEnergy to review 1st Round IR Responses.	October 31, 2018
Conference Call with Consultant and Panel to review 1st Round IR Responses.	November 2, 2018
Consultant provided draft 2nd Round IRs to Panel for review.	November 8, 2018
The Consultant participated in a conference call with the Panel to review 2nd Round IR topics.	November 9, 2018
The Consultant provided 2nd Round IRs to SaskEnergy on behalf of the Panel.	November 13, 2018
Mid-Application Update provided by SaskEnergy.	November 26, 2018
SaskEnergy filed responses to 2nd Round IRs.	November 26, 2018
Conference Call with SaskEnergy to clarify 2nd Round IR Responses.	November 30, 2018
Revised Mid-Application Update and Revised Information Requests.	December 3, 2018
Deadline for Final Submissions from Stakeholders.	December 7, 2018
Consultant Deliver's Draft Report to Panel and Writer.	December 17, 2018
Abridged Report (minus Recommendations) provided to SaskEnergy for review.	December 17, 2018
Comments on abridged draft report provided by SaskEnergy.	December 19, 2018
The Consultant participated in a meeting with the Panel to discuss the draft report.	January 8 ,2019
The Consultant submitted its final report to the Panel.	January 10, 2019
The Panel expects to deliver its report to the Minister.	February 4, 2019

2.0 APPLICATION OVERVIEW

SaskEnergy is applying for an overall 10.8% average bill decrease effective April 1, 2019. This includes the following changes to bills:

- An interim commodity rate decrease effective November 1, 2018 [decrease from 13.87 cents/ cubic metre (or $3.65/GJ) to 11.36 cents/ cubic metre or $2.95/GJ (see footnote 3)] followed by;
- A final commodity rate proposed effective April 1, 2019 that would see a further decrease to 10.20 cents/ cubic metre $2.65/GJ; and
- A delivery service rate increase of 3.7% effective April 1, 2019.

If approved, Residential customers would experience an overall average bill decrease of $6.74 to monthly bills. The average monthly decrease for residential and other customer classes will vary depending on customer usage.

Commodity Rate

SaskEnergy in its Commodity and Delivery Service 2018 Rate Application ("Application") has requested an interim commodity rate change effective November 1, 2018. The proposed interim rate will reduce the existing rate of 13.87 cents/ cubic metre ($3.65/GJ) to 11.36 cents/ cubic metre ($2.93/GJ)[3]. SaskEnergy's is also proposing a final commodity rate effective April 1, 2019 of 10.20 cents/kW.h ($2.63/GJ) which is 26.5% lower compared to the existing rate.

The interim rate of 11.36 cents/m^3 is based on $2.93/GJ and a 38.75 MJ/$m^3$ heating value and would be in effect until March 31, 2019. This would result in a GCVA balance of $11.123 million owing to customers from SaskEnergy. The final rate of 10.20 cents/kW.h ($2.63/GJ) would result in a GCVA balance of $3.351 million by March 31, 2020 [assuming a 38.75 MJ/m^3 heat value].

Delivery Rate

SaskEnergy's forecast net delivery revenue requirement (after other revenues) and forecast revenues at existing rates results in a projected shortfall of about $10 million to achieve a forecast Return on Equity (ROE) of 8.3% [see Section 3.8]. Test year rates are driven in part by investments related to safety, system integrity and major growth infrastructure.

The following is specifically noted regarding the main drivers underlying the overall revenue requirement for the 2017/18 test year:

- **O&M Expense:** O&M expense makes up about 44% of the overall net delivery revenue requirement increase, and is forecast to increase by about $10.316 million (or 8.2%) over the 2017/18 test year. Restraint measures implemented between 2015/16 and 2017/18 following

[3] In the Mid-Application Update SaskEnergy updated the heat value from 38.5 MJ/m^3 included in the Original Application filing to 38.75 MJ/m^3. SaskEnergy rates are based on volumetric consumption. Therefore, with the updated heat value, the interim of rate 11.36 cents/ cubic metre results in $2.93/GJ [compared to $2.95/GJ in Original Application] and final proposed rate of 10.20 cents/ cubic metre results in $2.63/GJ [compared to $2.65/GJ in Original Application].

directives from the provincial government have materially decreased actual spending in each fiscal year compared to the test year forecasts.

- **Forecast Capital Spending:** The delivery service rate increase is driven in part by ongoing spending on growth and integrity which has increased from $7.4 million in 2010 to $53.1 million in 2017/18 and is forecast to increase to $67.6 million by 2019/20. Capital investment increases impact rates through increased annual expenses related to depreciation, capital taxes, interest and income.
- **Net Earnings:** The increase in net earnings is about 13% of the overall net delivery revenue requirement in the test year compared to the 2017/18 test year, reflecting an increase in rate base.[4]

The Application indicates that rate pressures are reduced through efficiency initiatives, including effective use of materials, technology and resources, as well as collaboration with other Crown Corporations. SaskEnergy notes that efficiency measures have achieved $48 million in savings since 2009 and for the 2018/19 fiscal year are targeted to achieve a further $4.0 million in savings.

A number of issues and challenges were raised by the Application that are reviewed in detail in the observations section of this overview.

Observations

While the focus of this review is on the test year (2019/20), the current Application should be considered in light of prior applications and with consideration of potential future applications and rate increases.

- Delivery rates have increased each year since 2013 and continued delivery rate increases are expected to be required to support SaskEnergy's ongoing integrity and growth requirements. Recent year-over-year increases for residential customers are noted in Table 2-1.
- Figure 2-1 illustrates total residential bill impacts over the period from 2006 to 2018 (actual) and 2019/20 (forecast). This indicates that while the commodity rate (and commodity portion of residential customer bills) is currently significantly lower than in prior years, delivery rates (the delivery portion of residential customer bills) have been steadily increasing over this period.

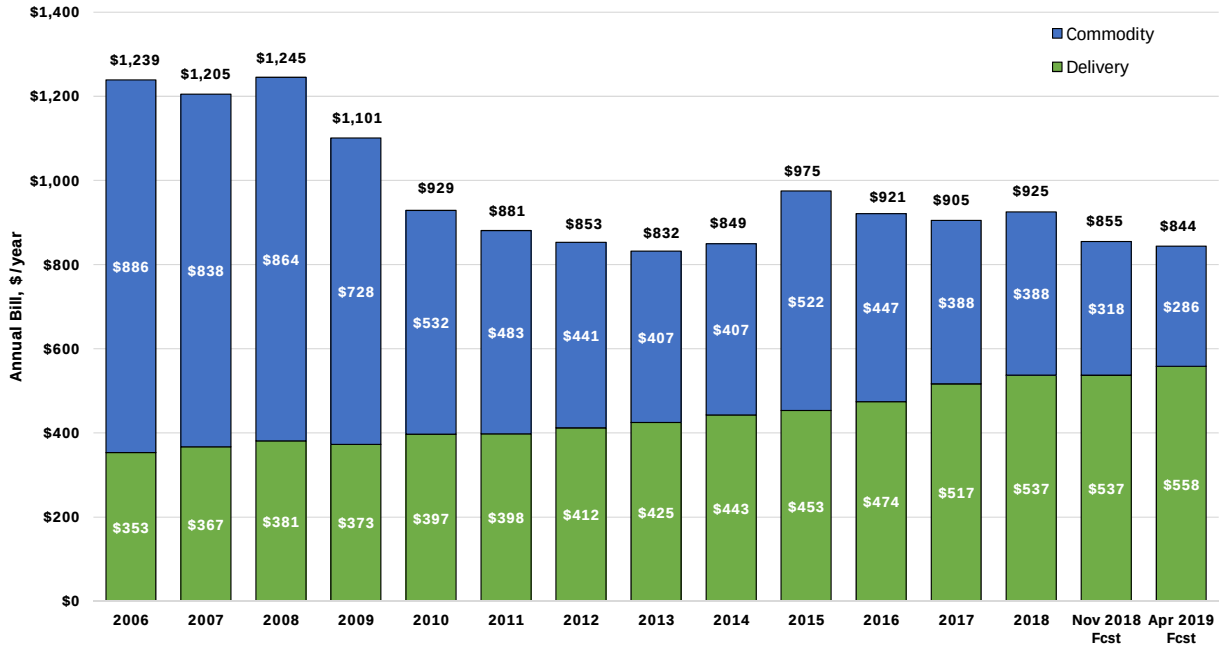
As summarized in Section 17-2, the federal carbon tax is expected to be implemented on April 1, 2019 at $20/tonne and to increase to $30/tonne by January 1, 2020 and then increase by $10/tonne annually to $50/tonne by 2023. SaskEnergy estimates that with a $20/tonne carbon tax, customers will see a charge of $0.0391/$m^3$ for natural gas. Residential customers would see a 13% bill increase in 2019 with a $20/tonne carbon tax.

[4] SaskEnergy is not proposing to change the deemed equity ratio of 37% and ROE of 8.30%. The increase in net earnings is due to an increase in rate base [including capital additions] which determines the required net earnings at the deemed equity of 37% and ROE of 8.30%.

Table 2-1: Average Residential Delivery Service Bill Increases[5]

	Sept1, 2013	Sept1, 2014	Jan 1, 2016	Nov 1, 2016	Nov 1, 2017	Apr 1, 2019 [Proposed]
Average Monthly Delivery Service Bill ($/month)	$36.89	$37.77	$39.52	$43.05	$44.76	$46.53
Change in bill ($/Month)	$1.47	$0.89	$1.75	$3.53	$1.71	$1.77
Delivery Service Bill Impact (%)	4.2%	2.4%	4.6%	8.9%	4.0%	4.0%

Figure 2-1: Typical Annual Residential Bills 2006 to 2018 Actual and Forecast for November 2018 and April 2019[6]



Note: The annual bill is based on average consumption of 2,800 m3/year. The annual bills are as of January the respective year. The Forecast years are annualized based on the proposed rate change effective November 1, 2018 and April 1,2019.

[5] 1st Round Information Request 21(c).
[6] 1st Round Information Request 21(c).

A number of factors may impact future revenue requirement and rates beyond the test years:

- **Ongoing capital expenditures to address integrity and growth activities:** SaskEnergy has increased its annual safety and infrastructure renewal investment from $7.0 million in 2008 to $67.6 million during the application period, and expects annual investment to continue at these levels into the future. While the capital program is outside of the scope for this review, spending on capital impacts depreciation, capital tax, interest expense and income. Increases in depreciation expense and net income are two key drivers for the test year rate increase.
- **Future Transportation and Storage Rate Increases:** Transportation and storage expense is the second largest component of the revenue requirement; and makes up about 17% of the total delivery revenue requirement in the 2019/20 test year. Transportation and storage expense increases in the test year reflect transportation and storage rate changes effective May 1, 2018 and anticipated for April 1, 2019. Further increases in transportation and storage rates are anticipated that will drive future transportation and storage expense increases. Specifically, over the 2020/21 to 2022/22 period total transportation and storage expense is expected to increase by $1.9 to $3.1 million annually.
- **Future Natural Gas Price Increases:** While current natural gas prices have remained low, it is expected that over time natural gas prices will increase and that this will drive future commodity rate increases and would compound the effects of ongoing expected delivery rate increases.

Overall, a number of factors that materially impact the revenue requirement are either outside the scope of the Panel's review (e.g., capital expenditures, return on equity, and transportation and storage rates), or are flow through items (e.g., gas cost). Many of these items have a material impact on the current test year revenue requirement or have the potential to be material rate drivers going forward. In this context there are limited measures available to reduce or mitigate adverse impacts on ratepayers (outside of continuing to focus on productivity and efficiency measures to reduce operation and maintenance costs and other expenditures).

SaskEnergy was directed by its shareholder to reduce budgeted expenditures in order to meet specified targets between 2015/16 and in 2017/18. This has led to materially lower actual results compared to test year forecasts. Each year after the implementation of restraint measures SaskEnergy has indicated the expectation that forecast spending for the next test year would be achieved. However, in each case this has not occurred.

Given past patterns, concern is noted regarding the potential for further direction to be provided relative to the 2019/20 test year subsequent to the Panel's review. Significant O&M or other budget reductions that occur after test year forecasts have been approved create profound fairness issues for ratepayers who do not effectively share in the cost savings. Implementation of further restraint measures after the Panel has filed their report challenges the reasonableness of rates as rates are set but benefits from further restraint measures do not accrue to ratepayers.

3.0 DELIVERY SERVICE REVENUE REQUIREMENT

SaskEnergy's revenue requirement is comprised of the six main components shown in Table 3-1 and Figure 3-1. The total revenue requirement is offset by revenues from other sources to calculate the net delivery revenue requirement. The 2019/20 test year net revenue requirement of $280.2 million is $17.0 million (6.5%) higher than the 2017/18 test year.

The following is specifically noted regarding the main drivers underlying the overall revenue requirement:

- **Operating and Maintenance Expense (O&M) –** The increase in O&M expense makes up about 44% of the overall net delivery revenue requirement increase in the 2019/20 test year over the 2017/18 test year. O&M expense is forecast to increase by about $10.316 million (or 8.2%) over the 2017/18 test year.
- **Interest Expense –** The increase in interest expense represents about 20% of the total increase in the 2019/20 test year over the 2017/18 test year. Interest expense is forecast to increase by about $4.568 million (or 17%) over the 2017/18 test year.
- **Net Earnings –** The increase in net earnings is about 13% of the overall net delivery revenue requirement increase in the 2019/20 test year over the 2017/18 test year. Net Earnings expense is forecast to increase by about $3.024 million (or 9.9%) over the 2017/18 test year. This forecast increase reflects an increase in rate base.[7]
- **Transportation and Storage Expense, Depreciation Expense and Tax Expense –** These expense categories represent between 6% and 9% of the total change in the 2019/20 test year over the 2017/18 test year.
- **Other Revenues –** Other Revenues are forecast to increase by $6.188 million (or 25%) over the 2017/18 test year. This partially offsets increases in other cost categories.

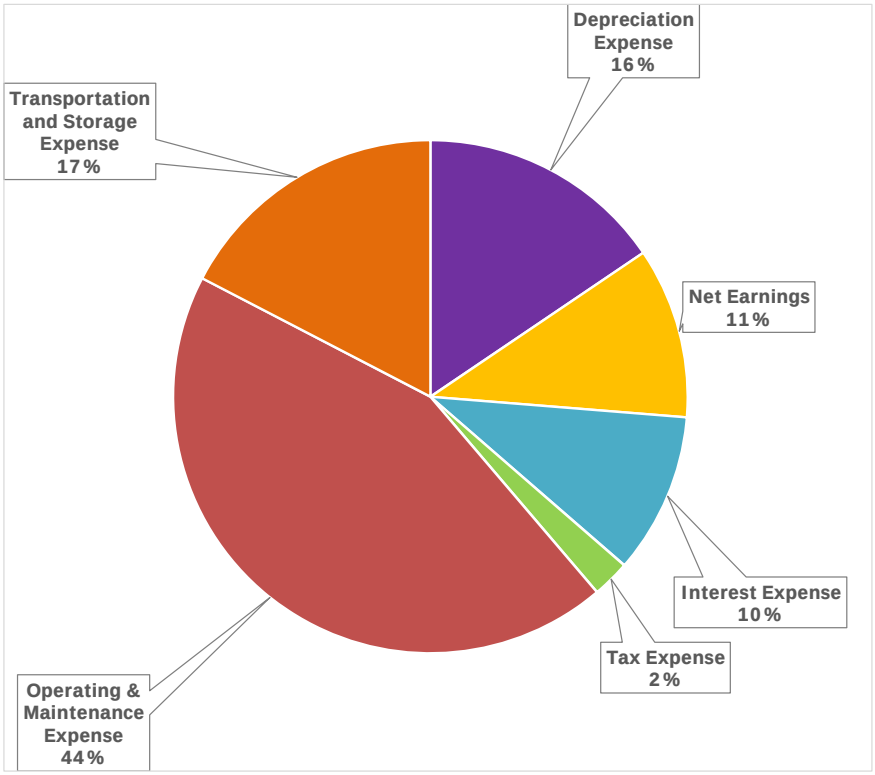
[7] SaskEnergy is not proposing to change the deemed equity ratio of 37% and ROE of 8.30%. The increase in net earnings is due to an increase in rate base [including capital additions] which determines the required net earnings at the deemed equity of 37% and ROE of 8.30%.

Table 3-1: Revenue Requirement Comparison ($000s)[8]

Component	2017/18 Test Year [Nov 1 - Oct 31]	2019/20 Test Year Current Application [Apr 1 - March 31]	*Change from 2017/18 Test Year*	*% Change*
	A	C	D=C-A	E=D/A
Operating & Maintenance Expense	125,913	136,229	10,316	8.2%
Transportation and Storage Expense	52,028	53,919	1,891	3.6%
Depreciation Expense	46,207	48,186	1,979	4.3%
Tax Expense	5,948	7,362	1,414	23.8%
Interest Expense	26,882	31,450	4,568	17.0%
Net Earnings	30,435	33,459	3,024	9.9%
Total Delivery Revenue Requirement	**287,413**	**310,605**	**23,191**	**8.1%**
Other Revenue	(24,223)	(30,411)	(6,188)	25.5%
Net Delivery Revenue Requirement	**263,190**	**280,194**	**17,003**	**6.5%**

Figure 3-1 illustrates the share each revenue requirement component has of the total revenue requirement.

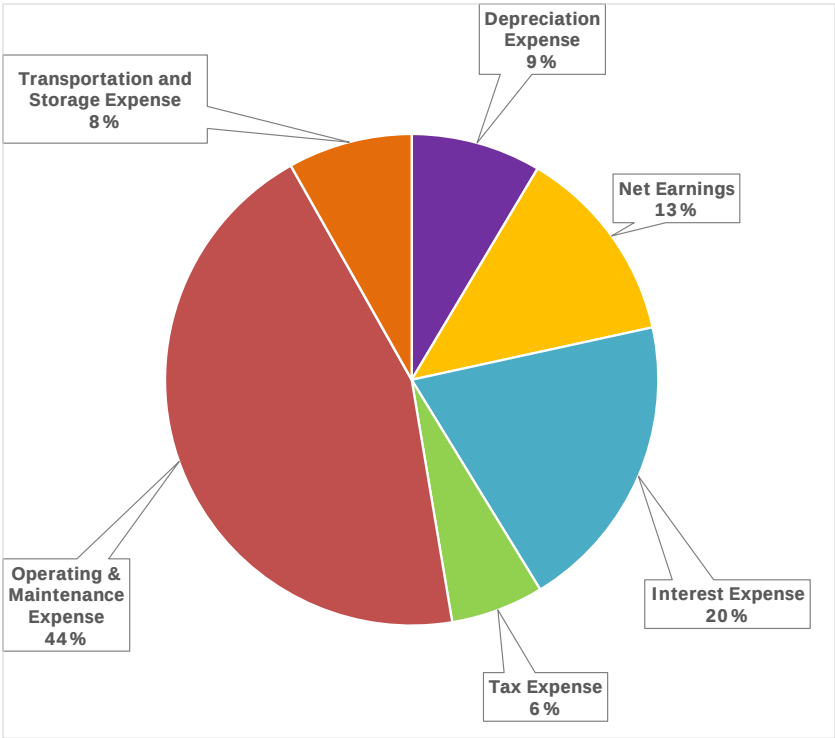
Figure 3-1: Share of total Revenue Requirement for 2019/20 Test Year[9]



[8] Summarized from Schedule 4 of the 2018 Commodity and Delivery Service Rate Application; and Schedule 1.0 of the 2017 Delivery Service Rate Application.
[9] Prepared based on Table 3-1.

Figure 3-2 illustrates the share of revenue requirement change in 2019/20 test year over 2017/18 test year.

Figure 3-2: Share of Revenue Requirement Change from 2017/18 Test Year to 2019/20 Test Year[10]



Actual Results Compared to Revenue Requirement Forecasts for 2016/17 and 2017/18 Test Years

SaskEnergy provided a comparison of actual results compared to test year forecasts [November 1 through October 31] for the same time period for 2016/17 and 2017/18. Table 3-2 summarizes the actual results compared to the test year forecast for each revenue requirement component and highlights the material reduction in the actual expenses.

[10] Prepared based on Table 3-1.

Table 3-2: Revenue Requirement Comparison: Forecast vs Actuals ($000s)[11]

Component	2016/17 Test Year [November 1 - October 31]				2017/18 Test Year [November 1 - October 31]			
	Test Year Forecast	Actuals	*Diff.*	*Diff. %*	Test Year Forecast	Actuals	*Diff.*	*Diff. %*
Operating & Maintenance Expense	124,404	115,078	*(9,326)*	*-7.50%*	125,913	120,672	*(5,241)*	*-4.16%*
Transportation and Storage Expense	51,964	49,879	*(2,085)*	*-4.01%*	52,028	51,630	*(398)*	*-0.76%*
Depreciation Expense	42,130	40,174	*(1,956)*	*-4.64%*	46,207	43,772	*(2,435)*	*-5.27%*
Tax Expense	5,578	5,032	*(545)*	*-9.77%*	5,948	5,914	*(33)*	*-0.55%*
Interest Expense	26,284	24,516	*(1,768)*	*-6.73%*	26,882	25,748	*(1,134)*	*-4.22%*
Net Earnings to get 8.30% ROE	28,302	27,373	*(928)*	*-3.28%*	30,435	29,066	*(1,368)*	*-4.49%*
Total Delivery Revenue Requirement	**278,662**	**262,052**	***(16,608)***	***-5.96%***	**287,412**	**276,802**	***(10,609)***	***-3.69%***
Other Revenue	(24,096)	(29,255)	*(5,158)*	*21.41%*	(24,223)	(40,541)	*(16,317)*	*67.36%*
Net Delivery Revenue Requirement	**254,565**	**232,797**	***(21,768)***	***-8.55%***	**263,189**	**236,260**	***(26,928)***	***-10.23%***

Table 3-2 shows that the actual net revenue requirement for the 2016/17 test year was about $21.7 million (or 8.5%) lower than the forecast included in the 2016 Commodity and Delivery Service Rate Application. Similarly, the actual net revenue requirement for the 2017/18 test year is expected to be about $26.9 million (or 10.2%) lower than the forecast included in the 2017 Delivery Service Rate Application. It is noted that the net earnings in Table 3-2 represent earnings required for a deemed equity at 37% and an 8.30% target ROE, and are not the actual net earnings. Section 3.6, Table 3-31 indicates that the actual net earnings for 2017/18 fiscal year actuals were $70.220 million (compared to the $28.539 million forecast included in the 2017 Delivery Service Rate Application [Schedule 1.6]), and were $41.681 million higher than forecast. Table 3-3 compares 2017/18 fiscal year forecast from 2017 Delivery Service Rate Application to the 2017/18 fiscal year actuals.

[11] Prepared based on Pre-ask #1, 2018 Commodity and Delivery Service Rate Application. The actual results for 2017/18 test year reflect actuals for November 1, 2017 to July 31, 2018 and expected results for August 1 through October 31, 2018. In response to 1st Round Information Request 1 (g), SaskEnergy notes that based on more up to date information the overall net delivery revenue requirement variance between 2017 test year forecast and actual results for 2017-18 is expected in the range of $31.0 million compared to $27 million shown in the table reflecting about $12.6 million lower revenue requirement and about $2 million additional other revenues on top of $40.5 million shown in the table.

Table 3-3: 2017/18 Fiscal Year Forecast Compared to 2017/18 Fiscal Year Actuals

Component	2017/18 Fiscal Year [April 1 - March 31] Forecast from 2017 Application	Actuals	*Diff.*	*Diff. %*
Operating & Maintenance Expense	124,245	112,680	*(11,565)*	*-9.31%*
Transportation and Storage Expense	50,328	50,342	*14*	*0.03%*
Depreciation Expense	44,031	41,051	*(2,980)*	*-6.77%*
Tax Expense	5,592	5,481	*(110)*	*-1.97%*
Interest Expense	24,823	24,698	*(125)*	*-0.50%*
Total Expenses	**249,019**	**234,252**	*(14,766)*	***-5.93%***
Other Revenues	(23,724)	(38,390)	*(14,665)*	*61.82%*
Net Delivery Revenue Requirement before Net Earnings	**225,294**	**195,862**	***(29,433)***	***-13.06%***
Net Earnings	28,539	70,220	*41,681*	*146.05%*
ROE	8.30%	20.80%	*12.5%*	*150.60%*

The following is noted regarding expected actual results compared to the forecast for the 2017/18 test year.

- **O&M Expenses:** Actual O&M expense is expected to be $5.2 million (or 4%) **lower** than forecast. Lower than forecast salaries and wages make up more than half of the total reduction in expense. Key areas of actual cost reduction compared to forecast are as follows:[12]
    - $4.0 million **lower** than forecast expense for salaries, wages and benefits, including a $3.1 million reduction related to vacancy management and a $0.9 million reduction related to overtime management.
    - $0.8 million **lower** than forecast expense for sustenance and transportation.
    - $0.7 million **lower** than forecast expense for consulting services.
    - $0.8 million **lower** than forecast expense for cost categories such as communication, advertising, and materials and supplies.

  The above cost reductions were offset by a $1.1 million **increase** in property costs.
- **Transportation and Storage Expense:** Actual costs were $0.4 million (or about 0.76%) **lower** than the test year forecast.
- **Depreciation Expense:** Overall depreciation expense was $2.435 million (or 5.27%) **lower** than the test year forecast.
- **Tax Expense:** Actual costs were close to the test year forecast.
- **Interest Expense:** Actual interest expense was $1.134 million (or 4.22%) **lower** than the test year forecast.

[12] Prepared based on 1st Round Information Request 1 (e), 2018 Commodity and Delivery Service Rate Application.

- **Net Earnings:** The net earnings required to maintain an 8.30% ROE were $1.369 million (or 4.5%) **lower** than the test year forecast.[13]
- **Other Revenues:** Actual other revenues were $16.317 million (or 67.0%) **higher** than the test year forecast.

Mid-Application Update

On November 26, 2018, SaskEnergy provided the Commodity and Delivery Service 2018 Rate Application Mid-Application Update (Mid-Application Update). The Mid-Application Update compares the September 27, 2018 SaskEnergy Commodity and Delivery Rate Application (the Original Application) submission to "the most recent financial forecast as of November 20, 2018."[14] On December 3, 2018, SaskEnergy filed a revised Mid-Application Update (Revised Mid-Application Update) that included corrections to the November 26, 2018 Mid-Application Update.

Table 3-4 provides a summary comparison of the change in revenue requirement. The details of changes to each revenue requirement component are discussion further in the sections that follow.

Table 3-4: Revenue Requirement Comparison: Original Application vs Mid-Application Update ($000s)[15]

Component	Application	Mid-Application Update	*Change*	*% Change*
Operating & Maintenance Expense	136,229	136,457	228	*0.17%*
Transportation and Storage Expense	53,919	54,697	778	*1.44%*
Depreciation Expense	48,186	48,405	219	*0.45%*
Tax Expense	7,362	7,270	(92)	*-1.25%*
Interest Expense	31,450	30,638	(812)	*-2.58%*
Net Earnings	33,459	32,790	(669)	*-2.00%*
Total Delivery Revenue Requirement	**310,605**	**310,257**	**(348)**	***-0.11%***
Other Revenue	(30,411)	(30,411)	0	*0.00%*
Net Delivery Revenue Requirement	**280,194**	**279,846**	***(348)***	***-0.12%***

Observations

The information provided by SaskEnergy shows that in recent revenue requirement proceedings components of the revenue requirement, such as depreciation expense and interest expense, have been over-forecasted while other components have been impacted by ongoing fiscal restraint measures [e.g., reduction in O&M expense].

[13] It should be noted that the net earnings illustrated in Table 3-2 are net earning required to get 8.30% ROE based on actual rate base. This does not represent the actual net earning SaskEnergy expected to achieve. For example, for 2017/18 fiscal year the actual net earnings were $70.2 million [Schedule 4.6] with ROE at 20.8% [Pre-ask #13].
[14] Mid-Application Update, page 1.
[15] Prepared based on Mid-Application Update filed on November 26, 2018 as revised on December 3, 2018.

Other Revenues were materially higher than forecast and offset the revenue requirement.

Ongoing Fiscal Restraint Measures: 2015/16 to 2017/18

SaskEnergy typically commences its business planning process in June of each year, and submits its business plan for Board of Directors Approval in November each year. Since the 2015/16 fiscal year, SaskEnergy has been directed by its shareholder to reduce budgeted expenditures in order to meet specified financial targets. In each case this has occurred after approval of the original business plan as follows[16]:

- **2016/17 Business Plan Process**: The 2016/17 Business Plan was approved by SaskEnergy's shareholder in December 2015. Prior to April 2016, SaskEnergy was directed by its shareholder to increase the net income targets approved in December 2015 – this resulted in a $7.0 million impact on actual expenditures due to the application of restraint measures. In October 2016, the shareholder made a second request for incremental restraint which resulted in an additional $2.4 million reduction in actual expenditures due to restraint. Restraint measures in 2016/17 totalled about $9.4 million.
- **2017/18 Business Plan Process**: The 2017/18 Business Plan was approved by SaskEnergy's shareholder in January 2017. In February 2017, the shareholder indicated that it expected higher net income than approved in January 2017; this resulted in implementation of $4.0 million of restraint initiatives that impacted expenditures in 2017/18 (fiscal).

SaskEnergy has noted that "at this point in time, the 2018/19 target approved by SaskEnergy's shareholder as presented to them by SaskEnergy during business plan development has not been revisited".[17]

SaskEnergy has clarified that restraint measures undertaken in 2016/17 and 2017/18 fiscal year are not reduced budget expenditures and are not reflected in the original business plan or in delivery rate applications.[18] Specifically, due to the timing of directions provided by the shareholder related to the implementation of fiscal restraint measures, cost savings related to these measures were not included in the original business plan or test year forecasts from 2015/16 to 2017/18. In each subsequent Delivery Rate Application SaskEnergy has indicated an expected return to "normal" spending levels – however, this has not occurred:

- **2016 Commodity and Delivery Rate Application:** SaskEnergy noted that 2015 restraint measures were implemented on the understanding that such measures would be temporary in nature, with planned spending on certain activities or initiatives restored in 2016, including areas such as industry best practices for integrity programming, participation in key industry working groups and other training and professional development initiatives. The 2016/17 forecasts assumed

[16] 2nd Round Information Request 1(e) and (f).
[17] 2nd Round Information Request 1(f) (iii), 2018 Commodity and Delivery Service Rate Application.
[18] 2nd Round Information Request 1(g), 2018 Commodity and Delivery Service Rate Application.

that expenditures would return to "normalized and sustainable" levels for categories including salary increases, travel and advertising.[19]

- **2017 Commodity and Delivery Rate Application:** SaskEnergy noted that expense categories subject to restraint initiatives in 2015/16 and 2016/17 would see "moderate cost increases" or return to normal levels of spending in 2017/18; and that 2017/18 budgeted amounts for these items were included in the distribution utility cost of service for the 2017/18 test year, and the forecast level of expenditure is expected to be achieved in 2017/18.[20]

Table 3-2 and Table 3-5 show continued fiscal restraint measures have resulted in materially lower actual results for certain operating and maintenance cost areas compared to test year forecasts.

[19] 2016 Consultant's Report, page 3-4.
[20] 2nd Round Information Request 1(g), 2017 Delivery Service Rate Application.

Table 3-5: Summary of 2015/16 to 2017/18 Test Year Restraint Measures and Other Cost Reductions[21]

	2015/16	2016/17	2017/18
Salaries and Benefits • Out of Scope Wage Freeze • Bid Lag • Reduced Vacation Liability • OT Management	$2,000,000	$3,000,000	$2,300,000
Reduced Interest Expense • Carrying more short-term debt vs. long-term debt (restraint) • Lower interest rates than assumed in budget (market driven expense saving)	$1,500,000	$1,400,000	
Internal Gas Usage • Lower than forecast gas prices (market driven expense saving)	$1,400,000	-	
Training and Travel • Vehicle Mileage • Out of Province Travel • Training	$670,000	$400,000	$500,000
Vehicle Fuel	$500,000	$400,000	
Advertising	$255,000	$300,000	$100,000
Miscellaneous Expense Reductions	$682,000	$200,000	$600,000
Consulting/Professional Services and Professional Fees	$190,000	$800,000	$500,000
Depreciation	$100,000	$500,000	
Sub-Total	*$7,297,000*	*$7,000,000*	*$4,000,000***
Additional Restraint Applied		$2,400,000 *	
Total Restraint	**$7,297,000**	**$9,400,000**	**$4,000,000**

* For 2016/17 an additional $2.4 million in restraint was applied – and total restraint for the year was $9.4 million. See response to 2nd Round Information Request 1 (e) (i).

**SaskEnergy indicates $2.3 million in restraint measures implemented during the 2017/18 Test Year; actual variance in these categories compared to the test year forecast was in the range of $6.3 million (overall reduction in O&M expense of $5.2 million once higher property tax expense is considered). See response to 2nd Round Information Request 1 (d) and (e).

The Consultant's Report for the 2016 Commodity and Delivery Rate Application and the 2017 Delivery Rate Application have each highlighted material fairness concerns for ratepayers that result from the application of restraint measures after SaskEnergy's business plans have been approved. Prior Consultant Reports have also noted concerns regarding the regularized implementation of restraint measures outside of test year

[21] 2017 Delivery Rate Application, 2nd Round Information Request 1(e). 2018 Commodity and Delivery Rate Application, 1st Round Information request, 1(i).

forecasts.[22] The concerns raised in 2016 and 2017 remain and are augmented by the material divergences noted in Table 3-2 between test year and actual forecasts for 2016/17 and 2017/18.

For three years SaskEnergy has included in its test year forecasts levels of spending materially above actual requirements. In each of these years, SaskEnergy has achieved material cost reductions compared to forecasts. Ratepayers have not benefited from these cost reductions and have continued to pay rates that reflect materially higher costs. Aside from overall concerns this raises regarding the financial health of the utility and its ability to continue to provide safe and reliable service to its customers, this also raises profound concerns regarding transparency and fairness in rate setting.

Other Considerations in Comparison of 2017/18 Forecast and Actual Results

Increases in capital investments are expected to continue beyond the 2019/20 test year,[23] and this is expected to result in ongoing rate pressure. As such, it is expected that costs included in rates are being subject to careful review by the utility in order to ensure that expenses included in rates are not higher than necessary for the ongoing safe and reliable operation of the utility. The following is noted regarding the review of actual vs forecast results for the 2017/18 test year:

- **Actual vs. Forecast Depreciation Expense**: Depreciation expense was the single largest increase in the 2017/18 test year forecast revenue requirement [about 47% of total increase in 2017/18 test year over 2016/17 test year]. The 2017 Delivery Rate Application Consultant's report[24] noted ongoing increases in spending requirements related to safety and integrity would continue to materially impact revenue requirement costs related to capital spending [depreciation expense, interest expense and ROE], and result in ongoing rate pressure. Table 3-2 shows that depreciation expense was $2.435 million (or 5.27%) **lower** than the 2017/18 test year forecast. Similarly, 2016/17 test year actuals were $1.956 million (or 4.64%) **lower** than the test year. Given the expected material impact that depreciation expense will continue to have on revenue requirements going forward, greater transparency regarding the calculation of depreciation expense is warranted in order to provide assurance that costs included in rates are fair and appropriate.
- **Actual vs Forecast Interest Expense**: Ongoing capital requirements are expected to drive increases in interest expense. The 2017 Delivery Service Rate Application Consultant's Report noted that interest rate forecasts used to determine the 2017/18 test year revenue requirement were much higher than more up to date information provided by SaskEnergy during the 2017 Delivery Rate Application review process; at the time it was noted that using the more up to date interest expense forecasts would reduce the 2017/18 test year revenue requirement by about $0.8 million.[25] Table 3-2 shows that the actual interest expense for the 2017/18 test year was $1.134 million (or

[22] 2016 Consultant's Report, page 3-4 and 2017 Consultant's Report, page 3-6.
[23] For example, SaskEnergy on page 27 of the Application notes that it has increased its annual safety and infrastructure renewal investment from approximately $7.0 million in 2008 to approximately $67.6 million during the application period and this increase in annual investment in safety and infrastructure renewal is expected to continue at these levels into the future and is comparable to other utilities across North America.
[24] 2017 Consultant's Report, pages 3-1 and 3-32.
[25] 2017 Consultant's Report, pages 3-51.

4.22%) lower than the test year forecast. Similarly, the 2016/17 test year actuals were $1.768 million (or 6.73%) lower than the test year forecast.

- **Other Revenues:** Other Revenues were materially higher than forecast for the 2017/18 test year due to much higher Asset Optimization revenues.[26] SaskEnergy notes that "the pipeline capacity constraints at the Alberta/Saskatchewan border have resulted in unprecedented pricing differentials to the AECO price for downstream gas" and "this premium has continued over the summer period" and "has allowed SaskEnergy to realize profit margins on its asset optimization activities because of the significant amount of under-utilized transportation capacity SaskEnergy has available for optimization during the summer months."[27]

3.1 OPERATING & MAINTENANCE EXPENSE

SaskEnergy's O&M expense includes labour costs, external services, materials and supplies, vehicles, travel, public relations and other costs. These costs are offset through charges to capital, external recoveries, internal recoveries and intercompany allocations to calculate the O&M expense included in the revenue requirement.

Operating and maintenance expense is summarized in Tables 3-6, 3-7 and 3-8 that follow. These tables provide a summary of actual O&M costs for 2013-2015 (calendar) and 2015/16 to 2017/18 (fiscal years), and forecast costs for 2018/19 (fiscal). These tables also provide forecast costs for the 2019/20 test year (April 1 to March 31) compared to the 2017/18 test year (November 1 to October 31).

Table 3-6 provides a summary of Distribution Division O&M expense and indicates the following:

- The 2019/20 test year O&M expense forecast is $10.316 million (or 8.2%) higher than the 2017/18 test year forecast.
- As noted in Table 3-2, 2017/18 test year (November 1 to October 31) actual results are expected to be materially lower than forecast ($5.241 million, or -4.16%, lower). This results in a material O&M expense increase when the 2019/20 test year forecast is compared to 2017/18 test year actual results (a $15.557 million, or 13%, increase in O&M expense).
- A comparison of the 2018/19 fiscal year forecast to 2017/18 fiscal year actuals also indicates a material year-over-year change. The 2018/19 fiscal year forecast is about $17.697 million (or 15.7%) higher than the 2017/18 fiscal year actuals, with a further increase of $5.852 million (or 4.5%) forecast for the 2019/20 fiscal year (over the 2018/19 fiscal year forecast).

Overall, there are material step increases in total O&M expense when 2018/19 and 2019/20 forecast periods are compared to actual historical results from the 2013 calendar year through to the 2017/18 fiscal year. Table 3-6 shows 2017/18 actuals were at the 2013 actual level [and only a 0.6% increase in expense over

[26] Called "Margin on Gas Marketing" in prior applications.
[27] 1st Round Information Request 13 (a), 2018 Commodity and Delivery Service Rate Application.

a four-year period]. In contrast, total O&M expense for the 2019/20 fiscal year is forecast to increase by $23.549 million (or about 21%) over a two-year period.

Table 3-6: SaskEnergy Distribution Division Operating and Maintenance Expense ($000s)[28]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
Category	**2013 Actual**	**2014 Actual**	**2015 Actual**	**2015/2016 Actual**	**2016/17 Actual**	**2017/18 Actual**	**2018/19 Forecast**	**2017/18 Test Year Forecast from 2017 Application**	**2019/20 Forecast from Current Application**	***Change***	***Percent Change***
Operations Costs Incurred	120,132	126,770	125,219	125,100	124,009	120,431	135,668	133,548	141,050	*7,502*	*5.6%*
Capitalized and Recovered	(9,462)	(11,472)	(11,754)	(11,913)	(9,876)	(9,578)	(7,511)	(10,301)	(7,959)	*2,342*	*-22.7%*
Subtotal Operations	110,670	115,298	113,465	113,187	114,133	110,852	128,157	123,246	133,091	*9,845*	*8.0%*
Engineering Costs Incurred	28,560	30,116	28,287	27,981	27,122	27,935	29,466	30,815	31,306	*491*	*1.6%*
Capitalized and Recovered	(27,172)	(28,613)	(26,777)	(26,378)	(25,530)	(26,107)	(27,246)	(28,148)	(28,168)	*(20)*	*0.1%*
Subtotal Engineering	1,388	1,503	1,510	1,603	1,592	1,828	2,220	2,667	3,138	*471*	*17.7%*
Total	**112,058**	**116,801**	**114,975**	**114,790**	**115,725**	**112,680**	**130,377**	**125,913**	**136,229**	***10,316***	***8.2%***
Annual Change		4,743	(1,826)		935	(3,045)	17,697				
Annual Change, %		4.2%	-1.6%		0.8%	-2.6%	15.7%				

[28] Summarized from Schedule 4.2 of the 2018 Commodity and Delivery Service Rate Application and Schedule 1.2 of the 2017 Delivery Service Rate Application. 2012 through 2015 actuals are calendar year, 2015/16 through 2018/19 fiscal year reflect April 1 to March 31 of the next year, 2019/20 test year reflect April 1 to March 31 of the next year, 2017/18 test year from the 2017 Delivery Rate Application reflects forecast period from November 1 to October 31 of the next year. These reporting periods apply for all tables throughout the document.

Changes in O&M expense on an average per customer basis are summarized in Table 3-7.

- 2018/19 fiscal year forecast average O&M cost per customer increases by 14.6% ($42.00 increase) over the 2017/18 fiscal year; and the 2019/20 fiscal year forecast shows a 3.5% increase over the 2018/19 fiscal year forecast ($12.00 increase).
- There is also a 6.2% ($19.70) increase in average O&M costs per customer in the 2019/20 test year forecast over the 2017/18 test year forecast.
- In contrast, from 2015 to 2017/18, actual year-over year changes in average O&M cost per customer were lower than each previous year.

Table 3-7: Operating & Maintenance Cost per Average Number of Customer[29]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
O&M Expense ($000s)	112,058	116,801	114,975	114,790	115,725	112,680	130,377	125,913	136,229	*10,316*	*8.2%*
Avg. Number of Customers	366,882	377,102	382,666	386,886	390,886	394,592	398,434	394,548	402,069	*7,521*	*1.9%*
O&M per Customer ($/Customer)	305.4	309.7	300.5	296.7	296.1	285.6	327.2	319.1	338.8	*19.7*	*6.2%*
Annual Change		4	(9)		(1)	(10)	42				
Annual Change, %		1.4%	-3.0%		-0.2%	-3.5%	14.6%				

Table 3-8 below summarizes O&M costs by category and outlines the major variances between the 2017/18 and 2019/20 test years. Table 3-9 that follows illustrates year-to-year changes in O&M cost categories from 2017/18 actual to the 2018/19 forecast and the 2019/20 forecast.

[29] Summarized from page 3 of Tab 9 from the 2017 Delivery Service Rate Application, and page 3 of Tab 9 from the 2018 Commodity and Delivery Service Rate Application.

Table 3-8: Operating & Maintenance Costs by Category[30]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
Category	**2013 Actual**	**2014 Actual**	**2015 Actual**	**2015/2016 Actual**	**2016/17 Actual**	**2017/18 Actual**	**2018/19 Forecast**	**2017/18 Test Year Forecast from 2017 Application**	**2019/20 Forecast from Current Application**	***Change***	***Percent Change***
Labour	86,912	91,439	89,856	88,882	87,666	88,900	95,258	93,748	100,965	*7,217*	*7.7%*
Pension Costs	357	460	221	216	296	221	201	275	211	*(64)*	*-23.3%*
Charges to Capital	(27,705)	(29,695)	(30,079)	(29,407)	(29,151)	(29,938)	(29,473)	(29,961)	(29,535)	*426*	*-1.4%*
External Services	28,906	35,078	34,408	34,466	33,984	34,156	40,373	41,788	44,109	*2,321*	*5.6%*
External Recoveries	(3,599)	(4,642)	(3,122)	(2,999)	(3,535)	(2,422)	(2,819)	(3,666)	(3,570)	*96*	*-2.6%*
Internal Recoveries	(5,330)	(5,749)	(5,329)	(5,885)	(2,720)	(3,326)	(2,465)	(4,821)	(3,021)	*1,800*	*-37.3%*
Materials and Supplies	7,722	7,940	7,232	7,093	7,509	7,255	8,598	7,658	8,119	*461*	*6.0%*
Energy Costs	569	617	641	640	648	813	764	637	842	*205*	*32.2%*
Vehicles	7,988	8,375	7,728	7,544	6,966	7,015	7,722	7,015	8,038	*1,023*	*14.6%*
Property	4,428	4,832	5,075	4,809	5,328	5,280	6,665	4,242	4,114	*(128)*	*-3.0%*
Computer Costs	4,539	3,875	3,874	3,985	4,449	4,960	5,534	5,452	6,288	*836*	*15.3%*
Sustenance and Transportation	3,696	3,760	3,251	3,194	2,878	2,970	3,546	3,787	3,992	*205*	*5.4%*
Communication	2,224	2,509	2,189	2,149	2,531	2,188	2,585	2,487	2,330	*(157)*	*-6.3%*
Public Relations	3,692	2,594	2,041	1,990	1,898	2,790	2,754	3,041	3,309	*268*	*8.8%*
Fees, Dues and Com. Contr.	2,838	2,974	1,849	1,786	1,659	1,733	1,995	1,974	2,328	*354*	*17.9%*
Misc Corporate Charges	3,099	1,643	4,072	5,536	4,794	881	2,429	3,043	3,494	*451*	*14.8%*
Intercompany Allocations	(8,278)	(9,208)	(8,928)	(9,208)	(9,475)	(10,796)	(13,290)	(10,785)	(15,785)	*(5,000)*	*46.4%*
Total	**112,058**	**116,801**	**114,975**	**114,790**	**115,725**	**112,680**	**130,377**	**125,913**	**136,229**	***10,316***	***8.2%***

[30] Summarized from page 1 of Tab 9 from the 2017 Delivery Service Rate Application, and page 1 of Tab 9 from the 2018 Commodity and Delivery Service Rate Application.

Table 3-9: Year-to-Year Changes in Operating & Maintenance Cost by Category: 2018/19 over 2017/18 and 2019/20 over 2018/19[31]

	Fiscal Year [Apr 1 to March 31]						
				2018/19 over 2017/18		2019/20 over 2018/19	
Category	**2017/18 Actual**	**2018/19 Forecast**	**2019/20 Forecast**	***Change***	***Percent Change***	***Change***	***Percent Change***
Labour	88,900	95,258	100,965	*6,358*	*7.2%*	*5,707*	*6.0%*
Pension Costs	221	201	211	*(20)*	*-9.0%*	*10*	*5.0%*
Charges to Capital	(29,938)	(29,473)	(29,535)	*465*	*-1.6%*	*(62)*	*0.2%*
External Services	34,156	40,373	44,109	*6,217*	*18.2%*	*3,736*	*9.3%*
External Recoveries	(2,422)	(2,819)	(3,570)	*(397)*	*16.4%*	*(751)*	*26.6%*
Internal Recoveries	(3,326)	(2,465)	(3,021)	*861*	*-25.9%*	*(556)*	*22.6%*
Materials and Supplies	7,255	8,598	8,119	*1,343*	*18.5%*	*(479)*	*-5.6%*
Energy Costs	813	764	842	*(49)*	*-6.0%*	*78*	*10.2%*
Vehicles	7,015	7,722	8,038	*707*	*10.1%*	*316*	*4.1%*
Property	5,280	6,665	4,114	*1,385*	*26.2%*	*(2,551)*	*-38.3%*
Computer Costs	4,960	5,534	6,288	*574*	*11.6%*	*754*	*13.6%*
Sustenance and Transportation	2,970	3,546	3,992	*576*	*19.4%*	*446*	*12.6%*
Communication	2,188	2,585	2,330	*397*	*18.1%*	*(255)*	*-9.9%*
Public Relations	2,790	2,754	3,309	*(36)*	*-1.3%*	*555*	*20.2%*
Fees, Dues and Com. Contr.	1,733	1,995	2,328	*262*	*15.1%*	*333*	*16.7%*
Misc Corporate Charges	881	2,429	3,494	*1,548*	*175.7%*	*1,065*	*43.8%*
Intercompany Allocations	(10,796)	(13,290)	(15,785)	*(2,494)*	*23.1%*	*(2,495)*	*18.8%*
Total	**112,680**	**130,377**	**136,229**	***17,697***	***15.7%***	***5,852***	***4.5%***

Tables 3-8 and 3-9 show the following key variances when the 2019/20 test year forecast is compared to the 2017/18 test year forecast and 2017/18 fiscal year actuals:

- There is a significant increase in **Labour** expense in the 2018/19 forecast compared to 2017/18 fiscal year actuals [7.2% increase], and a further increase in the 2019/20 forecast [6.0% increase]. Details underlying the material cost increase are reviewed in Section 3.1.1.
- **External Services** increase materially from $34.156 million in the 2017/18 fiscal year to $40.373 million for the 2018/19 fiscal year forecast [an approximate $6.217 million, or 18%, increase]. There is a further increase of $3.736 million (or 9.3%) in 2019/20; and an overall $9.953 million (or 29.1%) increase in the 2019/20 fiscal year over 2017/18 fiscal year actuals. Details underlying changes in cost are provided in Section 3.1.4.
- There is a $1.800 million reduction in **Internal Recoveries** in the 2019/20 test year compared to the 2017/18 test year [37.3% reduction], however, the forecast for 2019/20 appears reasonable compared to 2016/17 and 2017/18 actuals. SaskEnergy notes that changes in Internal Recoveries

[31] Summarized from page 1 of Tab 9 from the 2018 Commodity and Delivery Service Rate Application.

compared to previous years relate to an accounting change that commenced in 2016/17.[32] SaskEnergy notes that Internal Recoveries related to labour costs are forecast to be lower in the 2019/20 fiscal year compared to previous actual years due to the fact that less work is being completed by internal construction crews and more work is being done by external contractors particularly in areas outside of Regina and Saskatoon.[33]

- Changes in **Intercompany Allocations** result in decreased 2019/20 test year costs compared to the 2017/18 test year. Intercompany Allocations are discussed in further detail in Section 3.1.3.
- Despite the increases in total capital spending, **Charges to Capital** are slightly lower in 2019/20 compared to the 2017/18 test year and 2017/18 fiscal year actuals. SaskEnergy notes that higher than normal capitalization occurred in customer service and operations areas in 2017/18, driven by Distribution Work Management investment completed in 2017/18.[34]
- SaskEnergy notes that the increase in **Materials and Supplies** is mostly attributable to odorant with a $0.6 million increase in 2019/20 compared to 2017/18 fiscal year actuals, and "early detection of natural gas leaks by odor continues to be a priority within SaskEnergy's safety program".[35] The increase in computer costs in the 2019/20 forecast compared to the 2017/18 actuals "is attributable to software lease and maintenance costs".[36]
- The **Public Relations** expense forecast for the 2019/20 test year is about $0.5 million higher compared to the 2017/18 fiscal year actuals. There is a similar increase in **Fees, Dues and Community Contributions**. Specific changes in expense related to Communication, Public Relations, Fees, Dues and Community Contributions categories are reviewed in further detail in Section 3.1.2.

Mid-Application Update

The Revised Mid-Application Update shows that O&M expense increases by about $0.228 million (or 0.2%) compared to the Original Application. Table 3-10 below summarizes changes in O&M expense between the Original Application and the Revised Mid-Application Update.

[32] 1st Round Information Request 8 (a), 2018 Commodity and Delivery Service Rate Application, notes "beginning in 2016-17, accounting began to eliminate inter-company construction labour and vehicle charges within the LDC from construction to the distribution area offices across the province. These costs were charged and reported within contract services and recovered in internal cost recoveries. The net financial impact to the corporation is zero as the decline in contract services costs is offset by the decline in internal cost recoveries."
[33] 1st Round Information Request 8 (a), 2018 Commodity and Delivery Service Rate Application.
[34] 2nd Round Information Request 2 (b), 2018 Commodity and Delivery Service Rate Application.
[35] 1st Round Information Request 2 (j), 2018 Commodity and Delivery Service Rate Application.
[36] 1st Round Information Request 2 (g), 2018 Commodity and Delivery Service Rate Application.

Table 3-10: Operation and Maintenance Cost Comparison: Original Filing vs Mid-Application Update ($000s)[37]

Category	2019/20 Test Year Forecast Original Application	Mid-Application Update	*Change*	*Percent Change*
Operations Costs Incurred	141,050	141,528	478	*0.3%*
Capitalized and Recovered	(7,959)	(7,959)	0	*0.0%*
Subtotal Operations	133,091	133,569	478	*0.4%*
Engineering Costs Incurred	31,306	31,134	(172)	*-0.5%*
Capitalized and Recovered	(28,168)	(28,246)	(78)	*0.3%*
Subtotal Engineering	3,138	2,888	(250)	*-8.0%*
Total	**136,229**	**136,457**	**228**	***0.2%***

SaskEnergy notes that hosting costs for Geographical Information Systems is the primary reason for the change in Operations Costs in the Mid-Application Update. This cost increase was partially offset by lower contract costs in distribution engineering and increased capitalization.

Observations

Forecast total O&M expense for the 2019/20 test year is about 8.2% higher than the 2017/18 test year forecast. The information provided shows that 2017/18 test year actuals are expected to be much lower than forecast. Lower 2017/18 actual results exacerbate the increase in the O&M expense forecast for the 2019/20 test year compared to the actuals. Specifically, the 2019/20 test year forecast is about $23.5 million (or 21%) higher than 2017/18 fiscal year actuals].

Lower 2017/18 actual results are due in part to the implementation of restraint measures as discussed in the Section 3.1 overview. However, further analysis provided in Section 3.1.1 through 3.1.4 shows that certain forecast expenses also appear to be overstated when compared to historical trends.

Other specific observations are provided in the sections that follow.

3.1.1 Labour Costs

Labour costs represent the largest portion of SaskEnergy's O&M expense [about 68% of total O&M expense for the 2019/20 test year]. Actuals for the period from 2013 to 2015 (calendar) and 2015/16 to 2017/18 (fiscal year) show total Distribution Division full-time equivalent (FTE) positions range from 744 in 2017/18 to 797 in 2014. For the 2018/19 fiscal year SaskEnergy is forecasting an increase in FTE levels to 794,

[37] Prepared based on Mid-Application Update filed on November 26, 2018 as revised on December 3, 2018.

which is 50 FTEs higher than 2017/18 fiscal year actuals. SaskEnergy is forecasting a further increase to 805 FTEs for the 2019/20 test year.

Approximately 72% of SaskEnergy's workforce are in-scope employees and members of Unifor Local 649. SaskEnergy notes that the current Collective Bargaining Agreement was in effect until January 31, 2017 and continues to be under negotiation, and also notes that merit and economic increases for out-of-scope employees are in accordance with CIC guidelines for Crown sector management employees.[38] Under the current collective agreement, wage schedules increased by 2.0% effective February 1, 2013; 1.8% effective February 1, 2014; 1.9% effective February 1, 2015; and 1.6% effective February 1, 2016.[39]

Forecast labour costs included in the revenue requirement are influenced by the proportion of costs allocated to other business units as well as base salaries, overtime, standby pay and other labour cost drivers. Table 3-11 summarizes total and net labour actual costs from 2013 to 2015 (calendar) and 2015/16 to 2017/18 (fiscal); and also summarizes forecasts for 2018/19 and 2019/20 fiscal years. Table 3-11 notes the following material Labour expense changes between test year forecasts, fiscal year forecasts, and actual results:

- **Comparison of 2017/18 and 2019/20 Test Year Forecasts** - Net labour costs in the 2019/20 test year forecast are about $5.4 million (or 6.3%) **higher** than the 2017/18 test year forecast. Higher forecast expenses in the 2019/20 test year compared to 2017/18 mostly relate to higher base labour costs (which are partially offset by lower overtime costs).
- **Comparison of 2015/16, 2016/17 and 2017/18 Fiscal Year Actual Results -** Net labour costs for the 2016/17 fiscal year were $1.318 million (or 1.6%) **lower** than 2015/16 fiscal year actual net labour costs. This was due mainly to reductions in overtime and Holiday Extra Item/Vacation Pay. Net labour costs for the 2017/18 fiscal year **increased** by $0.687 million (or 0.8%) over 2016/17 fiscal year actual net labour costs due mainly to increases in overtime and Holiday Extra Item/Vacation Pay (offset by slight reduction in base labour costs). Overall, 2017/18 actuals were about $0.631 million (or 0.8%) **lower** compared to 2015/16 actuals. SaskEnergy notes that lower expenses mainly reflect vacancy and overtime management initiatives in response to restraint measures.[40]
- **Comparison of 2017/18 Actual Results and 2018/19 Fiscal Forecast –** There is a material **increase** in forecast net labour costs in 2018/19 compared to 2017/18 actuals, with a forecast $5.347 million (or 6.5%) increase mainly due to base labour cost increases.
- **Comparison of 2019/20 Fiscal Forecast to 2018/19 Fiscal Forecast** - There is a further $4.180 million (or 4.7%) **increase** in forecast 2019/20 net labour costs over forecast 2018/19 net labour costs. This increase is also mainly due to base labour cost increases.

[38] Page 21, 2018 Commodity and Delivery Service Rate Application.
[39] Appendix 1A, Page 51 of the 2013 through 2017 Collective Agreement available: http://unifor649.org/sites/www.unifor649.org/files/newsletter/file/se_-_collective_bargaining_agreement1_2.pdf [accessed on December 6, 2018].
[40] 1st Round Information Request 1 (c). 2018 Commodity and Delivery Service Rate Application.

The following is noted regarding changes in labour cost components:

- **Base Labour Costs**: Base labour costs are about 88% of total net labour cost. The forecast for the 2019/20 test year is about $6.174 million (or 8.2%) higher than the 2017/18 test year forecast.
    - **Increase in Average Base Labour Cost:** Table 3-12 shows that the increase in average base labour cost is about 4.8% in the 2019/20 test year compared to the 2017/18 test year forecast, or increased from $96,102/FTE to $100,677/FTE. This is an increase of $4,575/FTE that relates to the following items:
        - **Increase in Average Base Labour Cost:** The increase in average base labour cost represents about 58% (or $3.565 million) out of the $6.174 million total base labour increase.[41] SaskEnergy notes that although contractor conversion to full time equivalents "generates overall net savings for SaskEnergy as the cost per contractor is greater than the cost per full time equivalent,"[42] it increases the average base labour cost as the average labour cost per FTE for contractor conversion is higher than the average labour cost [the average labour cost per FTE for the FTEs transferred from contractors is $105,820 compared to the average net labour cost per FTE in 2017-18 of $96,504 or $100,677 for 2019/20 test year].[43]
        - **Salary Holdback Program:**[44] SaskEnergy also notes that "consistent with other Crowns, the Salary Holdback program has been expanded to include all out of scope employees beginning in 2019-20."[45] This also increases labour expense. SaskEnergy estimates the impact of the salary holdback program is about $1.3 million.[46]
    - **Increase in Number of FTEs:** The remaining $2.610 million increase is due to an increase in the number of FTEs [2019/20 test year FTEs are higher than 2017/18 test year by about 26 FTEs times average base labour cost at $100,677]. The increase in FTEs reflect contractor conversions to FTEs as discussed further below.
- **Overtime:** Overtime costs are the second largest component of net labour costs (after base labour costs) and represent about 7.3% of net labour costs for the 2019/20 test year. Table 3-11 shows a reduction in overtime costs in 2016/17 [$6.120 million] compared to 2015/16 [$7.601 million], and a slight increase in 2017/18 [$6.653 million] over 2016/17. However, overtime costs remain lower than pre-2016/17 actuals.

[41] 2017/18 test year FTEs at 779 times the increase in base labour cost of $4,575/FTE=$3.565 million/$6.174 million.
[42] 1st Round Information Request 3 (j), 2018 Commodity and Delivery Service Rate Application.
[43] 2nd Round Information Request 3 (j), 2018 Commodity and Delivery Service Rate Application.
[44] CIC 2016/17 Annual Report states that "Senior executive salary holdbacks are a portion of pay that is withheld, or placed at risk, subject to performance. It is based on both corporate and individual objectives and is determined by demonstrated results against those objectives." http://www.cicorp.sk.ca/+pub/Documents/2016-17_CIC_AR_nav.pdf [accessed on December 13, 2018].
[45] 1st Round Information Request 3 (j), 2018 Commodity and Delivery Service Rate Application.
[46] 2nd Round Information Request 3 (h), 2018 Commodity and Delivery Service Rate Application.

SaskEnergy notes that overtime management was one measure used to reduce labour costs, and includes overtime management as a productivity and efficiency measure for 2017/18[47], noting that overtime is "an important and necessary component of SaskEnergy's resourcing requirements to operate a safe, reliable system and provide customer responsive service," however, "there are instances where overtime can be avoided through changes to work practices and the resulting impact to customers is minimal. It is this type of overtime which SaskEnergy is working to reduce."[48]

As illustrated in Table 3-11, 2019/20 test year overtime costs are forecast to be $0.866 million (or 11.4%) lower compared to the 2017/18 test year. The 2019/20 test year forecast also appears to be reasonable compared to 2017/18 fiscal year actual costs [2017/18 fiscal year actuals are $6.653 million while the 2019/20 test year forecast is $6.724 million - or a 1% increase over two years].

[47] For example, see response to 1st Round Information Request 1 (c) and (e), 2018 Commodity and Delivery Service Rate Application.
[48] Tab 25, page 7 of 23. 2018 Commodity and Delivery Service Rate Application.

Table 3-11: Net Labour Costs ($000s)[49]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Gross LDC Labour	86,912	91,439	89,856	88,882	87,666	88,900	95,258	93,748	100,965	*7,217*	*7.7%*
less: Allocations to Non-Delivery Business	(5,588)	(5,592)	(5,923)	(5,570)	(5,672)	(6,219)	(7,231)	(6,965)	(8,757)	*(1,792)*	*25.7%*
Net Labour Costs	**81,324**	**85,847**	**83,933**	**83,312**	**81,994**	**82,681**	**88,028**	**86,783**	**92,208**	***5,425***	***6.3%***
Base Labour Costs	67,720	71,293	71,815	71,553	72,027	71,795	76,971	74,896	81,070	*6,174*	*8.2%*
Overtime	9,468	9,605	7,982	7,601	6,120	6,653	6,685	7,590	6,724	- *866*	*-11.4%*
Substitution	404	350	284	268	265	321	326	318	351	*33*	*10.4%*
Holiday Extra Item/Vacation Pay	1,094	1,876	1,172	1,141	870	1,125	1,127	1,212	1,148	- *64*	*-5.3%*
Premiums	117	107	91	79	85	83	82	88	108	*20*	*22.7%*
Standby	1,983	2,062	2,055	2,059	2,070	2,129	2,164	2,092	2,254	*162*	*7.7%*
Inconvenience Pay/Shift Differential	538	554	532	611	557	574	672	586	553	- *33*	*-5.6%*
Total Net Labour Costs	**81,324**	**85,847**	**83,933**	**83,312**	**81,994**	**82,681**	**88,028**	**86,783**	**92,208**	***5,425***	***6.3%***
Annual Change		4,523	(1,914)		(1,318)	687	5,347				
Annual Change, %		5.6%	-2.2%		-1.6%	0.8%	6.5%				

[49] Prepared based on information provided in Pre-Ask #2, 2018 Commodity and Delivery Service Rate Application. 2017/18 test year is from 1st Round Information Request 3 (a), 2017 Delivery Service Rate Application.

Table 3-12 shows that for the 2013 to 2015 (calendar) and 2015/16 to 2017/18 (fiscal) actual years FTEs ranged from 744 (2017/18) to 797 (2014). For the 2018/19 fiscal year, SaskEnergy is forecasting that FTE levels will increase to 794, which is 50 FTEs higher than 2017/18 fiscal year actuals. SaskEnergy is also forecasting a further increase to 805 FTEs in the 2019/20 test year.

Table 3-12: Average Labour Costs per Full Time Equivalent[50]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Base Labour Costs ($000s)	67,720	71,293	71,815	71,553	72,027	71,795	76,971	74,896	81,070	*6,174*	*8.2%*
Total Net Labour Costs ($000s)	81,324	85,847	83,933	83,312	81,994	82,681	88,028	86,783	92,208	*5,425*	*6.3%*
Full-Time Equivalents	773	797	782	775	762	744	794	779	805	*26*	*3.3%*
Avg Base Labour / FTE ($/FTE)	87,572	89,472	91,869	92,326	94,519	96,504	96,881	96,102	100,677	*4,575*	*4.8%*
Avg Net Labour / FTE ($/FTE)	105,164	107,737	107,370	107,500	107,598	111,137	110,797	111,354	114,509	*3,155*	*2.8%*
Annual Change		2,573	(367)		98	3,539	(340)				
Annual Change, %		2.4%	-0.3%		0.1%	3.3%	-0.3%				

SaskEnergy notes that the increase of 50 FTEs in the 2018/19 fiscal year over the 2017/18 fiscal year is attributable to vacancy management to meet short term net income targets, contractor conversion and field employee retention in remote locations and/or smaller communities in Saskatchewan. The increase in 2019/20 over 2018/19 is attributable to contractor conversions.[51]

- SaskEnergy notes that 16 out of 50 FTE additions in the 2018/19 fiscal year relate to field employee retention, 24 relate to vacancy management, and 10 relate to contractor conversions.[52] The following is noted regarding the 50 FTE additions in 2018/19:[53]
    - 32 FTEs (64%) are expected to be added for safety and reliability reasons;
    - 10 FTEs (20%) are due to contractor conversions for Information Technology Transformation;
    - 3 FTEs (6%) relate to capital investments;
    - 3 FTEs (4%) relate to increasing regulation; and
    - 2 FTEs (4%) are for other reasons (modernization and LOA external).
- The forecast increase in FTEs for 2019/20 test year include:[54]

[50] 1st Round Information Request 3 (i), 2018 Commodity and Delivery Service Rate Application. 2017/18 test year is from page 2, Tab 8 of 2017 Delivery Service Rate Application.
[51] 1st Round Information Request 3 (a), 2018 Commodity and Delivery Service Rate Application.
[52] 2nd Round Information Request 3 (a), 2018 Commodity and Delivery Service Rate Application.
[53] 2nd Round Information Request 3 (b), 2018 Commodity and Delivery Service Rate Application.
[54] 2nd Round Information Request 3 (b), 2018 Commodity and Delivery Service Rate Application. In the response SaskEnergy also notes that the application was based on 11 FTE additions, however, the final budget indicates 17 FTE increase for 2019/20.

- 10 FTEs due to contractor conversion for Information Technology Transformation;
- 4 FTEs for Engineering; and
- 3 FTEs for CAD Technologists.

SaskEnergy notes that contractor conversions started in 2018/19 and are anticipated to continue into 2019/20; contractor conversions will increase labour costs, however, "there will continue to be ongoing vacancy management and the cost per full time equivalent will be lower minimizing the overall impact".[55] SaskEnergy estimates that the cost per contractor is about $199,134 compared to about $105,820 per FTE.[56] This results in approximate savings of $93,000 per FTE conversion - or about $1.5 million savings "reflected in the contract services category of operating and maintenance expense".[57]

Table 3-13 shows labour costs adjusted for vacancies. There are 45 FTE vacancies forecast for the 2019/20 test year (or a 5.6% vacancy rate). This is higher than the actual vacancy rate for 2016/17 and 2017/18 actuals (5.0% and 4.6% respectively). FTEs net of vacancies are 760 for the 2019/20 test year, compared to 724 for 2016/17 and 710 for 2017/18. FTEs net of vacancies averaged 763 for 2013 through 2015/16 (actuals).

Table 3-13: Full-Time Equivalent Vacancies from 2012-15 (calendar) and 2016/17 to 2018/19 (fiscal)[58]

	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2019/20 Test Year Forecast
Full-Time Equivalents [FTEs]	773	797	782	775	762	744	794	805
Vacant FTEs	16	16	22	22	38	34	40	45
Calculated Vacancy Rate	2.1%	2.0%	2.8%	2.8%	5.0%	4.6%	5.0%	5.6%
Total Labour Cost before Vacancy Rate Adjustment	69,160	72,733	73,795	73,533	75,447	74,855	80,571	85,120
Vacancy Rate Adjustment	1,440	1,440	1,980	1,980	3,420	3,060	3,600	4,050
Total Labour Cost after Vacancy Rate Adjustment	67,720	71,293	71,815	71,553	72,027	71,795	76,971	81,070

Observations

The increase in base and net labour costs reflect an increase in the number of FTEs and an increase in the average labour costs.

SaskEnergy forecasts 50 FTE additions for the 2018/19 fiscal year and a further 11 additions for 2019/20 test year.[59]

[55] 1st Round Information Request 2 (f), 2018 Commodity and Delivery Service Rate Application.
[56] 2nd Round Information Request 3 (j), 2018 Commodity and Delivery Service Rate Application. 2nd Round Information Request 2 (h), 2018 Commodity and Delivery Service Rate Application.
[57] 2nd Round Information Request 3 (b), 2018 Commodity and Delivery Service Rate Application.
[58] Prepared based on information provided in Pre-Ask #4, 2018 Commodity and Delivery Service Rate Application.
[59] In response to 2nd Round Information Request 3 (b), 2018 Commodity and Delivery Service Rate Application, SaskEnergy notes that the application was based on 11 FTE additions, however, the final budget indicates 17 FTE increase for 2019/20.

- 32 FTEs (64% of 2018/19 additions) are being added for safety and reliability reasons; and 20 FTEs over 2018/19 and 2019/20 fiscal years are being added due to contractor conversion for Information Technology Transformation.[60]
- The total FTE forecast of 805 for the 2019/20 test year is much higher compared to recent actuals for the 2017/18 fiscal year (744 FTEs), but is only 1% (or 8 FTEs) higher than 2014 actuals (797 FTEs).[61] SaskEnergy has noted that lower FTEs for 2017/18 reflect vacancy management to meet short term net income targets.[62]

SaskEnergy notes that the cost per contractor is about $199,134[63] compared to about $105,820 for an FTE,[64] and consequently contractor conversions result in approximate savings of $93,000 per FTE conversion (or about $1.5 million savings) "reflected in the contract services category of operating and maintenance expense"[65]. However, the External Services category of O&M expense is also forecast to increase by about 18% [or $6.217 million] in 2018/19 over 2017/18 actuals, and further increase by 9.3% [$3.736 million] in 2019/20 over the 2018/19 forecast. This results in a $10 million (or 29%) increase over a two-year period.

The average net cost per FTE in the 2019/20 test year is about 2.8% higher than the 2017/18 test year. Table 3-12 shows a 1.5% average annual increase in average net labour cost over the two year period from 2017/18 fiscal year actuals to 2019/20 test year [increase from $111,137/FTE to $114,509/FTE].

Table 3-13 shows that for vacancy rate adjustments SaskEnergy used $90,000/FTE [$4.050 million divided by 45 vacant FTEs], while the average base labour cost per FTE is forecast to be $100,677. SaskEnergy notes that "most of the vacancies consistent to historic trend driven by bid lag and employee turnover are in-scope therefore a lower cost per FTE. In addition, field staff retention budgeted each year is difficult in smaller communities as the skill set required is limited in smaller communities."[66]

Table 3-13 also shows that SaskEnergy used a vacancy rate adjustment of $90,000/FTE for the 2017/18 fiscal year and previous year actuals. This is not consistent with the year over year increase in average labour costs as illustrated in Table 3-12. Using the average base labour cost of $100,677 (or $4.530 million) for the vacancy rate adjustment for the 45 vacant FTEs for 2019/20 would reduce total labour costs for the 2019/20 test year by about $0.480 million [$4.530 million less $4.050 million].

[60] 16 out of 50 FTE additions in the 2018/19 fiscal year relate to field employee retention, 24 relate to vacancy management and relate to 10 contractor conversion. All FTE additions for 2019/20 reflect contractor conversions.
[61] There were 760 FTEs net of vacancies for the 2019/20 test year compared to 724 for 2016/17 and 710 for 2017/18; and there was an average of 763 FTEs net of vacancies per year for the period from 2013 through 2015/16 actuals.
[62] For example, see response to 1st Round Information Request 1 (c), (d) and 3 (a).
[63] 2nd Round Information Request 2 (h), 2018 Commodity and Delivery Service Rate Application.
[64] 2nd Round Information Request 3 (j), 2018 Commodity and Delivery Service Rate Application.
[65] 2nd Round Information Request 3 (c), 2018 Commodity and Delivery Service Rate Application.
[66] 1st Round Information Request 3 (m), 2018 Commodity and Delivery Service Rate Application.

Recommendations

The vacancy rate adjustments should use the average base labour cost of $100,677 (or $4.530 million) for the 45 vacant FTEs for 2019/20. This would reduce the total labour cost for the 2019/20 test year by about $0.480 million [$4.530 million less $4.050 million]. The Consultant recommends that the labour cost for 2019/20 test year be reduced by $0.480 million to reflect a vacancy rate calculation using the average base labour cost.

In the consultant's view, SaskEnergy should be urged to provide further and better information regarding the transition of external contractor's to FTEs in its next application (i.e., the business case for these transitions and how this has reduced external services costs). Further and more detailed reporting on this will help to ensure transparency and provide the Panel and customers with better assurance that there are no adverse costs impacts to customers from contractor transition to FTEs.

3.1.2 Communication, Public Relations, Fees, Dues and Community Contributions

SaskEnergy provided information on O&M costs related to communication, public relations, fees, dues and community contributions. These cost areas include general advertising and marketing costs, safety advertising, energy efficiency programming and awareness costs, professional memberships and associations, sponsorships, training and conference registrations and scholarships. Table 3-14 provides a detailed breakdown of actual costs from 2013 to 2015 (calendar), and 2015/16 to 2017/18 (fiscal), as well as forecasts for 2018/19 and 2019/20 (fiscal).

- **Comparison of 2017/18 and 2019/20 Test Year Forecasts:** Total communication, public relations, fees, dues and community contribution expenses for the 2019/20 test year are forecast to be $7.967 million, which is a $0.465 million (or 6.2%) increase over the 2017/18 test year. Cost variances for the 2019/20 test year compared to the 2017/18 test year forecast relate primarily to the following expense areas:
    - A $0.202 million (or 33.5%) **increase** in spending on training and conferences;
    - A $0.191 million (or 9.6%) **increase** in energy efficiency programs and awareness expense;
    - A $0.156 million (or 22%) **increase** in professional memberships and dues;
    - A $0.157 million (or 6.3%) **reduction** in business, telephones, cellular and network.
- **Comparison of 2017/18 Fiscal Year Actuals to 2016/17 Fiscal Year Actuals:** Total communication, public relations, fees, dues and community contribution expenses for the 2017/18 fiscal year were about $0.623 million (or 10.2%) higher compared to the 2016/17 fiscal year primarily due to an increase in safety and awareness and energy efficiency and awareness programs, which were offset by a reduction in business, telephones, cellular and network expense.
- **Comparison of 2018/19 Fiscal Year Forecast to 2017/18 Fiscal Year Actuals:** Total expenses for the 2018/19 fiscal year are forecast to be $0.624 million (or 9.3%) higher compared

to 2017/18 actuals primarily due to forecast increases in spending on training and conferences (87% increase) and general advertising and marketing (101% increase), offset by a reduction in safety and awareness expense (31% reduction).

- **Comparison of 2019/20 Fiscal Year Forecast to 2018/19 Fiscal Year Forecast:** Total expenses for the 2019/20 fiscal year are forecast to be $0.632 million (or 8.6%) higher than the 2018/19 forecast primarily due to an increase in safety and awareness and energy efficiency programs.

Table 3-14: Communication, Public Relations, Fees, Dues and Community Contributions[67]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
General Advertising and Marketing	382	296	186	186	179	143	287	293	346	*53*	*18.1%*
Safety and Awareness	587	462	373	350	620	816	559	761	785	*24*	*3.2%*
Energy Efficiency Programs and Awareness	2,716	1,833	1,473	1,448	1,098	1,830	1,900	1,981	2,172	*191*	*9.6%*
Professional Memberships and Dues	711	717	674	723	739	736	879	708	864	*156*	*22.0%*
Sponsorships and Donations	1,219	983	427	342	330	411	432	454	463	*9*	*2.0%*
Scholarships	105	105	105	105	105	105	105	105	105	*0*	*0.0%*
Training and Conferences	605	804	321	299	388	407	763	603	805	*202*	*33.5%*
Damage Claims and Other	206	369	330	322	100	74	84	110	98	*(12)*	*(10.9%)*
Business, Telephones, Cellular and Network	2,224	2,509	2,189	2,149	2,531	2,188	2,325	2,487	2,330	*(157)*	*(6.3%)*
Total	**8,754**	**8,077**	**6,078**	**5,925**	**6,088**	**6,711**	**7,335**	**7,502**	**7,967**	***465***	***6.2%***
Annual Change		(677)	(1,999)		163	623	624				
Annual Change, %		-7.7%	-24.7%		2.8%	10.2%	9.3%				

[67] Prepared based on Pre-Ask #5, 2018 Commodity and Delivery Service Rate Application. 2017/18 test year is from 1st Round Information Request 5 (a), 2017 Delivery Service Rate Application.

SaskEnergy notes that fiscal restraint measures in 2015/16 and 2016/17 significantly reduced public relations costs as energy efficiency programs and corporate affairs initiatives were significantly reduced and/or deferred. However, safety awareness advertising continued to be a priority and did not decline in 2015/16 or 2016/17.[68] SaskEnergy also notes that "advertising focused on safety and awareness and energy efficiency programs is planned to be at normal levels in 2018-19 and 2019-20 therefore increasing by $1.0 million. Energy efficiency programs were very limited in 2017-18."[69]

The following has also been noted by SaskEnergy regarding spending increases in the cost categories reviewed in Table 3-14:

- Some cost categories see increases in 2018/19 and 2019/20 as "a higher net income was at the forefront for SaskEnergy" in 2016/17 and 2017/18 due to fiscal restraint measures; also training and conferences in 2016/17 and 2017/18 "were limited to mandatory front line workers required to provide customer service and operate our facilities across the province."[70]
- SaskEnergy "encourages advanced education in all areas applicable to future benefit for their staff and the company", therefore, there is a forecast increase in professional memberships and dues as the company will pay the annual cost associated with professional designations.
- SaskEnergy adheres to guidelines provided by CIC in 2012 for sponsorship and donations which is based on Imagine Canada's suggested level of giving to meet best practice standards for Canadian Caring Companies where "Imagine Canada recommends a setting a minimum level of 1% of net income" and current spending for SaskEnergy "is well below the maximum of 1%".[71]

Observations

The notable increase in Communication, Public Relations, Fees, Dues and Community Contributions related costs in the 2018/19 and 2019/20 fiscal years, relates to implementation of restraint measures in 2016/17 and 2017/18 fiscal years which reduced expenditures in certain cost areas.

During the 2017 Delivery Service Rate Application review, SaskEnergy noted that it was able to achieve lower costs in the 2016/17 fiscal year while maintaining "its commitment to never compromise the safety of its system, its employees or the public." [72]

Table 3-15 below shows total safety and awareness spending per customer for 2018/19 and 2019/20 compared to 2016/17 and 2017/18 actuals. The actual average cost per customer was at the $2.03 and $2.01 level for 2016/17 and 2017/18 – and is forecast to increase to $2.90 by the 2019/20 fiscal year. SaskEnergy notes that there is "an increased focus on regulatory compliance which results in additional costs to safety and awareness policies/programs"[73], however, no specific examples were provided.

[68] 1st Round Information Request 2 (i), 2018 Commodity and Delivery Service Rate Application.
[69] 1st Round Information Request 2 (b), 2018 Commodity and Delivery Service Rate Application.
[70] 1st Round Information Request 4 (b), 2018 Commodity and Delivery Service Rate Application.
[71] 1st Round Information Request 4 (c), 2018 Commodity and Delivery Service Rate Application.
[72] 1st Round Information Request 2 (e), 2017 Delivery Service Rate Application.
[73] 2nd Round Information Request 2 (c), 2018 Commodity and Delivery Service Rate Application.

Table 3-15: Total Safety and Awareness Average Cost Per Customer[74]

	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2019/20 Forecast
Total Safety and Awareness	794,754	794,594	915,179	1,167,546
Average # of Customers	390,886	394,592	398,434	402,069
Total Cost Per Customer	2.03	2.01	2.30	2.90

There are increases in professional memberships and dues as well as training and conferences. SaskEnergy notes that it "encourages advanced education in all areas applicable to future benefit for their staff and the company". However, restraint measures since 2015/16 have reduced spending in areas such as industry best practices for integrity programming, participation in key industry working groups, and other training and professional development initiatives.

Recommendations

In light of the environment of ongoing cost increases and rate pressures, it is recommended that SaskEnergy be advised to carefully review spending on safety and awareness as the cost per customer is forecast to continue to increase (from $2.01 in 2017/18 fiscal year actuals to $2.30 in 2018/19 forecast and further $2.90 in 2019/20 forecast).

Over the last several years, due to implementation of restraint measures, SaskEnergy was able to reduce costs related to professional memberships and dues as well as training and conferences. In light of the ongoing delivery rate increases related to ongoing safety and integrity spending requirements, SaskEnergy should be encouraged to carefully review its spending forecasts and to continue to find ways to avoid increases in areas of controllable costs such as professional memberships and dues and training and conferences (as well as discretionary areas of spending such as such as sponsorships and donations).[75]

3.1.3 Intercompany Allocations

Table 3-8 shows that intercompany allocations, included as an offset to the operating and maintenance costs, increase from $10.785 million for the 2017/18 test year forecast to $15.785 million for the 2019/20 test year forecast. This reduces the operating and maintenance cost increase impact by about one-third.[76]

The intercompany allocations for 2019/20 test year are also higher compared to 2017/18 fiscal year actuals [$15.785 million forecast in 2019/20 compared to $10.796 million in 2017/18 fiscal year].

Observations

[74] 2nd Round Information Request 2 (d), 2018 Commodity and Delivery Service Rate Application.
[75] For most utilities, sponsorship and donations are not included in utility's revenue requirement, but paid by the shareholder.
[76] Table 3-8 shows that without increase in intercompany allocations the total increase in 2019/20 test year over 2017/18 test year would be $15.314 million and increase in intercompany allocations reduces that to $10.316 million.

The following is noted regarding the intercompany allocations for the 2019/20 test year:[77]

- Slight adjustments to cost allocations reflect the "One Company, One Team" strategic mandate which includes consolidating and/or reallocating resources to lead, communicate, and collaborate to make the best business decisions for the consolidated entity.[78]
- The allocation of Health and Safety unit costs to the distribution division increased from 30% in 2017/18 to 50% in 2019/20. SaskEnergy notes that "for years, the focus of safety audits and employee safety and health meeting was TransGas" and "beginning in 2019/20 safety audits are expected to increase for the distribution division and become a higher priority than prior years."[79]
- The following new business units are included in the intercompany cost allocation: "Regina Area General", "Southeast Area General", "Southwest Area General" and "North Area General". SaskEnergy notes this is due to the "One Company, One Team" strategic mandate. SaskEnergy notes that there are no incremental costs associated with these new business units.[80]
- SaskEnergy notes that certain assets held by Bayhurst Energy Services Corporation (BESCO) were marketed for sale and were forecast to be sold by March 31, 2019 and "as per the 2019-20 Inter-Company allocation schedule shown in Tab 10, pages 22 and 23, there are no costs allocated to the Distribution Division from Bayhurst Gas Limited and Bayhurst Energy Services Corporation (BESCO)."[81] In the Mid-Application Update, SaskEnergy included reallocation of debt related to the Bayhurst subsidiary of $10.750 million to the LDC (see discussion in Section 3.5).

Recommendations

Intercompany allocations as reviewed above appear to be appropriate and reasonable. In the future, where there are material changes to the allocation percentages, or the methodology, where relevant, SaskEnergy should in its application review the details and rationale for the proposed change and any other alternatives considered. The consultant's report highlights areas where potential cross-subsidization occurs between subsidiaries (e.g., Corporate Capital Tax Calculation discussed in Section 3.4).

3.1.4 External Services

Table 3-8 shows that the External Services category of the O&M expense is forecast to increase by 18% [$6.217 million] in 2018/19 over 2017/18 actuals and increase a further 9.3% [$3.736 million] in 2019/20

[77] Summarized from responses to 1st Round Information Request 7 (a) through (c), and 2nd Round Information Request 5 (a) through (c), 2018 Commodity and Delivery Service Rate Application.
[78] The "One Company, One Team" strategic mandate "was developed pulling together management in distribution and transmission operations to strengthen communication, collaboration, and internal alignment. The focus was to have a workforce that is integrated and focused on a common mission. High levels of trust and accountability enable the free flow of information throughout the organization. Everyone is expected to demonstrate SaskEnergy's values, creating a work environment that is supportive and empowering."
[79] 1st Round Information Request 7(a)(ii).
[80] 1st Round Information Request 7(b); 2nd Round Information Request 5(b).
[81] 1st Round Information Request 7(c)(ii).

over 2018/19 forecast. This results in a $10 million (or 29%) increase over a two-year period. The forecast for the 2019/20 test year is also $2.321 million (or 5.6%) higher than the 2017/18 test year.

The following material increases are noted in external services expense:

- **Contract Services:** Forecast to increase from $25.826 million in the 2017/18 fiscal year (actuals) to $30.295 million in the 2018/19 fiscal year and $32.623 million in the 2019/20 fiscal year; or an overall $6.797 million (or 26%) increase in 2019/20 over 2017/18 actuals. The increase in Contract Services relates to the following[82]:
    - Hosting Services [$4.9 million];
    - Management of Change Initiative [$0.7 million];
    - Line Locating and Hydro Vac [$0.8 million]; and
    - Distribution Information Systems - Contractors for Change Management [$0.4 million].
- **Consulting Services:** Forecast to increase from $2.143 million in 2017/18 fiscal year actuals to $3.548 million in the 2018/19 fiscal year, and $4.368 million in the 2019/20 fiscal year; or an overall $2.225 million (or 104%) increase in 2019/20 over 2017/18 actuals. Key drivers for growth in Consulting Services are in the following areas:[83]
    - Legal Counsel ($0.5 million increase in 2018/19);
    - Land Acquisition and Public Awareness ($0.3 million increase in 2018/19 and further increase of $0.1 million in 2019/20);
    - Information Technology Transformation and Modernization ($0.2 million increase in 2018/19 and further increase of $0.5 million in 2019/20);
    - Staffing, Recruitment & Employee Relations ($0.2 million increase in 2018/19);
    - Safety & Awareness ($0.1 million increase in 2018/19 and further increase of $0.1 million in 2019/20);
    - Leadership Development Program ($0.1 million increase in 2019/20);
    - Depreciation Study ($0.1 million increase in 2018/19); and
    - Distribution Cost of Service Study ($0.1 million increase in 2019/20).

[82] 2nd Round Information Request 3 (g), 2018 Commodity and Delivery Service Rate Application.
[83] 1st Round Information Request 6 (e), 2018 Commodity and Delivery Service Rate Application.

Rationale for Transition to Hosting Services

A significant portion of the contract services cost increase relates to hosting services which entails the use of third party services to provide some or all of services that had been provided internally. This includes using third party data center facilities to host company-owned hardware, vendor provided support for applications, and vendor hardware and software support.[84]

SaskEnergy indicates that the move towards hosting services will provide for better workflow and decision-making that ensures that trusted information can be made securely available to staff, customers and stakeholders through integrated business processes and systems. This also fits with SaskEnergy's Business and Technology Optimizations strategic mandate. SaskEnergy notes that hosting's primary benefits are reliability, security and maintenance of software solutions that can be leveraged to make good business decisions and provide an appropriate level of customer service.[85]

An example of one transition to hosting services relates to the implementation of ClickSoftware as a new work management software installed to replace an aging, unsupported legacy system in March 2018.

- The previous legacy work management application was hosted at SaskEnergy Place and managed by the IT Operations department. However, SaskEnergy Place did not have the redundant infrastructure needed and was not capable of accommodating upgrades.
- SaskEnergy notes that it was determined that SaskTel was a better hosting solution. The drivers for the change to SaskTel hosting related to business needs for greater reliability (up time) and availability of the application. The annual cost for hosting this infrastructure at SaskTel is $441,528 for 2018/19 (compared to 2017/18 internal IT costs of $374,000 for Software Maintenance and $12,000 for contract analyst support).[86]

SaskEnergy's Customer Information Systems (CIS) solution has been hosted by a third party vendor (CGI) for the past five years. SaskEnergy notes that this model has proven successful in ensuring a reliable, secure and easily supported environment for these types of large, complex solutions. SaskEnergy also notes that in order to support Crown collaboration initiatives, SaskEnergy will be moving this CIS server infrastructure from CGI to SaskTel within the next 3 years.[87]

SaskEnergy notes that it has used a request for proposal process to select hosting services providers.[88]

Impact of Transition to Hosting Services on Capital and Operating Costs

Hosting costs are forecast to increase by approximately $5 million in 2019/20 compared to 2017/18. Costs relate to annual fees that are expected to increase on existing systems; and costs for solutions that are currently maintained on premises and that are planned to be upgraded.

[84] 2nd Round Information Request 2 (e), 2018 Commodity and Delivery Service Rate Application.
[85] 1st Round Information Request 6 (a), 2018 Commodity and Delivery Service Rate Application.
[86] 2nd Round Information Request 3 (c) and (d), 2018 Commodity and Delivery Service Rate Application.
[87] 2nd Round Information Request 3 (c), 2018 Commodity and Delivery Service Rate Application.
[88] 2nd Round Information Request 4 (a), 2018 Commodity and Delivery Service Rate Application.

- **Impact of Hosting Services on Capital versus Operating Costs:** Hosting involves external vendors and offsite systems. As the organization transitions to a hosting model capital requirements are expected to decrease and be offset by increasing annual operating costs for the services. Investments in the areas of Operations Hardware Lifecycle and Lifecycle Upgrades are expected to decrease as applications and supporting hardware are transitioned. The timing associated with these changes is dependent on organizational priorities.[89]
- **Impact of Hosting Services on FTEs and Contractor Counts:** SaskEnergy notes that business priorities will drive when applications are transitioned, and indicates that staffing counts are not expected to be reduced by the third party hosting of applications and may actually rise with the need for additional vendor and service level management. Increases in staff are expected to be offset by a reduction in contactors over time, as transitioning to a services based mode reduces the pressure for additional contract resources. SaskEnergy anticipates a reduction in contractor counts over the next five fiscal years, but is not able to provide a year over year projection at this time.[90]

External Services is also forecast to increase due to an increase in Office Services expense – a forecast cost of $0.722 million in 2019/20 compared to 2016/17 and 2017/18 actual results of $0.484 million and $0.411 million, respectively. SaskEnergy notes that this increase relates to copier maintenance as "the printer fleet has not been updated or refreshed for ten years and it is now imminent that SaskEnergy address this backlog."[91]

Observations

Overall Forecast External Service Costs

The 18% [$6.217 million] increase in External Services in 2018/19 over 2017/18 (actuals); and 9.3% [$3.736 million] increase in 2019/20 over 2018/19 (forecast) results in a 29% or ($10 million) increase over a two-year period. This is a significant increase [equal to the incremental revenue SaskEnergy is seeking from the 3.7% rate increase in delivery rates].

SaskEnergy notes that in the 2017/18 fiscal year the forecast External Services expenses were at $40.106 million, while the actuals came at $34.156 million, or $5.951 million (or 15%) lower than forecast.[92] This was mainly due to lower construction labour, vehicles and contracting [$2.6 million], information system contract analysts [$0.7 million], cathodic protection [$0.7 million], consulting costs [$0.7 million] and Geographical Information Systems [$0.3 million] costs results in actuals being lower than the forecast.[93]

[89] 2nd Round Information Request 3 (f), 2018 Commodity and Delivery Service Rate Application.
[90] 2nd Round Information Request 3 (e), 2018 Commodity and Delivery Service Rate Application.
[91] 1st Round Information Request 6 (l), 2018 Commodity and Delivery Service Rate Application.
[92] Tab 9, page 5.
[93] 1st Round Information Request 6 (d), 2018 Commodity and Delivery Service Rate Application.

Hosting Services

SaskEnergy states that the primary benefits of hosting services are reliability, security and maintenance of software solutions that can be leveraged to make good business decisions and provide an appropriate level of customer service.

The information provided indicates that hosting costs will be $5 million higher in 2019/20. The example provided by SaskEnergy shows that the annual cost for hosting the ClickSoftware application at SaskTel is $441,528 for the 2018/19 fiscal year compared to SaskEnergy's 2017/18 internal costs of $374,000 for Software Maintenance and $12,000 for contract analyst support. This is a 15% higher cost [$441,528 over $386,000]. This example suggests that SaskEnergy may be paying a 15% premium for "reliability, security and maintenance of software solutions" for this specific application. This example applied more broadly would suggest that the added cost of $5 million to replace work performed internally would be expected to reduce internal costs by approximately $4.25 million [$5 million less 15%]. However, the actual costs for other applications and extent to which there is any added premium for other applications is not known.

Related cost reductions that would offset the increase in hosting services are not specified or apparent in the 2019/20 test year. The following is specifically noted:

- SaskEnergy notes that staffing will not be reduced by the third party hosting of applications.
- Labour costs analysis reviewed in Section 3.1.1 shows an increase in total FTEs, including 20 FTE additions for the information system business unit due to transitioning of contractors.
- SaskEnergy estimates that the cost per FTE is lower compared to the cost per contractor by approximately $93,000 per FTE conversion (or about $1.5 million in cost savings). SaskEnergy indicates this reduction is "reflected in the contract services category of operating and maintenance expense," [94] however, this reduction is not apparent on review of the year-over-year change in contractor services.
    - Contractor services is forecast to increase from $25.826 million in the 2017/18 fiscal year (actuals), to $30.295 million in 2018/19 (forecast) and to $32.623 million in 2019/20 (forecast).
    - SaskEnergy notes an overall $6.797 million (or 26%) increase in 2019/20 over 2017/18 (actuals) related to Hosting Services [$4.9 million], Management of Change Initiative [$0.7 million], Line Locating and Hydro Vac [$0.8 million] and Distribution Information Systems - Contractors for Change Management [$0.4 million].[95]

Consulting services

SaskEnergy notes that the $1 million increase in the 2019/20 test year over the 2017/18 fiscal year relates primarily to consulting costs related to information technology transformation and modernization strategy that is planned to begin in 2019/20 with capital investment planned each year over the next five years.[96]

[94] 2nd Round Information Request 3 (b), 2018 Commodity and Delivery Service Rate Application.
[95] 2nd Round Information Request 3 (g), 2018 Commodity and Delivery Service Rate Application.
[96] 1st Round Information Request 2 (b) b), 2018 Commodity and Delivery Service Rate Application.

SaskEnergy also confirmed that the increase in information technology transformation and modernization is $0.2 million in 2018/19 and increases by a further $0.5 million in 2019/20[97]; and that this O&M cost will not extend beyond 2019/20[98]. This suggests that the timing of this cost will impact the revenue requirement in the test year [$0.5 million expense for 2019/20] but will not extend beyond the test year. This would not have ongoing impacts on rates and the next rate application revenue requirement should see a decrease related to the removal of this expense item.

Recommendations

As recommended in Section 3.1.1, and in order to provide greater clarity regarding the need and justification for these expenditures, it is recommended that SaskEnergy in future delivery rate applications provide greater disclosure regarding growth in expenditures related to Labour FTEs and expenditures in External Services. This disclosure should include details regarding the relationship between internal labour and external services cost forecasts, as well as any impacts related to changes in operations (e.g., the transition to hosting services).

3.2 TRANSPORTATION AND STORAGE EXPENSE

Delivery transportation service is provided by TransGas Limited (TransGas), a wholly owned subsidiary of SaskEnergy.[99] TransGas also owns and operates a non-regulated natural gas storage business integrated with the transmission pipeline system. SaskEnergy contracts with TransGas for storage service on behalf of its delivery customers. Delivery transportation expense includes the cost of transporting natural gas from the TransGas Energy Pool to SaskEnergy's distribution system pressure regulating stations.

Transportation and storage expense makes up approximately 17% of the total delivery revenue requirement in the 2019/20 test year, and is the second largest component of the revenue requirement after Operating and Maintenance Expense (see Table 3-1). For the 2019/20 test year, transportation and storage expense is forecast to be $53.919 million, which is $1.891 million higher compared to the 2017/18 test year.

The forecast expense for the 2018/19 fiscal year is about $2.367 million (or 4.7%) higher compared to 2017/18 actuals, reflecting an increase in transportation and storage rates effective May 1, 2018.[100] SaskEnergy is forecasting a further increase over 2018/19 forecast in the 2019/20 test year of $1.210 million (or 2.3%). SaskEnergy notes that the forecast increase for the 2019/20 test year includes a transportation and storage rate increase assumption of 4% effective April 1, 2019.[101]

[97] 1st Round Information Request 6 (e), 2018 Commodity and Delivery Service Rate Application.
[98] 1st Round Information Request 6 (f), 2018 Commodity and Delivery Service Rate Application.
[99] Page 7 of 2018 Commodity and Delivery Service Rate Application.
[100] Page 18 and Pre-ask #7. 2018 Commodity and Delivery Service Rate Application.
[101] 1st Round Information Request 9 (a), 2018 Commodity and Delivery Service Rate Application.

In response to interrogatories, SaskEnergy has indicated that the transportation expense for the 2019/20 test year has been underestimated due to an error in the calculation of contracted demand for transmission [for April 2019 to October 2019].[102]

Table 3-16 provides a summary of the year-to-year changes in the transportation and storage expense, including a forecast for the 2019/20 test year compared to the 2017/18 test year.

[102] Per the response to 2nd Round Information Request 7(b) the calculation of contracted demand for transportation used 555,000 GJ/day instead of 605,000 GJ/day. It is estimated by the Consultant that this results in an underestimating of transportation expense for 2019/20 test year of $1.7 million.[103] Schedule 4.1 from the 2018 Commodity and Delivery Service Rate Application, Schedule 1.1 from the 2017 Delivery Service Rate Application. 2015 Contracted Firm Deliverability (GJ/day) is corrected as per 1st Round Information Request 9 (b), 2018 Commodity and Delivery Service Rate Application.

Table 3-16: Comparison of Transportation and Storage Expense[103]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
Category	**2013 Actuals**	**2014 Actuals**	**2015 Actuals**	**2015/16 Actuals**	**2016/17 Actual**	**2017/18 Actual**	**2018/19 Forecast**	**Test Year Forecast from 2017 Application**	**2019/20 Forecast from Current Application**	***Change***	***Percent Change***
Transportation Costs	28,580	30,037	31,282	31,516	31,821	31,986	32,665	33,091	33,696	*605*	*1.8%*
Storage Costs	14,777	15,830	17,265	17,569	18,355	18,355	20,044	18,937	20,223	*1,286*	*6.8%*
Total	**43,357**	**45,867**	**48,547**	**49,085**	**50,176**	**50,342**	**52,709**	**52,028**	**53,919**	***1,891***	***3.6%***
Transportation Contracted Demand (GJ/day)	575,020	585,000	590,000	595,000	600,000	600,000	605,000	600,000	605,000	*5,000*	*0.8%*
Contracted Firm Deliverability (GJ/day)	382,838	383,244	391,478	393,217	393,217	393,217	393,217	394,194	393,217	*(977)*	*-0.2%*
Contract Storage Volume (PJs)	20.9	21.8	23.6	23.4	23.4	23.4	23.4	23.4	23.4	*0.0*	*0.0%*
Annual Change in Total Costs		2,510	2,680		1,091	166	2,367				
Annual Change, %		5.8%	5.8%		2.2%	0.3%	4.7%				

[103] Schedule 4.1 from the 2018 Commodity and Delivery Service Rate Application, Schedule 1.1 from the 2017 Delivery Service Rate Application. 2015 Contracted Firm Deliverability (GJ/day) is corrected as per 1st Round Information Request 9 (b), 2018 Commodity and Delivery Service Rate Application.

Table 3-17 illustrates transportation and storage rate changes since 2009 and forecast changes for the 2019/20 to 2020/21 fiscal years.

Table 3-17: Transportation and Storage Rate Changes[104]

Effective Date	L11 Delivery Transportation			Storage			
	Demand Charge, $ per GJ/d per month	% Change	Impact on Expenses, $million	Withdrawal Charge, $ per GJ/d per month	Capacity Charge, $ per GJ/d per month	% Change	Impact on Expenses, $million
February 1, 2009	$3.7976			$1.3943	$0.0295		
February 1, 2012	$4.0830	7.5%	$1.8	$1.6939	$0.0250	1.0%	$0.2
March 1, 2013	$4.1405	1.4%	$0.3	$1.8026	$0.0266	6.4%	$0.8
January 1, 2014	$4.2813	3.4%	$1.0	$1.8855	$0.0278	4.6%	$0.7
January 1, 2015	$4.4269	3.4%	$1.0	$1.9579	$0.0289	3.9%	$0.7
January 1, 2016	$4.4269	0.0%	$0.0	$1.7955	$0.0352	5.8%	$1.0
January 1, 2017	$4.4269	0.0%	$0.0	$1.7955	$0.0352	0.0%	$0.0
May 1, 2018	$4.6881	5.9%	$1.9	$1.9014	$0.0373	5.9%	$0.8
April 1, 2019	$4.8764	4.0%	$1.3	$1.9775	$0.0388	4.0%	$0.8
2020/21 Forecast		3% - 5%	$1.1 - $1.8			3% - 5%	$0.8 - $1.3
2021/22 Forecast		3% - 5%	$1.1 - $1.8			3% - 5%	$0.8 - $1.3

TranGas' transportation and storage rates are subject to provincial cabinet approval.[105] TransGas last adjusted transportation and storage rates effective May 1, 2018, with a 5.9% increase in rates. Transportation and storage expense forecasts for the 2019/20 test year included in the Original Application assumed a further 4% rate increase effective April 1, 2019.[106] However, this assumption was updated in the Mid-Application Update as indicated below.

Transportation contracted demand is determined based on a 1-in-20 peak day design criterion in consideration of severe winter weather in Saskatchewan. SaskEnergy indicates this design criterion is within the typical range used by other natural gas utilities in Canada and the United States, who use a range of "1 in 5 design" to a "coldest ever design".[107] While a lower peak day design criterion may reduce costs; this must be weighed against the requirement to provide continued safe and reliable service. SaskEnergy's 2019/20 test year forecast contracted demand is 605,000 GJs/day.

SaskEnergy states that there is "limited ability to reduce this cost or achieve greater efficiencies" relating to the transportation cost noting that the amount of firm delivery transportation contracted by SaskEnergy is based on peak day requirement forecast for the coldest day in the last 20 years and contracting for less

[104] Prepared based on Pre-Ask #7. The impact from April 1, 2019 increase is estimated based on information provided in 2nd Round Information Request 7 (b).
[105] Page 18, 2018 Commodity and Delivery Service Rate Application.
[106] 1st Round Information Request 9 (a), 2018 Commodity and Delivery Service Rate Application.
[107] Page 37, 2018 Commodity and Delivery Service Rate Application. SaskEnergy's design criteria assumes there is a 1 in 20 probability that the design peak day load will be reached during the upcoming winter.

firm delivery transportation than that identified in peak day forecast "could jeopardize SaskEnergy's ability to meet our customer's requirements on the coldest day of the year".[108]

SaskEnergy also notes that "on the coldest days, storage provides up to two thirds of the natural gas used by customers to heat their homes and businesses" and "pipeline systems can become constrained during severe weather and contracted storage capacity is necessary to ensure the continued delivery of reliable natural gas to SaskEnergy customers."[109]

Mid Application Update

The Mid-Application Update reflects an increase in assumed TransGas rates – the Original Application assumed a 4.0% increase in TransGas rates effective April 1, 2019, while the Mid-Application Update assumes a 5.5% increase in TransGas rates effective April 1, 2019.[110] This further increases transportation and storage expense by $0.778 million for the 2019/20 test year as illustrated in Table 3-18. The Mid-Application Update does not indicate a specific rationale for the revised TransGas rate increase assumption.

Table 3-18: Transportation and Storage Costs for 2019/20 Test Year: Original Application and Mid-Application Update ($000)[111]

Category	Original Application	Mid-Application Update	*Change*	*Change %*
Transportation Costs	33,696	34,182	*486*	*1.4%*
Storage Costs	20,223	20,515	*292*	*1.4%*
Total	53,919	54,697	*778*	*1.4%*
Transportation Contracted Demand (GJ/day)	605,000	605,000	*0*	*0.0%*
Contracted Firm Deliverability (GJ/day)	393,217	393,217	*0*	*0.0%*
Contract Storage Volume (PJs)	23.4	23.4	*0*	*0.0%*

Observations

Total transportation and storage costs for the 2019/20 test year are forecast to increase by about 5.1% over the 2017/18 test year forecast, including the impact of the Mid-Application Update.

The forecast for the 2019/20 test year is also about $4.355 million (or 8.7%) higher than the most recent actuals for the 2017/18 fiscal year, reflecting TransGas transportation and storage rate increases at 5.9% effective May 1, 2018, and a 5.5% forecast increase effective April 1, 2019.

[108] 1st Round Information Request 9 (c), 2018 Commodity and Delivery Service Rate Application.
[109] Page 18, 2018 Commodity and Delivery Service Rate Application.
[110] November 26, 2018 Mid-Application update, page 4.
[111] Prepared based on Schedule 4.1 of Mid-Application Update.

The following is noted regarding transportation and storage expense for the 2019/20 test year:

- **Transportation and Storage Rates:** TransGas has an exclusive legislated franchise to transport natural gas within the Province of Saskatchewan. TransGas transportation and storage rates are subject to Provincial Cabinet approval, and transportation and storage rates are outside the scope of the Panel's terms of reference. It is understood that the assumed TransGas rates effective April 1, 2019 are not yet approved by Provincial Cabinet. These assumed rates impact the rates proposed in this Application. The following is noted regarding the forecast assumptions in prior SaskEnergy Delivery Rate applications:

    - **2016 Commodity and Delivery Service Rate Application**: For the 2016/17 test year revenue requirement, SaskEnergy forecast an increase of 3.5% in transportation and storage rates effective January 1, 2017. As illustrated in Table 3-18, this forecast increase did not occur.

    - **2017 Delivery Service Rate Application**: For the 2017/18 test year revenue requirement, SaskEnergy forecast a 5% increase in transportation and storage rates effective April 1, 2018. The actual increase was 5.9% effective May 1, 2018. As illustrated in Table 3-2, the forecast transportation and storage expenses for the 2017/18 test year were close [about 0.76% difference] to the actuals for the same period.

    - **2018 Commodity and Delivery Service Rate Application**: For the 2019/20 test year revenue requirement, SaskEnergy forecast a 5.5% increase in transportation and storage rates effective April 1, 2019. This would increase transportation and storage expense by $2.9 million.

- **Peak Day Design Criterion:** SaskEnergy maintains a 1-in-20 peak day design criterion for transportation contracts that has been reviewed during previous rate applications. SaskEnergy's design criterion appears to be consistent with normal utility practice. Transportation Contracted Demand for the 2019/20 test year is forecast to increase to 605,000 MJ/day from 600,000 MJ/day in the 2017/18 test year and 2017/18 actuals. This is estimated by the Consultant to add about $0.3 million to transportation expense.[112]

- **Contracted Storage Volumes:** SaskEnergy notes that "on the coldest days, storage provides up to two thirds of the natural gas used by customers to heat their homes and businesses" and "pipeline systems can become constrained during severe weather and contracted storage capacity is necessary to ensure the continued delivery of reliable natural gas to SaskEnergy customers."[113] Table 3-16 shows that the last change in contracted storage volumes was in 2015/16; no change is assumed for the 2019/20 test year.

[112] Estimated based on transportation demand rate at $4.9467/GJ and 5,000 MJ/day/month incremental transportation contracted demand.
[113] Page 18, 2018 Commodity and Delivery Service Rate Application.

- **Competitiveness:** In the 2016 Commodity and Delivery Service Rate Application review, SaskEnergy noted that it does not track other interprovincial transportation tariffs, as TransGas has the franchise within Saskatchewan and is the only available option for SaskEnergy;[114] and that TransGas monitors the rates charged by peer companies to assess their competitiveness, and "TransGas rates remain competitive with peer companies".[115]

SaskEnergy indicates that there was a miscalculation of transportation expense for the 2019/20 test year. The Consultant estimates that this results in an approximate $1.7 million underestimation of transportation expense for the test year.[116] It is understood that the overall rate increase being sought is not being adjusted to take this underestimation into consideration. The Mid-Application Update assumes a 5.5% increase in transportation and storage rates (about $2.9 million). It is estimated that over half of this increase will be offset by the impact of the underestimation in the calculation of 2019/20 test year transportation and storage expense, i.e., $1.7 million (or about 58%) of total increase of $2.9 million.

Recommendations

The Consultant recommends that the Panel take into consideration the miscalculation noted by SaskEnergy in the calculation of transportation expense as it considers the impact of other recommended changes to SaskEnergy's total revenue requirement.

It is understood that TransGas transportation and storage rates are subject to Provincial Cabinet approval, and transportation and storage rates are outside the scope of the Panel's Terms of Reference. However, the Consultant reiterates its comments from previous reports, i.e., in light of the environment of ongoing expected rate increases related to spending on safety and integrity, and in order for the Panel to be able to assess the reasonableness of all elements of the revenue requirement, there is a need to better understand these matters as they impact SaskEnergy's revenue requirement and rates. The Consultant urges that prior to the next Delivery Service Rate Application, the Panel and SaskEnergy coordinate to determine what information can be made available to ensure greater transparency and to provide the Panel, and the public, with better assurance that these costs are reasonable and prudently incurred.

3.3 DEPRECIATION EXPENSE

SaskEnergy's current depreciation rates are based on a study completed by Gannett Fleming in 2013.[117] The effects of changes in depreciation rates in the 2013 study were reviewed by the Panel as part of the 2014 Financial Update filing. Table 3-19 summarizes actual depreciation expense from 2013 to 2015 calendar years and 2015/16 to 2017/18 fiscal years, and the forecast expense for 2018/19 and 2019/20 fiscal years, and also shows a comparison of the forecast for the 2019/20 test year (April to March) to 2017/18 test year (November to October).

[114] Page 18 of 2018 Commodity and Delivery Service Rate Application. 1st Round Information Request 8 (f) from 2016 Commodity and Delivery Service Rate Application.
[115] 2nd Round Information Request 6 (d) from 2016 Commodity and Delivery Service Rate Application.
[116] Estimated based on transportation demand rate at $4.9467/GJ and 50,000 MJ/day/month for April through October of 2019 [605,000 – 555,000].[117] Tab 13 and 1st Round Information Request 10 (a), 2018 Commodity and Delivery Service Rate Application.
[117] Tab 13 and 1st Round Information Request 10 (a), 2018 Commodity and Delivery Service Rate Application.

The 2019/20 test year forecast for depreciation expense is $1.979 million (or 4.3%) higher than the 2017/18 test year forecast. Major forecast increases in depreciation expense are in the following asset categories:

- Mains is forecast to be about $1.388 million (or 11.5%) higher;
- Building and Improvements is forecast to be about $0.883 million (or 38.8%) higher; and
- Information System Assets is forecast to be about $0.652 million (or 6.9%) higher.

SaskEnergy states that depreciation expense continues to trend higher "as capital expenditures for both new customer connections and investment in system integrity infrastructure renewal programs have accelerated" and that this increase in annual investment in safety and infrastructure renewal is "expected to continue into the future and is comparable to other utilities across North America."[118]

[118] Page 27. 2018 Commodity and Delivery Service Rate Application.

Table 3-19: Depreciation Expense ($000s)[119]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Distribution Plant											
Land Rights	227	246	256	259	257	257	257	257	257	*0*	*0.0%*
Building and Site Improvements	2,462	1,365	1,700	1,780	2,132	2,365	2,490	2,225	2,648	*423*	*19.0%*
Services	6,908	9,140	10,424	10,661	11,819	12,333	12,856	13,297	13,322	*25*	*0.2%*
Meter and Regulator Installations	1,339	1,442	1,575	1,612	1,742	1,849	2,151	2,114	2,288	*174*	*8.2%*
Mains	8,804	9,393	10,094	10,255	10,971	11,402	12,322	12,068	13,456	*1,388*	*11.5%*
Measuring and Regulating Equipment	3,141	1,730	1,421	1,437	1,483	1,528	1,604	1,563	1,706	*143*	*9.1%*
Meters	1,376	1,793	2,704	2,815	3,003	3,186	3,214	3,411	3,419	*8*	*0.2%*
Other Distribution Equipment	321	453	460	479	554	634	690	818	734	*(84)*	*(10.3%)*
Sub-total	**24,578**	**25,562**	**28,634**	**29,298**	**31,960**	**33,552**	**35,584**	**35,752**	**37,830**	***2,077***	***5.8%***
Amortization of Customer Contributions	(4,232)	(4,843)	(5,200)	(5,326)	(5,770)	(6,212)	(6,663)	(6,417)	(7,183)	*(766)*	*11.9%*
Sub-total	**20,346**	**20,719**	**23,434**	**23,972**	**26,190**	**27,340**	**28,921**	**29,335**	**30,647**	**1,311**	***4.5%***
General Plant											
Building and Improvements	1,473	1,550	1,612	1,609	1,588	1,579	2,905	2,276	3,159	*883*	*38.8%*
Office Furniture and Equipment	496	491	486	484	519	495	489	500	520	*20*	*4.0%*
Transportation Vehicles	2,524	2,756	2,723	2,726	2,113	2,350	1,682	2,476	1,789	*(687)*	*(27.7%)*
Heavy Work Equipment	532	618	679	704	1,121	1,096	1,102	1,326	1,117	*(209)*	*(15.8%)*
Tools and Equipment	489	542	581	596	714	726	750	789	798	*9*	*1.1%*
Information System Assets	4,087	6,593	6,476	6,426	7,014	7,466	9,549	9,504	10,156	*652*	*6.9%*
Sub-total	**9,601**	**12,550**	**12,557**	**12,546**	**13,069**	**13,711**	**16,477**	**16,872**	**17,539**	***668***	***4.0%***
Total Depreciation Expense	**29,947**	**33,269**	**35,990**	**36,517**	**39,260**	**41,051**	**45,398**	**46,207**	**48,186**	***1,979***	***4.3%***
Annual Change in Total		3,322	2,721		2,743	1,791	4,347				
Annual Change, %		11.1%	8.2%		7.5%	4.6%	10.6%				

[119] Schedule 4.3 from the 2018 Commodity and Delivery Service Rate Application and Schedule 1.3 from the 2017 Delivery Service Rate Application. The November 26, 2018 Mid-application update filing shows an increase of $0.219 million in the depreciation expense forecast for 2019/20 test year.

SaskEnergy has confirmed that year over year increases in depreciation expense are driven by increases in property, plant and equipment and not changes to depreciation rates or methods.[120]

SaskEnergy uses a mid-year approach for the calculation of depreciation expense. New distribution assets coming into service at the beginning of the year begin depreciating in October, and new distribution assets coming into service in the last half of the year begin depreciating in the month of in-service. SaskEnergy notes that this method of deprecation "dates back to the Company's former fiscal year of January 1st to December 31st and was meant to smooth out depreciation over a year where spending was traditionally lighter in the first half of the year with more capital expenditures incurred later in the year." SaskEnergy also states that it will review this depreciation method and its continued applicability with the change in the fiscal year.[121]

SaskEnergy's depreciation rates are determined through an independent review of the existing assets, asset acquisitions and asset retirements and this review is "undertaken every five years or when most reasonable to do so."[122] A new study was planned for 2015, deferred due to the implementation of restraint measures in 2015,[123] and was initially expected to be completed before March 31, 2018.[124] SaskEnergy engaged an external consultant to conduct a new depreciation study during the 2018/19 fiscal year. The study is in progress and SaskEnergy is working with the consultant to validate, finalize and implement the results.[125] SaskEnergy notes that the depreciation study is expected to be completed and implemented before the end of the 2018/19 fiscal year.[126]

Depreciation expense for the test year also includes $4.347 million in expense for depreciation of decommissioning assets. SaskEnergy notes that the calculation of depreciation expense for decommissioning assets does not use the same depreciation rates as plant in service and the "depreciation rates for decommissioning assets are determined based on a statistical determination of the percentage of cost of retiring the associated asset".[127] SaskEnergy notes that the new depreciation study does include "a review of the rates that factor in the determination of the decommissioning assets and liabilities."[128]

Depreciation expense is offset by $7.183 million related to amortization of customer contributions.[129] SaskEnergy notes that the amortization of customer contributions are calculated monthly using an annual 3% amortization rate. Unlike plant in service, SaskEnergy does not report customer contributions by asset account.[130]

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[120] 1st Round Information Request 10 (a), 2018 Commodity and Delivery Service Rate Application.
[121] 1st Round Information Request 10 (c), 2018 Commodity and Delivery Service Rate Application.
[122] 1st Round Information Request 11 (c), 2017 Delivery Service Rate Application.
[123] 1st Round Information Request 11 (b), 2017 Delivery Service Rate Application.
[124] 2nd Round Information Request 11 (a), 2017 Delivery Service Rate Application.
[125] Tab 13, page 1. 1st Round Information Request 10 (b) notes that "the current engagement with the external consultant is still ongoing. It is unknown as to the length of time this study will take to complete, implement, test and finalize. As such, it cannot be assessed at this time as to whether further updates can be provided prior to November."
[126] 2nd Round Information Request 8 (c), 2018 Commodity and Delivery Service Rate Application.
[127] 1st Round Information Request 10 (f), 2018 Commodity and Delivery Service Rate Application.
[128] 2nd Round Information Request 8 (b), 2018 Commodity and Delivery Service Rate Application.
[129] Pre-ask #9, 2018 Commodity and Delivery Service Rate Application.
[130] 1st Round Information Request 10 (e), 2018 Commodity and Delivery Service Rate Application.

Mid Application Update

The Revised Mid-Application Update includes an increase in depreciation expense that reflects an increase in depreciation expense related to Transportation Vehicles due to an error in the Original Application which underestimated depreciation expense for this asset category. This increased depreciation expense for the 2019/20 test year by $0.219 million.[131]

Observations

Depreciation expense is forecast to increase by 8% annually (or $3.0 million/year on average). The increase in depreciation expense in the 2017/18 test year (over the 2016/17 test year) was the largest share of the 2017/18 test year revenue requirement increase [$4.077 million, (or about 47%), of the total revenue requirement change from 2016/17 test year to 2017/18 test year]. In the current application, depreciation expense in the 2019/20 test year is forecast to increase by 4.3% (or $1.979 million) over the 2017/18 test year. This is about 9% of the total increase in revenue requirement in 2019/20 over the 2017/18 test year.

The 8% annual average increase in depreciation expense experienced since the last depreciation study in 2013, and as forecast to continue through the forecast years, puts pressure on customer rates in the near term and potentially over the longer term.

Table 3-19 shows that about 64% of total net depreciation expense [net of amortization of customer contributions] relates to distribution plant. New improvements and infrastructure may have longer service lives compared to existing assets that are being replaced.[132] In this regard, extending service lives through ongoing system integrity programs may reduce annual depreciation expense related to new capital investments; and ensuring depreciation rates match the useful lives of new or improved assets in service may help to mitigate related rate impacts.

The new depreciation study being undertaking by an external consultant was not available to inform this Application. The study is expected to be completed before March 31, 2019.[133]

Recommendations

In the Consultant's view, the depreciation expense for the test year appears to be reasonable. It is recommended that the new depreciation study, along with the corporation's response to the study, be filed with the Panel when completed and prior to the next delivery rate application.

3.4 TAX EXPENSE

SaskEnergy's tax expense consists of corporate capital tax and grants in lieu of taxes:

[131] November 26, 2018 Mid-Application update, page 6.
[132] 1st Round Information Request 9(c) and (d) 2016 Commodity and Delivery Service Rate Application.
[133] 2nd Round Information Request 11 (a), 2017 Delivery Service Rate Application.

- Corporate capital tax is paid to the Province of Saskatchewan. It is calculated at 0.6% of capital invested in excess of $10 million, and in accordance with the formula, and deductions and allowances are prescribed by *The Saskatchewan Corporation Capital Tax Act*.[134]
- SaskEnergy is generally exempt from property taxes on its infrastructure; however, SaskEnergy pays grants in lieu of taxes where it purchases existing infrastructure that had a previous property tax obligation. SaskEnergy notes that in the 2018-19 Provincial Budget, the provincial government expanded the grants-in-lieu program and it now includes all owned, non-linear real estate assets.[135]

Table 3-20 summarizes forecast tax expense and indicates that it is $7.362 million for the 2019/20 test year. This represents an increase over the 2017/18 test year of $1.414 million (or 23.8%).

Table 3-20: Tax Expense ($000s)[136]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Corporate Capital Tax	4,191	4,177	4,370	4,514	4,725	5,242	6,081	5,734	6,987	*1,253*	*21.9%*
Grants in Lieu of Taxes	151	168	199	199	213	239	420	214	375	*161*	*75.2%*
Total Taxes	**4,342**	**4,345**	**4,569**	**4,713**	**4,938**	**5,481**	**6,501**	**5,948**	**7,362**	***1,414***	***23.8%***
Annual Change		3	224		225	543	1,020				
Annual Change, %		0.1%	5.2%		4.8%	11.0%	18.6%				

SaskEnergy is forecasting grants in lieu of taxes at $0.375 million for the 2019/20 test year which is $0.161 million higher than the 2017/18 test year. SaskEnergy notes that the increase in grants in lieu of taxes in 2018-19 and 2019-20 compared to 2017-18 actuals is due to higher tax notices received from the City of Prince Albert, the City of Regina, and the City of Weyburn.[137]

Corporate tax expense is forecast at $6.987 million for the 2019/20 test year which is $1.253 million (or 21.9%) higher than the 2017/18 test year. As illustrated in Table 3-21, corporate tax is forecast to increase due to increases in Taxable Paid up Capital. The following is specifically noted:

- Taxable Paid up Capital is forecast to increase by 16% in 2018/19 over the 2017/18 fiscal year resulting in a $0.839 million increase in forecast tax expense.
- Taxable Paid up Capital is forecast to increase by a further 15% in 2019/20 over 2018/19 resulting in a $0.907 million increase in forecast tax expense.

[134] Page 28, 2018 Commodity and Delivery Service Rate Application.
[135] Ibid.
[136] Schedule 4.4 of 2018 Commodity and Delivery Service Rate Application and Schedule 1.4 of 2017 Delivery Service Rate Application. In the Mid-Application update from November 26, 2018 total tax expense for 2019/20 test year changed to $7.270 million from $7.362 million.
[137] 1st Round Information Request 12(a), 2018 Commodity and Delivery Service Rate Application.

SaskEnergy notes that "[t]he increase in corporate capital tax in 2019-20 forecast over 2018-19 Forecast and 2017-18 actuals is because of significantly higher capital expenditures and therefore significantly higher debt. SaskEnergy Incorporated (our consolidated entity) plans to spend up to $345 million dollars in 2019-20 driving the significant increase in total debt. The LDC corporate capital tax calculation includes total debt from our consolidated entity not just the LDC subsidiary company."[138]

The following has been noted by SaskEnergy in response to information requests regarding the calculation of corporate tax expense:

- "The 2019-20 fiscal year corporate capital tax includes expenses beyond those attributable only for the Distribution Division. Those expenses are SaskEnergy Incorporated (consolidate entity) total debt and our Holdings division equity and equity advances."[139]
- Loans and Advances of $1,576 million in the corporate tax calculation include $72 million for Holdco Equity Advances and $739 million for SaskEnergy Incorporated Subsidiary Debt to net Loans and Advances for SaskEnergy at $765 million.[140]
- "The distribution division administers the total debt on behalf of all subsidiary companies of SaskEnergy Incorporated" and "within the corporate capital tax calculation, there is a considerable investment allowance and a standard exemption provided to the distribution division to offset the debt used to finance all of SaskEnergy Incorporated's subsidiary companies."[141]
- Based on information provided by SaskEnergy, the corporate tax calculation after removal of Holdco equity advances and subsidiary debt is estimated to be $5.807 million compared to the $6.987 million total corporate tax (a reduction of $1.180 million).[142]

Table 3-21 reviews the calculation of forecast corporate capital tax expense provided by SaskEnergy for 2018/19 and 2019/20 and compares this to actuals for 2016/17 and 2017/18.

[138] 1st Round Information Request 12 (b), 2018 Commodity and Delivery Service Rate Application.
[139] 1st round Information Request 12 (e), 2018 Commodity and Delivery Service Rate Application.
[140] 1st Round Information Request 12 (d), 2018 Commodity and Delivery Service Rate Application.
[141] 2nd Round Information Request 10 (a), 2018 Commodity and Delivery Service Rate Application.
[142] 2nd Round Information Request 10 (b), 2018 Commodity and Delivery Service Rate Application.

Table 3-21: Corporate Tax Expense Forecast Compared to Actuals ($000s)[143]

	Actuals		2018 Application			
	2016/17 Actuals	2017/18 Actuals	2018/19 Fiscal Year Forecast	Incr. over 2017/18	2019/20 Fiscal Year Forecast	Incr. over 2018/19
Net Book Value	1,023,455	1,099,944	1,204,287	9%	1,323,817	10%
Less Undepreciated Capital Cost	655,880	706,848	781,777	11%	885,190	13%
Income Tax deduction	367,575	393,096	422,510	7%	438,627	4%
Retained Earnings and Equity	392,738	465,178	519,658	12%	548,130	5%
Loans and Advances	1,288,690	1,337,817	1,440,754	8%	1,576,054	9%
Interest Payable	10,769	11,601	12,620	9%	16,056	27%
Less: Income Tax Deduction	-367,575	-393,096	-422,510	7%	-438,627	4%
Total Paid up capital	1,324,622	1,421,501	1,550,521	9%	1,701,613	10%
Less: Standard Exemption	-10,788	-10,762	-10,788	0%	-10,788	0%
Total Paid up capital	1,313,834	1,410,739	1,539,733	9%	1,690,825	10%
Less: Investment Allowance	-526,281	-537,043	-526,281	-2%	-526,281	0%
Taxable Paid up Capital	**787,553**	**873,697**	**1,013,452**	**16%**	**1,164,544**	**15%**
Rate	0.6%	0.6%	0.6%	0%	0.6%	0%
Forecast Tax Expense	**4,725**	**5,242**	**6,081**	**16%**	**6,987**	**15%**

The net book value used for the corporate capital tax calculation in Table 3-21 [$1,324 million] is higher compared to the net book value included in the rate base shown in Table 3-33 [$1,038 million, before Mid-Application Update]. Under IFRS, SaskEnergy recognises customer contributions as revenues in the year received, while for regulatory purposes customer contributions are included as an offset to plant in-service. SaskEnergy notes that the difference between net book value in the corporate tax calculation and plant in service is due to the accounting framework used, and the most significant difference between the two accounting frameworks relates to the treatment of customer contributions. SaskEnergy indicates that customer contributions are not included in the corporate tax calculations.[144]

Based on information provided by SaskEnergy, if corporate tax is calculated excluding customer contributions, the total corporate tax expense forecast included in the Application would be $6.427 million compared to the $6.987 million (a reduction of $0.560 million).[145]

Mid Application Update

The Revised Mid-Application Update includes an overall reduction in tax expense compared to the Original Application by $0.092 million. This reflects a $0.191 million increase in Grants in Lieu of Taxes offset by a $0.283 million reduction in corporate capital tax. The increase in Grants in Lieu of Taxes reflects updated

[143] Prepared based on Pre-Ask #10, 2018 Commodity and Delivery Service Rate Application.
[144] 1st Round Information Request 12 (c), 2018 Commodity and Delivery Service Rate Application.
[145] 2nd Round Information Request 10 (c), 2018 Commodity and Delivery Service Rate Application.

tax notices received from rural municipalities, and the reduction in corporate capital tax reflects lower net capital investments in the 2019/20 fiscal year compared to the forecast included in the application.[146]

Observations

The increase in tax expense in the 2019/20 test year over 2017/18 test year is about 6% of the total revenue requirement increase.

For the 2018/19 fiscal year, SaskEnergy forecast a $1.020 million (or 18.6%) increase in tax expenses over 2017/18 actuals, and a further $0.861 million (or 13%) increase in 2019/20 over the 2018/19 forecast. The forecast increases in 2018/19 and 2019/20 are much higher compared to the historical trend. As illustrated in Table 3-20, the actual annual year over year increase in tax expense was $0.03 million (or 0.1%) in 2014 over 2013 actuals, $0.224 million (or 5.2%) in 2015 over 2014 actuals, $0.225 million (or 4.8%) in 2016/17 fiscal year over the 2015/16 actuals, and $0.543 million (or 11%) in 2017/18 compared to the 2016/17 actuals.

The 2019-20 fiscal year corporate capital tax includes expenses beyond those attributable only for the Distribution Division, i.e., includes SaskEnergy Incorporated (consolidated entity) total debt and Holdings division equity and equity advances.[147]

- Loans and Advances make up the majority of Taxable Paid up Capital included in the corporate tax calculation. More than half of Loans and Advances included in the corporate tax calculation are for Holdco Equity Advances and SaskEnergy Incorporated Subsidiary Debt. Only $765 million of the total $1,576 million [or 48.5%] of loans and advances in 2019/20 fiscal year forecast relates to the SaskEnergy Distribution Division.[148]
- SaskEnergy notes that the "distribution division administers the total debt on behalf of all subsidiary companies of SaskEnergy Incorporated" and "within the corporate capital tax calculation, there is a considerable investment allowance and a standard exemption provided to the distribution division to offset the debt used to finance all of SaskEnergy Incorporated's subsidiary companies."[149]
- Based on information provided, corporate tax calculated for only the Distribution Division would be $5.807 million compared to the $6.987 million total corporate tax, or a reduction of $1.180 million (see Table 3-22).[150]

Under IFRS, SaskEnergy recognises customer contributions as revenues in the year received [recognized as income], while for regulatory purposes customer contributions are included as an offset to plant in-service [with relevant adjustments to the plant in-service, accumulated depreciation and depreciation expense].

[146] November 26, 2018 Mid-Application update, page 7.
[147] 1st Round Information Request 12 (e), 2018 Commodity and Delivery Service Rate Application.
[148] 1st Round Information Request 12 (d), 2018 Commodity and Delivery Service Rate Application.
[149] 2nd Round Information Request 10 (a), 2018 Commodity and Delivery Service Rate Application.
[150] 2nd Round Information Request 10 (b), 2018 Commodity and Delivery Service Rate Application.

- The net book value in Table 3-21 is $1,324 million which is higher than the net book value of $1,038 million included in rate base as shown in Table 3-33 [before the Mid-Application Update]. The difference is $286 million. SaskEnergy notes that the most significant difference between the two approaches relates to the treatment of customer contributions [Pre-ask #8 shows the net book value of customer contributions by end of 2019/20 is $238 million which is about 83% of the difference between the two numbers].[151]
- By using an approach that does not recognize customer contributions in corporate tax calculations, SaskEnergy's paid-up capital for corporate capital tax calculation purposes includes a portion of investment already recovered from customers. Not recognizing customer contributions in the calculation of paid up capital increases SaskEnergy's taxable base that informs SaskEnergy's revenue requirement.
- Information available from SaskEnergy indicates that corporate tax calculated excluding customer contributions would be $6.427 million compared to the $6.987 million total corporate tax [or a reduction of $0.560 million (see Table 3-22)].[152]

Table 3-22: Comparison of Corporate Tax Expense Calculations ($000s)[153]

	2019/20 Fiscal Year Forecast	Removal of Loans and Advances for Holdco and subsidiaries [2nd Round Information Request 10 (b)]		Net Book Value and UCC Net of Customer Contributions [2nd Round Information Request 10 (b)]	
		2019/20 Fiscal Year Forecast	Change	2019/20 Fiscal Year Forecast	Change
	A	**B**	**C=B-A**	**D**	**E=D-A**
Net Book Value	1,323,817	1,323,817	0	1,176,753	-147,064
Less Undepreciated Capital Cost	885,190	885,190	0	644,727	-240,463
Income Tax deduction	438,627	438,627	0	532,026	93,399
Retained Earnings and Equity	548,130	424,426	-123,704	548,130	0
Loans and Advances	1,576,054	976,742	-599,312	1,576,054	0
Interest Payable	16,056	16,056	0	16,056	0
Less: Income Tax Deduction	-438,627	-438,627	0	-532,026	-93,399
Total Paid up capital	1,701,613	978,597	-723,016	1,608,214	-93,399
Less: Standard Exemption	-10,788	-10,788	0	-10,788	0
Total Paid up capital	1,690,825	967,809	-723,016	1,597,426	-93,399
Less: Investment Allowance	-526,281	0	526,281	-526,281	0
Taxable Paid up Capital	**1,164,544**	**967,809**	**-196,735**	**1,071,145**	**-93,399**
Rate	0.6%	0.6%	0.0%	0.6%	0.0%
Calculated Tax Expense	**6,987**	**5,807**	**-1,180**	**6,427**	**-560**

[151] 1st Round Information Request 12 (c), 2018 Commodity and Delivery Service Rate Application.
[152] 2nd Round Information Request 10 (c), 2018 Commodity and Delivery Service Rate Application.
[153] Prepared based 2nd Round Information Request 10 (b) and (c), 2018 Commodity and Delivery Service Rate Application.

Recommendations The information provided by SaskEnergy indicates that the corporate capital tax expense calculation includes amounts related to subsidiaries other than the Distribution Division – which raises material fairness concerns for SaskEnergy customers.

Based on the information provided by SaskEnergy, removal of the portion of loans and advances related to subsidiaries other than the Distribution Division would result in an estimated reduction in the revenue requirement for the 2019/20 test year of $1.180 million. The Panel should take this into consideration in its deliberations regarding recommended rates for the 2019/20 test year. Should the Panel not consider a reduction in forecast 2019/20 corporate tax expense to be appropriate, the consultant recommends that the Panel direct SaskEnergy to provide further clarifications regarding the basis for including loans and advances related to subsidiaries other the Distribution Division in the corporate tax calculation in order to better understand the basis for SaskEnergy's approach and to ensure that the methods used by SaskEnergy are appropriate and fair for customers.

The Consultant also recommends that SaskEnergy review and report to the Provincial Government on the impact that the accounting treatment for customer contributions has on corporate capital tax calculations, about $0.560 million as estimated by SaskEnergy, and update the Panel in the next rate application.

3.5 INTEREST EXPENSE

SaskEnergy incurs interest expense primarily to finance its capital and infrastructure requirements. SaskEnergy's interest expense includes financing costs for bank indebtedness (short-term debt); interest on notes payable to the holdings division (long-term debt); accretion expense; and amortization of deferred charges. This is offset by sinking fund earnings, capitalized interest and interest allocated to the commodity cost of gas. SaskEnergy notes that it conducts its borrowings through the provincial government and access to debt at a lower cost than it would achieve on a standalone basis.[154]

In the Original Application, the total interest expense forecast for 2019/20 was $31.450 million an increase of $4.569 million (or 17%) over the 2017/18 test year forecast, and $6.752 million (27.3%) higher than the most recent actuals for 2017/18 fiscal year.

The Mid-Application Update includes an overall reduction in interest expense compared to the Original Application, based on a $1.307 million increase in long-term debt interest expense offset by a $2.124 million reduction in short-term debt interest expense. SaskEnergy notes that the increase in long-term debt interest expense reflects higher than forecast new borrowing in the 2019/20 fiscal year [increase in borrowing from $75 million in the Original Application to $100 million in the Mid-Application Update]; and the overall reduction in short term interest expense reflects lower net capital investments compared to the forecast included in the Original Application. Accretion expense also increases by $0.004 million.[155]

Table 3-23 compares the interest expense included in the Original Application to the interest expense in Mid-Application Update.

[154] Page 28, 2018 Commodity and Delivery Service Rate Application.
[155] November 26, 2018 Mid-Application update, page 8.

Table 3-23: Comparison of Interest Expense for 2019/20 Test Year: Original Filing compared to Mid-Application Update ($000s)[156]

	Original Application	Mid-Application Update	*Change*	*Change %*
Interest on Notes Payable to Holdings Division	26,289	27,596	1,307	5.0%
Interest on Bank Indebtedness	4,880	2,756	(2,124)	-43.5%
Accretion Expense	3,096	3,100	4	0.1%
Amortization of Deferred Charges	227	227	0	0.0%
Sinking Fund Earnings	(2,361)	(2,361)	0	0.0%
Capitalized Interest	(234)	(234)	0	0.0%
Interest Allocated to Commodity Cost of Gas	(446)	(446)	0	0.0%
Total	**31,450**	**30,638**	**-812**	**-2.6%**

Considering the significant changes in long-term and short-term debt interest expenses as illustrated in Table 3-23, the analysis for the 2019/20 test year in this section is based on the information included in the Mid-Application Update.

Table 3-24 summarizes actual interest expense from 2013 to 2017/18, provides the forecast for 2018/19 and 2019/20 and compares the 2019/20 test year forecast to the 2017/18 test year. The total interest expense forecast for 2019/20 is $30.638 million, an increase of **$3.756 million (or 14%)** over the 2017/18 test year forecast. The forecast for the 2019/20 fiscal year is also **$5.940 million (24.1%)** higher than the most recent actuals for the 2017/18 fiscal year.

The following is noted regarding the annual year over year changes in interest expense:

- The total actual interest expense for the 2016/17 fiscal year was **$0.746 million (or 3.4%) higher** than 2015/16 actuals;
- The total actual interest expense for the 2017/18 fiscal year was **$1.938 million (or 8.5%) higher** than 2016/17 actuals;
- The total interest expense for the 2018/19 fiscal year is forecast to be **$1.937 million (or 7.8%) higher** than 2017/18 actuals;
- The total interest expense for the 2019/20 fiscal year is forecast to be **$4.003 million (or 15.0%) higher** compared to the 2018/19 forecast.

[156] Schedule 4.5. 2018 Mid-Application update.

Table 3-24: Interest Expense ($000s)[157]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Interest on Notes Payable to Holdings Division	15,881	18,111	20,071	20,601	21,047	22,489	23,641	24,067	27,596	3,529	*14.7%*
Interest on Bank Indebtedness	1,800	1,729	1,065	949	952	1,194	2,287	2,472	2,756	284	*11.5%*
Accretion Expense	1,778	1,921	2,027	2,051	2,066	2,428	2,694	2,750	3,100	350	*12.7%*
Amortization of Deferred Charges	23	150	259	267	243	250	230	205	227	22	*10.7%*
Sinking Fund Earnings	(1,658)	(1,416)	(2,203)	(1,281)	(1,085)	(978)	(1,743)	(1,948)	(2,361)	(413)	*21.2%*
Capitalized Interest	(877)	(616)	(143)	(183)	(144)	(350)	(148)	(244)	(234)	10	*(4.1%)*
Interest Allocated to Commodity Cost of Gas	(503)	(361)	(378)	(390)	(319)	(335)	(326)	(420)	(446)	(26)	*6.2%*
Total	**16,445**	**19,518**	**20,699**	**22,014**	**22,760**	**24,698**	**26,635**	**26,882**	**30,638**	**3,756**	***14.0%***
Annual Change		3,073	1,181		746	1,938	1,937				
Annual Change, %		18.7%	6.1%		3.4%	8.5%	7.8%				

[157] Schedule 4.5 of November 26, 2018 Mid-Application Update and Schedule 1.5 of 2017 Delivery Service Rate Application.

Table 3-25 summarizes forecast long-term and short-term average outstanding debt. The following is noted regarding the annual changes in long-term and short-term average outstanding debt balances:

- Outstanding long-term debt balances in 2014 were 22.5% higher than 2013, and in 2015 were 21.4% higher than 2014. Short-term debt balances were 0.7% lower in 2014 compared to 2013, and 13.9% higher in 2015 compared to 2014. This indicates higher long-term borrowing compared to short term borrowing over the 2013-2015 period. SaskEnergy noted that investment related to property, plant and equipment and higher dividends in 2015 necessitated higher borrowing levels in 2015.[158]
- In the 2016/17 fiscal year, long-term debt balances increased by 4.2% over 2015/16 actuals, while short-term debt balances increased by 7.8%. In the 2017/18 fiscal year, the long-term debt balances increased by 12.8% (or $51.463 million) over 2016/17 actuals, while short-term debt balances decreased by $35.809 million (or -22.8%). During the 2016 Commodity and Delivery Service Rate Application review, SaskEnergy noted that it intended to gradually transition the Corporation closer to industry comparable standards related to the percentage of long-term assets financed with long-term debt in order to provide a more sustainable financing approach that more closely matched asset lives with debt terms.[159]
- In the 2018/19 fiscal year, long-term debt balances are forecast to increase by 8.1% (or $36.493 million) over 2017/18 actuals, while short-term debt balances are forecast to increase by 33.7% (or $40.970 million), bringing the 2018/19 short-term balance to the 2016/17 actual level. In the 2019/20 fiscal year, the long-term debt balances are forecast to further increase by 18.4% (or $90.074 million) over the 2018/19 forecast, and short-term debt balances are forecast to decrease by 22.6% (or $36.780 million) over the 2018/19 forecast. This results in a $126.567 million increase in long-term debt balances in the 2019/20 fiscal year over 2017/18 actuals [28% increase], and a $4.190 million increase in short-term balances in the 2019/20 fiscal year over 2017/18 actuals [3.5% increase].

SaskEnergy notes that revenues peak in winter months and decline in warmer months and that this trend creates periods where SaskEnergy requires access to short-term financing, as well as short-term investing, both of which are transacted through the Ministry of Finance.[160] In the 2019/20 test year, the share of low cost short-term debt is forecast to be 18%, which is a large decrease from the 2017/18 test year forecast of 28%. The share of short-term debt from the total debt was an average of 35% for the 2013-2015 actuals and 26% for the 2015/16 through 2017/18 fiscal year.

[158] 1st Round Information Request, 10(g). 2016 Commodity and Delivery Service Rate Application.
[159] 1st Round Information Request, 10(c) from 2016 Commodity and Delivery Service Rate Application.
[160] Page 28, 2018 Commodity and Delivery Service Rate Application.

Table 3-25: Forecast Long-Term and Short-Term Average Outstanding Debt ($000s)[161]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Long-Term Debt											
Average Outstanding Long-term Debt	258,252	316,465	384,043	384,905	400,969	452,432	488,925	470,730	578,999	*108,269*	*23.0%*
Long-Term Debt Percentage	61%	66%	67%	73%	72%	79%	75%	72%	82%	*10.4%*	*14.6%*
Average Interest Rate	5.52%	5.32%	4.72%	5.09%	5.04%	4.81%	4.53%	4.74%	4.40%	*(0.3%)*	*(7.2%)*
Short-Term Debt											
Average Outstanding Short-term Debt	166,239	165,048	187,995	145,842	157,229	121,420	162,390	185,494	125,610	*(59,884)*	*(32.3%)*
Short-Term Debt Percentage	39%	34%	33%	27%	28%	21%	25%	28%	18%	*(10.4%)*	*(36.9%)*
Average Interest Rate	1.08%	1.05%	0.57%	0.65%	0.61%	0.98%	1.41%	1.33%	2.19%	*0.9%*	*64.7%*
Total Average Outstanding Debt	**424,491**	**481,513**	**572,038**	**530,747**	**558,198**	**573,852**	**651,315**	**656,224**	**704,609**	**48,385**	**7.4%**
Annual Change in Long-Term Debt		58,213	67,578		16,064	51,463	36,493				
Annual Change, %		22.5%	21.4%		4.2%	12.8%	8.1%				
Annual Change in Short-Term Debt		(1,191)	22,947		11,387	(35,809)	40,970				
Annual Change, %		-0.7%	13.9%		7.8%	-22.8%	33.7%				

[161] Prepared based on information available from page 3, Tab 14 of 2017 Delivery Service Rate Application and Tab 14 of 2018 Commodity and Delivery Service Rate Application as updated on December 3, 2018 for Mid-Application Update. The average outstanding balance of long-term debt of $578.999 million appears to not reconcile to the information provided by SaskEnergy reflected in Table 3-27 and 3-28 [total outstanding balance of $654.721 million less debt retirement fund at $65.602 million results in $589.119 million compared to $578.999 million shown in the table].

The following is specifically noted regarding key drivers underlying interest expense:

Short-Term Debt

As summarized in Table 3-24, interest expense related to short-term debt is forecast to increase by $0.284 million in 2019/20 compared to the 2017/18 test year.

- The average outstanding balance of short-term debt is forecast to decrease by $59.884 million (or 32.3%) in 2019/20 compared to the 2017/18 test year forecast. This results in a $1.3 million reduction in interest expense [$59.884 million times 2.19% average rate]. In the Mid-Application Update, SaskEnergy notes lower net capital investments compared to the forecast included in the Original Application, as well as a shift to higher long-term debt, reduced the short-term debt requirement. [162]
- The average interest rate for short-term debt is forecast to increase from 1.33% in the 2017/18 test year to 2.19% in 2019/20 test year resulting in a $1.6 million increase in interest expense. The reduction of $1.3 million due to lower short-term debt balance is offset by $1.6 million due to higher interest expense and results in a $0.3 million increase in short-term interest expense.
- SaskEnergy notes that short-term debt interest rate forecasts are based on the average of Bank of Montreal, Bank of Nova Scotia, Royal Bank, TD Bank and CIBC forecast for three month Treasury bills and 10 year Government of Canada Bonds, adjusted for the Province of Saskatchewan's credit spread.[163] As illustrated in Table 3-25, the average interest rate for short-term debt is forecast to increase from 0.65% in 2015/16, 0.61% in 2016/17 and 0.98% in 2017/18 actuals, to 1.41% in the 2018/19 fiscal year and 2.19% in the 2019/20 fiscal year.
- Table 3-26 below provides the calculation of short-term interest expense.

[162] 1st Round Information Request 11(b), 2018 Commodity and Delivery Service Rate Application. In the Original Application, SaskEnergy noted that "net capital investment ranges from $94 million to $100 million between 2013 actual and 2017-18 actual. Capital investment increases to $147.1 million in 2018-19 and $150.5 million in 2019-20. Long Term borrowings address $115 million of that capital investment over those two years with the remainder financed through existing cash from operations and short term borrowings."
[163] Page 3, Tab 14 of 2018 Commodity and Delivery Service Rate Application.

Table 3-26: Short-Term Debt Interest Expense Calculation for 2019/20 Test Year ($000)[164]

Month	Short-term Debt, $000	Interest Rate	Interest Expense
Apr/2019	156,497	1.98%	259
May/2019	72,915	1.98%	121
Jun/2019	94,349	1.98%	156
Jul/2019	99,172	2.14%	177
Aug/2019	104,222	2.14%	186
Sep/2019	116,327	2.14%	208
Oct/2019	147,534	2.25%	277
Nov/2019	143,708	2.25%	270
Dec/2019	163,804	2.25%	308
Jan/2020	139,047	2.33%	270
Feb/2020	135,332	2.33%	263
Mar/2020	134,417	2.33%	261
Av. Balance	125,610		
Total Expense			2,756
Average Rate		2.19%	

Long-Term Debt

As summarized in Table 3-24, interest expense related to long-term debt is forecast to increase by $3.529 million in 2019/20 compared to the 2017/18 test year.

- The outstanding balance of long-term debt is forecast to increase by $108.269 million (or 23%) in 2019/20 compared to the 2017/18 test year forecast. This results in a $4.8 million increase in interest expense [$108.269 million times 4.40% average rate]. SaskEnergy notes that higher capital investment in 2018/19 and 2019/20 drives the required increase in borrowing.[165] The long-term debt outstanding balance in the Mid-Application Update is $33.667 million higher compared to the Original Application. SaskEnergy notes that this is due to a higher long-term debt issue forecast for 2019 as well as reallocation of debt related to the Bayhurst subsidiary.[166]
- The average interest rate for long-term debt is forecast to decrease by 0.34% (from 4.74% for the 2017/18 test year to 4.40% for the 2019/20 test year) as shown in Table 3-25. This results in a $1.6 million decrease in interest expense [i.e., $1.6 reduction in interest expense due to lower average interest rate]. This is partly due to the fact that actual interest rates were lower compared

[164] 2nd Round Information Request 9(b) as Revised on December 3, 2018 for Mid-Application Update.
[165] Also, see 1st Round Information Request 11(f), 2018 Commodity and Delivery Service Rate Application.
[166] In email confirmation from December 4, 2018 SaskEnergy noted that when the Bayhurst subsidiary was sold, the long debt term debt was reallocated evenly between LDC and TransGas as it could not be repaid earlier than the maturity date.

to the forecast included in the 2017/18 test year. Specifically, in the 2017 Delivery Service Rate Application SaskEnergy forecast $75 million borrowing at a 4.39% interest rate, while actual borrowing was $50 million at a 3.30% interest rate.[167] The higher sinking fund earnings in the 2019/20 test year compared to the 2017/18 test year also reduced the average interest rate [information on sinking fund earnings is provided below].

Table 3-27 illustrates the existing and forecast long-term debt outstanding balances and interest expenses.

Table 3-27: Current and Forecast Long-Term Debt[168]

Debt Item	Issue Date	Maturity Date	Outstanding Balance, $000	Interest Rate	Interest Expense
Bond #34	Dec/1998	Mar/2029	25,000	5.75%	1,438
Bond #35	Mar/1999	Mar/2029	25,000	5.60%	1,400
Bond #36	May/2000	May/2020	11,814	6.67%	788
Bond #37	Jun/2000	Jun/2020	13,572	6.70%	909
Bond #38	Jul/2000	Jul/2020	8,585	6.57%	564
Bond #40	Aug/2001	Sep/2031	50,000	6.40%	3,200
Bond #52	Nov/2008	Jun/2040	75,000	5.19%	3,893
Bond #56	Mar/2012	Feb/2042	25,000	3.40%	850
Bond #57-1	Jan/2014	Jun/2045	50,000	3.90%	1,950
Bond #57-2	Jan/2014	Jun/2045	50,000	3.90%	1,950
Bond #58	Mar/2014	Jun/2024	50,000	3.20%	1,600
Bond #60	Feb/2015	Jun/2045	20,750	3.90%	809
Bond #63	Oct/2016	Dec/2046	50,000	2.75%	1,375
Bond #65	May/2017	Jun/2048	50,000	3.30%	1,650
Bond #65B	May/2018	Jun/2048	50,000	3.30%	1,650
Forecast	May/2019	May/2049	100,000	3.89%	3,570
Total			**654,721**	**4.21%**	**27,596**

Sinking Fund Payments [or Debt Retirement Fund]

SaskEnergy is legislatively required to maintain sinking funds related to its long-term debt. Debt issues in excess of five years carry a mandatory sinking fund payment. These payments are made to the Ministry of Finance and it is the Ministry that manages the sinking fund investments. SaskEnergy notes that it estimates sinking fund earning amounts each year based on the prior year's actual results and market conditions.[169]

[167] 1st Round Information Request 11(e), 2018 Commodity and Delivery Service Rate Application. SaskEnergy estimates that the impact of lower borrowing and lower interest rate would be $0.547 million for the 2017/18 test year.
[168] Prepared based on Pre-Ask #11 as updated on December 3, 2018 for Mid-Application Update.
[169] 1st Round Information Request 11 (l), 2018 Commodity and Delivery Service Rate Application.

Table 3-28 illustrates the debt retirement fund earnings for the most recent actual years and the forecast for the 2018/19 fiscal year, as well as the forecast for the 2019/20 test year in comparison to the 2017/18 test year.

For the 2015 actual calendar year, the average yield was at 5.2%; this declined to 3.0% in the 2015/16 fiscal year, to 2.3% in 2016/17 fiscal year and to 1.9% in 2017/18 fiscal year. The forecast for the 2018/19 fiscal year is 3.0%, and the forecast for the 2019/20 test year is 3.6% (which is slightly higher than the 2017/18 test year forecast at 3.5%). The sinking fund earnings are included as an offset to the long-term debt interest expense which reduces the average cost of debt.

Table 3-28: Debt Retirement Fund Earnings ($000)[170]

	Calendar	Fiscal Year [Apr 1 to March 31]				Nov 1 to Oct 31	April 1 to March 31
	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast	2019/20 Test Year Forecast
Debt Retirement Fund Balances	42,601	43,406	47,289	50,760	57,261	55,033	65,062
Debt Retirement Fund Earnings	2,203	1,281	1,085	978	1,743	1,948	2,361
Average Yield	5.2%	3.0%	2.3%	1.9%	3.0%	3.5%	3.6%

Accretion Expense

Accretion expense was introduced as a line item in interest expense in the June 2014 Financial Update. Accretion expense is a periodic annual expense that is recognized when updating the present value of future asset decommissioning liabilities using a discounted cash flows approach.

SaskEnergy notes that accretion expense is directly related to the former negative salvage value previously included in depreciation expense; however, International Financial Reporting Standards (IFRS) require that it be reported as a component of interest expense.[171] As illustrated in Table 3-29, the forecast cost for the 2019/20 test year is $3.100 million (about 12.7% higher than the 2017/18 test year forecast). As illustrated in Table 3-29, actual accretion expense increased from $2.066 million in 2016/17 to $2.428 million in 2017/18. Accretion expense is forecast to increase to $2.694 million in 2018/19, and to about $3.100 million in 2019/20. This is an approximate 50% increase over the three year period [from 2016/17 to 2019/20]. These changes reflect an increase in the forecast discount rate and the Present Value of Estimated Decommissioning Liabilities.

[170] 1st Round Information Request 11 (k) from 2018 Commodity and Delivery Service Rate Application and 1st Round Information Request 12 (j) from 2017 Delivery Service Rate Application.
[171] Page 3-4, 2014 Delivery Service Rate Financial Update.

Table 3-29: Accretion Expense ($000)[172]

	Calendar	Fiscal Year [Apr 1 to March 31]				Nov 1 to Oct 31	April 1 to March 31
	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast	2019/20 Test Year Forecast
Present Value of Estimated Decomissioning Liability	83,300	104,300	100,089	100,428	100,743	119,600	101,135
Discount Rate	2.40%	2.00%	2.06%	2.42%	2.67%	2.30%	3.06%
Accretion Expense	2,030	2,050	2,066	2,428	2,694	2,750	3,096
Annual change			0.8%	17.5%	11.0%		

Amortization of Deferred Charges

The Amortization of Deferred Charges included in interest expense is forecast to be $0.227 million for the 2019/20 test year as shown in Table 3-24. This is about $0.022 million (or 10.7%) higher than 2017/18 test year.

Capitalized Interest

The Capitalized Interest forecast for the 2019/20 test year is $0.234 million – about $0.01 million (or 4.1%) lower than the 2017/18 test year as shown in Table 3-24. The 2019/20 forecast is also $0.350 million lower than the 2017/18 fiscal year actuals. SaskEnergy states that the material reduction in capitalized interest in 2019/20 compared to the most recent actuals for 2017/18 is mainly due to the assumption that future capital investment will not compound in work in process similar to what happened in 2017/18; and distribution capital that is subject to capitalized interest is usually standard as per the actual results shown in 2015 through to 2016/17.[173]

Interest Allocated to Commodity Cost of Gas

Interest Allocated to Commodity Cost of Gas is forecast to be $0.446 million for the 2019/20 test year – about $0.026 million (or 6.2% higher) than 2017/18 test year as shown in Table 3-24.

Observations

During the review of SaskEnergy's 2017 Delivery Service Rate Application, it was noted that SaskEnergy test year interest rate forecasts have tended to be higher than actual results which has benefited SaskEnergy.[174] The information provided by SaskEnergy shows that the actual interest expense for the

[172] 1st Round Information Request 11 (j) from 2018 Commodity and Delivery Service Rate Application and 1st Round Information Request 12 (i) from 2017 Delivery Service Rate Application.
[173] 1st Round Information Request 11 (h) from 2018 Commodity and Delivery Service Rate Application.
[174] The Panel's Report to the Minister Responsible for Crown Investments Corporation of Saskatchewan on SaskEnergy's 2017 Delivery Rate Application. http://www.saskratereview.ca/docs/saskenergy2017/srrp-2017-saskenergy-report-final.pdf [accessed on November 16, 2018].

2016/17 test year was about $1.768 million [6.73%] lower than the forecast included in the revenue requirement, and for the 2017/18 test year the actual interest expense is expected to be about $1.134 million [4.22%] lower than the forecast included in the revenue requirement due to lower interest rates as well as lower borrowing levels compared to forecast.[175]

Short-Term Interest Rates

Compared to the actual average interest rates experienced in 2015/16 (average short-term interest rate of 0.65%), 2016/17 (0.61%) and 2017/18 (0.98%) fiscal years, SaskEnergy is forecasting higher interest rates for short-term debt for 2018/19 and 2019/20 (1.41% and 2.19% respectively). The forecast average short-term interest rate of 2.19% for the 2019/20 test year is also higher compared to the 2017/18 test year forecast of 1.33%.

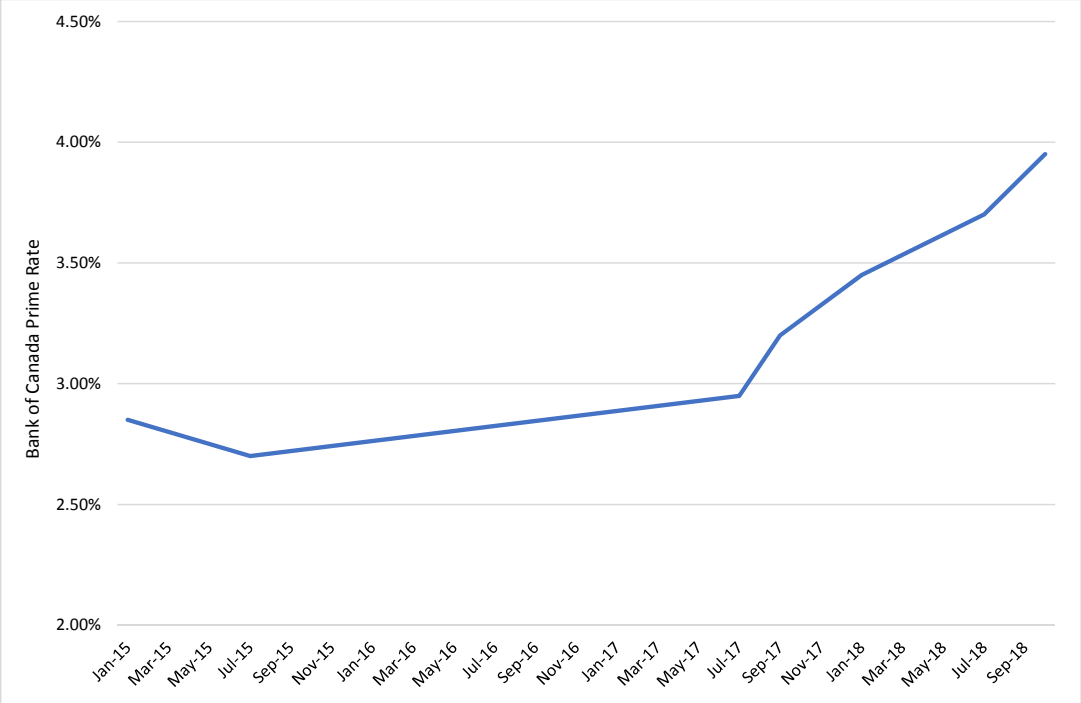
The information provided by SaskEnergy shows that actual 2017/18 short-term interest expense was $0.6 million lower than the 2017/18 test year forecast due to lower actual interest rates and lower actual borrowing levels compared to forecast.[176]

As shown in Table 3-26, updated short-term interest rates used to calculate short-term interest expense ranges from 1.98% to 2.33% for the period from April 2019 to March 2020.[177] The calculation of short-term interest expense appears reasonable compared to the forecasts available from the major banks,[178] as well as taking into consideration that the Bank of Canada prime rate has increased from 2.95% in July 2017 to 3.95% in October 2018 as illustrated in Figure 3-3 below.

A review of short-term interest rates used by peer utilities supports the basis for an increase in short term interest forecasts over the test period. Fortis BC Energy Inc.'s Annual Review for 2019 Delivery Rates shows a 3.10% forecast short-term debt rate for 2019 (which assumes a three-month Treasury Bill at 2.05%, plus adjustments for spreads and fees) compared to 2.10% for 2018 (which assumes a three-month Treasury Bill at 1.36%, plus adjustments for spreads and fees). However, it is noted that Fortis BC also recovers (or refunds to/from customers) variances in interest expense through a flow-through deferral account.[179]

[175] Based on information provided in Pre-ask #1 a) and 1st Round Information Request 1 (h) ii) from 2018 Commodity and Delivery Service Rate Application.
[176] 1st Round Information Request 1 (e) from 2018 Commodity and Delivery Service Rate Application.
[177] Response to 1st Round Information Request 11(c). The information included in the Application, Tab 14 page 3, shows short-term interest rates forecast at 1.79% for the 2019/20 test year period; however, this information was later updated.
[178] For example, the RBC interest rate outlook shows a three-month Treasury-bill rate ranging between 2.15% and 2.45% and TD interest rate outlook shows rates ranging between 2.00% and 2.38%. Available at http://www.rbc.com/economics/economic-reports/pdf/financial-markets/fmm-November2018.pdf and https://economics.td.com/domains/economics.td.com/documents/reports/qef/2018-sep/Can_Rates.htm [accessed on November 16, 2018].
[179] Page 72 of the Fortis BC Energy Inc. Application for Annual Review for 2019 Rates before BCUC. Available at https://www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasBCUCSubmissions/Documents/180803_FEI_Annual_Review_2019_Rates_FF.PDF [accessed on November 16, 2018].

Figure 3-3: Bank of Canada Prime Rate Change[180]



Long-Term Interest Rates

Average long-term debt interest rates have decreased slightly since 2015/16. As illustrated in Table 3-24, the actual average interest rate was at 5.09% for 2015/16, at 5.04% for 2016/17 and at 4.81% for 2017/18; and is at 4.53% for 2018/19 and 4.40% for 2019/20. The 2019/20 forecast is 0.34% lower than the 2017/18 test year forecast of 4.74%. Lower average interest rates are due to two factors: (1) new borrowings with lower than the average interest rates in recent years[181]; and (2) the impact of increased sinking fund earnings on the calculation of the average interest rate.

During the review of the 2017 Delivery Service Rate Application, SaskEnergy forecasted $75 million borrowing with 4.39% interest rate for the 2017/18 test year; while actual borrowing for 2017/18 was $50 million with a 3.30% interest rate.[182]

SaskEnergy is forecasting $100 million in new borrowing for 2019 at a forecast interest rate of 3.89%. This forecast interest rate appears to be reasonable considering the actual interest rate for new borrowing in

[180] Prepared based on information from Bank of Canada. https://www.bankofcanada.ca/rates/interest-rates/canadian-interest-rates/?lookupPage=lookup_canadian_interest.php&startRange=2008-12-13&rangeType=dates&dFrom=2013-01-01&dTo=2018-12-13&rangeValue=1&rangeWeeklyValue=1&rangeMonthlyValue=1&ByDate_frequency=daily&series%5B%5D=V122495&submit_button=Submit [accessed on December 13, 2018].

[181] For example, as illustrated in Table 3-27 new borrowings issued since 2012 has lower interest rates compared to the average rate. The average interest rate for the pre-2012 borrowings at 5.8% [the rates ranging between 5.19% and 6.70%] and the average rate for the post-2012 borrowings at 3.4% [the rates ranging between 2.75% and 3.90%].

[182] 1st Round Information Request 11(e), 2018 Commodity and Delivery Service Rate Application. SaskEnergy estimates that the impact of lower borrowing and lower interest rate would be $0.547 million for the 2017/18 test year.

2018, the expected increase in interest rates, and available information from other utilities. For example, Fortis BC Energy Inc. in its application for Annual Review for 2019 Delivery Rates used forecast a long term interest rate of 4.30%.[183]

Table 3-27 indicates that three high interest long term debts with interest rates ranging between 6.57% and 6.70% and a total outstanding balance of $33.971 million, will expire over May-July of 2020. Replacing these debt items with lower cost debt would reduce the average interest rate. SaskEnergy customers would potentially see this benefit in the next delivery rate application.

Long-Term Debt and Short-Term Debt Balances

In 2016, SaskEnergy noted an intention to gradually transition the corporation closer to industry comparable standards related to the percentage of long-term assets financed with long-term debt in order to provide a more sustainable financing approach that more closely matches asset lives with debt terms.[184] For the 2019/20 test year, SaskEnergy's total short-term debt is about 18%.[185] This is much lower compared to the 2017/18 test year forecast at 28%, and actual results for 2013 through 2017/18 ranging between 21% and 39%.

In the Mid-Application Update SaskEnergy included reallocation of $10.750 million of long-term debt to the LDC from the debt related to the Bayhurst subsidiary, which was sold. This increased interest expense for the test year by $0.419 million at an interest rate of 3.90%.

Based on clarifications provided by SaskEnergy, it is understood that with the reallocation of the long-term debt the short term debt amounts were reduced [see Table 3-23 which shows reduction in short-term interest expense]. SaskEnergy also notes that the interest rate of 3.90% for reallocated long-term debt is lower than the interest rate that would have applied if SaskEnergy borrowed new long-term debt at the current market rates. In future applications, where such changes occur, it would be beneficial for SaskEnergy to provide further details regarding the nature and impact of such changes in order to clearly demonstrate that there are no adverse impacts to customers.

Sinking Funds

SaskEnergy notes that the Ministry of Finance manages sinking fund investments.[186] The forecast earning on debt retirement funds for the 2018/19 fiscal year is 3.0% and for the 2019/20 fiscal year is 3.6%; this is higher compared to the 2015/16 [3.0%], 2016/17 [2.3%] and 2017/18 [1.9%] fiscal years. The forecast

[183] Page 71 of the Fortis BC Energy Inc. Application for Annual Review for 2019 Delivery Rates before BCUC. Available at https://www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasBCUCSubmissions/Documents/180803_FEI_Annual_Review_2019_Rates_FF.PDF [accessed on November 16, 2018].
[184] 1st Round Information Request, 10(c) from 2016 Commodity and Delivery Service Rate Application.
[185] The total debt illustrated in Table 3-25 of $704.609 million is higher compared to deemed debt portion of the rate base. With rate base of $1,067.7198 million [based on Mid-Application Update, Tab 14 updated on December 3, 2018] and deemed debt ratio of 63% the rate base financed by debt would be $672.663 million. This yields to 14.0% short-term debt and 86% long-term debt [$578.999 million long-term debt and the remaining $93.664 million financed through short-term debt].
[186] 1st Round Information Request 12(j) from 2017 Delivery Service Rate Application.

for the 2019/20 test year of 3.6% is slightly higher than the 2017/18 test year forecast of 3.5% [Table 3-28]. Based on a review of the most recent actuals the forecast for the test year appears to be reasonable.

Accretion Expense

The forecast discount rate for accretion expense is higher compared to historical trends. As illustrated in Table 3-29, actual accretion expense increased from $2.066 million in 2016/17 to $2.428 million in 2017/18, and is forecast to increase to $2.694 million in 2018/19 and to $3.100 million in 2019/20. This is a 50% increase over the three year period from 2016/17 to 2019/20. The increase is mostly due to an increase in discount rate; the Present Value of Estimated Decommissioning Liabilities is forecast to increase by only 1.0% from 2016/17 to 2019/20 [forecast for 2019/20 is $101.135 million which is 15% lower than the 2017/18 forecast of $119.600 million].[187]

SaskEnergy notes that "discount rates are determined by Treasury based on information provided by financial institutions."[188] Similar to interest expense, SaskEnergy benefits when actual accretion expense is lower than forecast. For the 2016/17 test year, accretion expense included in the revenue requirement was $2.580 million and for the 2017/18 test year it was $2.750 million, while the actual accretion expenses reported by SaskEnergy for the 2016/17 and 2017/18 fiscal years were $2.066 million and $2.428 million respectively (see Table 3-29).[189]

Accretion expense was introduced as a line item in interest expense in the June 2014 Financial Update and SaskEnergy noted that it is directly related to the former negative salvage value previously included in depreciation expense.[190] Prior to 2014, the negative salvage collected through depreciation expense reduced rate base as it was included in accumulated depreciation expense, however, accretion expense does not appear to be included in rate base as a credit. This results in a higher return on rate base. Please see section 3.6.2 for discussion regarding this issue.

Recommendations

Recommendations related to accretion expense are addressed in Section 3.6.2. Aside from addressing the concerns as noted in Section 3.6.2, the short term and long term interest rates appear reasonable.

3.6 NET INCOME

SaskEnergy's Original Application included a forecast net income of $33.459 million and a return on equity of approximately 8.3%. This resulted in an approximate $1.0 million reduction in revenues [both existing

[187] During the review of 2017 Delivery Service Rate Application it was noted very high forecast of Decommissioning Liability as well as discount rate which resulted in high accretion expense forecast.
[188] 1st Round Information Request 11(j), 2018 Commodity and Delivery Service Rate Application.
[189] Although, it is not directly comparable as the 2016/17 and 2017/18 test years are based on November 1 to October 31 and fiscal years are April 1 to March 31, the numbers show the actuals are lower than the forecast included in the revenue requirement [seven months of $2.066 million and five months of $2.428 million would be lower than $2.580 million for the 2016/17 test year].
[190] Page 3-4, 2014 Delivery Service Rate Financial Update.

and proposed rates]. With the updated heat value forecast included in the November Update Filing, revenues at proposed rates are $279.2 million compared to $280.2 million in the Original Application[191].

Table 3-30 below compares the net income calculation provided in the Original Application with the net income calculation in the Revised Mid-Application Update.

Table 3-30: Forecast Net Income for 2019/20: Original Application compared to Mid-Application Update[192]

	Original Application	Mid-Application Update	*Change*	*Change %*
Operating & Maintenance Expense	136,229	136,457	228	0.2%
Transportation and Storage Expense	53,919	54,697	778	1.4%
Depreciation Expense	48,186	48,405	219	0.5%
Tax Expense	7,362	7,270	(92)	-1.2%
Interest Expense	31,450	30,638	(812)	-2.6%
Revenue Requirement Before Net Earnings	**277,146**	**277,467**	**321**	**0.1%**
Other Revenue	(30,411)	(30,411)	0	0.0%
Net Revenue Requirement Before Net Earnings	**246,735**	**247,056**	**321**	**0.1%**
Delivery Service Revenues at Proposed Rates	280,194	279,204	(990)	-0.4%
Net Earnings	**33,459**	**32,148**	**(1,311)**	**-3.9%**
Equity Portion of Rate Base	403,116	395,056	(8,060)	-2.0%
Return on Equity	8.30%	8.14%	-0.16%	
Net Earnings to get 8.30% ROE	33,459	32,790		
Revenue Deficiency to get 8.30% ROE	0	(642)		

Table 3-30 shows Revised Mid-Application Update forecast net earnings at $32.148 million at proposed rates. This results in a ROE of 8.14%.

SaskEnergy calculates its long-term return on equity target based on a capital structure of 37% equity[193] and rate base for the test year. Each of these matters is commented on in further detail in Sections 3.6.1 (Rate Base) and 3.6.2 (Capital Structure and Return on Equity).

Table 3-31 summarizes SaskEnergy's actual net income for 2013 through 2017/18 fiscal year actuals, 2018/19 and 2019/20 fiscal year forecasts, and forecast for 2017/18 test year.

[191] See Section 10 of this report of details of the historical trend for heat value. In the Revised Mid-Application Update, SaskEnergy states that it reviewed the forecast 2019/20 heat value and determined that a higher heat value is expected for the test year. The Original Application was based on heat value of 38.5 MJ/m^3, while in the Mid-Application update SaskEnergy proposed heat value of 38.75 MJ/m^3.

[192] Prepared based on Schedules 4.0 and 4.6, Tab 14 of Original Application and Revised Mid-Application Update.

[193] Page 1, Tab 14 of 2018 Commodity and Delivery Service Rate Application.

Table 3-31: Actual and Forecast Net Income[194]

	[Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [Apr 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Net Income	27,988	26,523	9,574	1,743	28,812	70,220	29,982	30,435	32,148	*1,713*	*5.6%*

The lower net income for the 2015/16 fiscal year was primarily attributable to warmer than normal weather, where 2015 weather was 6% warmer than normal, and in the first three months of 2016 weather was 14% warmer than normal. Another contributing factor to the 2015/16 net income result was SaskEnergy's safety and infrastructure renewal spending which was temporarily elevated in response to events at the time.[195]

2016/17 was also warmer than normal. Weather normalized net income for the 2016/17 fiscal year was $36.2 million compared to $28.812 million actual net income.[196]

Net income in 2017/18 is materially higher than prior years and also materially higher than the net income forecast in 2018/19 and 2019/20. The higher actual net income for the 2017/18 fiscal year is primarily due to the following factors:[197]

- Actual Operating and Maintenance costs were $11.6 million lower than forecast [$124.2 million forecast compared to $112.7 million actual]. SaskEnergy states that lower expenses are due to "vacancy management, overtime management, lower communication, lower sustenance and transportation, lower vehicle, and lower advertising costs were the primary drivers of the this favourable variance comparing the 2017-18 actual results to the 2017-18 forecast."
- 2017/18 was about 5% colder than normal – weather normalized net income is $62.6 million compared to $70.2 million actual net income.
- Revenues from Asset Optimization were $16.2 million, which is $10.6 million higher than 2016/17 actuals and $14.1 million higher than the 2017/18 fiscal year forecast included in the 2017 Delivery Service Rate Application.[198]
- Actual depreciation expense was $2.9 million lower than forecast.

Table 3-32 summarizes SaskEnergy's actual and weather-normalized ROE for 2006 through 2015 calendar years, as well as for 2015/16 through 2017/18 fiscal year.

On an actual basis, non-weather normalized ROE for the last five years averaged 8.80%, while the average of weather normalized ROE for the same period was at 9.90%. The average for the last ten years shows

[194] Schedule 4.6, 2018 Commodity and Delivery Service Rate Application, 2017/18 test year is from Schedule 1.6, 2017 Delivery Service Rate Application. 2019/20 test year forecast based on Revised Mid-Application Update.
[195] 1st Round Information Request 18 (a), 2017 Delivery Service Rate Application.
[196] 1st Round Information Request 17 (a), 2018 Commodity and Delivery Service Rate Application.
[197] 1st Round Information Request 17 (a), 2018 Commodity and Delivery Service Rate Application.
[198] Forecast for 2017/18 fiscal year was at $2.102 million as per Schedule 1.7, 2017 Delivery Service Rate Application.

non-weather normalized ROE at 9.20%, while the average of weather normalized ROE for the same period was at 8.70%. These are higher than the target ROE of 8.3%.

Table 3-32 shows that the lower net income for the 2015/16 fiscal year was primarily attributable to warmer than normal weather as indicated above [actual ROE at 0.6% and weather normalized ROE at 7.0%]. Table 3-32 also shows the 2017/18 ROE was 20.8% [weather normalized at 18.6%].

The weather normalized average consolidated ROE for the last five years was at 10.3% and for the last 10 years was 10.8%.

Table 3-32: Actual and Weather Normalized Return on Equity[199]

		Distribution Utility		SaskEnergy Consolidated	
		Actual ROE	Weather Normalized ROE	Actual ROE	Weather Normalized ROE
Calendar Years	2006	7.7%	8.0%	14.7%	14.8%
	2007	7.2%	9.5%	15.4%	16.3%
	2008	8.5%	8.2%	12.5%	12.4%
	2009	8.5%	2.4%	13.5%	11.2%
	2010	10.6%	10.6%	10.8%	10.8%
	2011	7.9%	6.3%	13.6%	13.1%
	2012	8.3%	9.7%	11.0%	11.4%
	2013	12.4%	9.0%	11.0%	10.0%
	2014	10.2%	4.5%	6.5%	2.4%
	2015	3.3%	8.0%	12.3%	14.2%
2015/16 Fiscal Year		0.6%	7.0%	11.6%	13.9%
2016/17 Fiscal Year		9.1%	11.4%	8.8%	9.6%
2017/18 Fiscal Year		20.8%	18.6%	12.2%	11.4%
5-year Average		**8.80%**	**9.90%**	**10.3%**	**10.3%**
10-year Average		**9.20%**	**8.70%**	**11.1%**	**10.8%**

Observations

SaskEnergy's net earnings calculations are consistent with the forecasts of rate base, capital structure and ROE described in the Application, subject to the issues noted in Section 3.6.2 (Capital Structure and Return on Rate Base).

The provision to earn a fair ROE allows a utility to attract capital on reasonable terms and to maintain its financial integrity. If the ROE target is too low, a very mild winter or an unexpected expense could cause

[199] Pre-ask #13, 2018 Commodity and Delivery Service Rate Application.

the corporation to incur a net operating loss. The proposed ROE is comparable to peer utilities (see Table 3-35) and should support a financially sustainable natural gas delivery system.[200]

As summarized in Table 3-32, on an actual basis, the weather normalized ROE for the distribution utility for last five years averaged 9.90% and the average for the last ten years was at 8.70%. In each case this is higher than the target ROE of 8.3%.

Net income was much higher than forecast in 2017/18 – and the actual weather normalized ROE was 18.6% (much higher than the 8.30% target). The higher than forecast net income and ROE in 2017/18 were partially due to cost savings achieved by SaskEnergy that were not included in the 2017 Delivery Rate Application. For example, in the 2017/18 fiscal year actual Operating and Maintenance costs were $11.6 million lower than forecast. Lower expenses are due to "vacancy management, overtime management, lower communication, lower sustenance and transportation, lower vehicle, and lower advertising costs were the primary drivers."

The consultant notes that the Panel in its Report to the Minister Responsible for Crown Investments Corporation of Saskatchewan regarding SaskEnergy's 2017 Delivery Service Rate Application urged "SaskEnergy to carefully consider its restraint programs and determine if these restraint measures can be made part of its overall efficiency initiatives" that "would help lessen the upward rate pressures being exerted on ratepayers by the corporation's significant capital spending plan."[201]

SaskEnergy has indicated that Net Income Targets are established based on expectations by its shareholder to achieve higher net income than planned in the approved budget.[202] This indicates that SaskEnergy is expecting higher net income than the forecast due in part from cost savings.

Recommendations

The proposed net earnings for the 2019/20 test year appear to be reasonable subject to the adjustments and other considerations raised and recommended in this Report.

SaskEnergy should be encouraged to reflect some of the expected cost savings that accrue due to net income targets reset by its shareholder in the test year revenue requirement in order to reduce cost pressure for customers (as indicated in the Panel's 2017 Report to the Minister).

3.6.1 Rate Base

Rate base is the total dollar value of all assets used by a utility to provide service to customers; and is the amount on which the utility is permitted to earn a return.

Under normal regulatory principles for assets to be included in rate base they must be considered "used and useful". This means that only assets that are in service/ complete and providing utility service to customers are included in rate base.

[200] See discussion in Section 18.
[201] http://www.saskratereview.ca/docs/saskenergy2017/srrp-2017-saskenergy-report-final.pdf [accessed on November 19, 2018].
[202] 1st Round Information Request 2 (d), 2018 Commodity and Delivery Service Rate Application.

Rate base includes the following components:

- Plant in service - this is the largest component of the rate base and consists of total cost of assets in service.
- Accumulated depreciation of assets in service (included as an offset to the rate base).
- Fuel inventories (consisting of gas in storage).
- Other non-fuel inventories (materials and supplies).
- Allowance for Cash Working Capital - the average amount of capital provided by shareholders, over and above the investment in plant and other specific rate base components, to bridge the gap or lag between the time expenditures are required to provide services and the time revenue is received from customers.

The Mid-Application Update filed by SaskEnergy notes it reviewed the initial forecast capital investment and prioritized the investments to align with SaskEnergy's Strategic Mandates and Crown Sector Priorities and this review lowered capital investments.[203] This resulted in a lower rate base for the 2019/20 test year compared to the Original Application. Table 3-33 provides a summary comparison of rate base in the Original Application and the Mid-Application Update, and shows that rate base for the 2019/20 test year is reduced by $21.783 million in the Mid-Application Update.

Table 3-33: Comparison of Rate Base 2019/20 Test Year: Original Application compared to Mid-Application Update[204]

	Original Application	Mid-Application Update	*Change*	*Change %*
Plant in Service at Cost	1,586,009	1,564,296	(21,713)	-1.4%
Accumulated Depreciation	(548,009)	(547,165)	844	-0.2%
Net Book Value	**1,038,000**	**1,017,131**	**(20,869)**	**-2.0%**
Natural Gas in Storage	26,863	26,516	(347)	-1.3%
Inventories of Materials	8,403	8,416	13	0.2%
Cash Working Capital	16,237	15,655	(582)	-3.6%
Total Rate Base	**1,089,502**	**1,067,719**	**(21,783)**	**-2.0%**

Table 3-34 provides a summary of rate base for 2013 through 2017/18 actual years, 2018/19 and 2019/20 forecasts, as well as 2017/18 test year forecast from the previous Application. The rate base information is based on the Mid-Application Update.

[203] Revised Mid-Application Update, page 1.
[204] Prepared based on Tab 17 of Original Application and Mid-Application Update.

Table 3-34: Summary of Rate Base for 2013-2015 Calendar Year, 2015/16 to 2017/18 Fiscal Year Actual, 2018/19 and 2019/20 Fiscal Year Forecasts[205]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Plant in Service at Cost	933,195	1,028,084	1,135,904	1,156,510	1,239,323	1,323,606	1,432,460	1,434,420	1,564,296	*129,876*	*9.1%*
Accumulated Depreciation	(373,486)	(390,254)	(412,354)	(418,812)	(445,519)	(473,314)	(506,216)	(508,009)	(547,165)	*(39,156)*	*7.7%*
Net Book Value	**559,710**	**637,830**	**723,550**	**737,698**	**793,804**	**850,292**	**926,244**	**926,411**	**1,017,131**	***90,720***	*9.8%*
Natural Gas in Storage	27,902	42,884	44,921	44,910	42,674	36,092	25,959	39,489	26,516	*-12,973*	*-32.9%*
Inventories of Materials	9,518	9,800	9,833	9,703	8,842	8,536	8,653	10,113	8,416	*-1,697*	*-16.8%*
Cash Working Capital	12,643	13,014	11,064	11,768	12,997	14,942	15,431	15,049	15,655	*606*	*4.0%*
Total	**609,773**	**703,528**	**789,368**	**804,078**	**858,317**	**909,861**	**976,287**	**991,062**	**1,067,719**	***76,657***	***7.7%***
Annual Change		93,755	85,840		54,239	51,544	66,426				
Annual Change, %		15.4%	12.2%		6.7%	6.0%	7.3%				

Table 3-34 indicates as follows:

- Between the 2015/16 fiscal year and 2019/20 fiscal year, rate base is forecast to increase by about 32.8%, or an average annual increase of 7.3%/year. This reflects increases in plant in service where net book value of assets over the same period increased by about 38% [average annual increase of 8.4%] reflecting continuing increases in capital spending, including annual safety and infrastructure renewal investment which SaskEnergy notes increased from $7.0 million in 2008 to approximately $67.6 million during the application period.[206]
- The increase in rate base resulting from increases in plant in service is slightly offset by a reduction in natural gas storage costs by $12.973 million. Due to lower natural gas prices natural gas storage costs are expected to be lower in the 2019/20 test year compared to the most recent actuals and compared to the 2017/18 test year.
- Inventories of Material is also forecast to be about $1.697 million lower in 2019/20 test year compared to the 2017/18 test year forecast.
- Cash Working Capital Allowance is forecast to be 4% (or $0.606 million) higher compared to the 2017/18 test year forecast.

Observations

Plant in service and accumulated amortization included in rate base is consistent with the continuity schedule provided by SaskEnergy (as Pre-Ask #8).[207]

[205] Tab 17, 2018 Commodity and Delivery Service Rate Application and Revised Tab 17 for Mid-Application Update. 2017/18 test year is from Tab 17, 2017 Delivery Service Rate Application.
[206] Page 27, 2018 Commodity and Delivery Service Rate Application.
[207] Continuity schedule was provided by SaskEnergy in Pre-ask #8.

No change is proposed in the lead/lag days for the calculation of the cash working capital requirement compared to the previous Application.[208] However, lag days for Distribution Toll revenues are much higher compared to the lag days for the other revenues sources, as well as compared to transportation and storage expense [82.90 days Distribution Toll revenues compared to 40 days for the other rate revenues and 45.6 days for transportation and storage expenses].

In 2017, SaskEnergy noted that Distribution Toll lag days are longer compared to the lag days for rate revenues due to TransGas "processes for consolidating and verifying volumes from meters across the province", and the "lack of automation and the reconciliations required for verification and billing necessitate the long lag".[209]

SaskEnergy notes that "82.90 days was determined based on historic trend of actual cash receipts compared to actual revenue earned" and using 45.6 days [consistent with transportation and storage expense lag days] would results in approximately $2.1 million reduction in the cash working capital allowance.[210] This would reduce the revenue requirement by about $0.124 million.[211] The information provided by SaskEnergy shows that the average lag days for the Distribution Toll revenues for the last five years ranged between 63 and 71 days, and "the terms within the contract state that the revenues will be invoiced on the 20th day of the month following a payment term within 10 days."[212] As such, there appears to be no basis for using 82.90 lag days.

Recommendations

To ensure fairness with all internal transactions with its subsidiary, it is recommended that the cash working capital allowance in rate base be reduced by $2.1 million to reflect revenue lag days from Distribution Tolls that use 45.6 days. This would reduce the revenue requirement by about $0.124 million.

3.6.2 Capital Structure and Return on Rate Base

SaskEnergy's capital structure and Return on Equity for the test years are outside the scope of the Panel's review parameters. The comparative table provided below (Table 3-35) is for illustration purposes to show SaskEnergy's capital structure and ROE target parameters in comparison to other peer utilities.

[208] The lead/lag days are provided in response to 1st Round Information Request Delivery 18 (b) are the same lead/lag days used in the 2017 application.
[209] Review and clarifications to 2nd Round Information Requests with SaskEnergy on August 29, 2017.
[210] 1st Round Information Request Delivery 18 (b), 2018 Commodity and Delivery Service Rate Application.
[211] $2.1 million reduction in rate base times 5.9% return on rate base as per Revised Tab 14, page 1 [revised for Mid-Application Update].
[212] 2nd Round Information Request Delivery 15 (a) and (b), 2018 Commodity and Delivery Service Rate Application.

Table 3-35: Return on Equity (%) and Common Equity (%)[213]

	Company	Return on Equity (%)	Common Equity Ratio (%)
1	Centra Gas Manitoba	6.89%	33.40%
2	SaskEnergy (target ROE)	8.30%	37.00%
3	ATCO Gas Calgary	8.50%	37.00%
4	Fortis BC (Vancouver)	8.75%	38.50%
5	Energir (Montreal)	8.90%	38.50%
6	Union Gas Limited (Hamilton)	8.93%	36.00%
7	Enbridge Gas Distribution (Toronto)	9.00%	36.00%

Generally, rate base consists of the value of property used by the utility in providing service and is financed using a capital structure. Rate base is financed through deemed equity based on 37% of total rate base and deemed debt based on remaining 63% of total rate base. The net income of $32.148 million for the 2019/20 test year based on the Revised Mid-Application Update results in ROE at 8.14%, which is slightly lower than the target ROE of 8.30%.

Based on Revised Mid-Application Update, the cost of debt included in the revenue requirement is $30.638 million and consists of the following[214]:

- $25.462 million related to the long-term debt [includes Interest on Notes Payable to Holdings Division, Amortization of Deferred Charges and offset by Sinking Fund Earnings];[215]
- $2.756 million related to the short-term debt [Interest on Bank Indebtedness];
- $3.100 million for Accretion Expense;
- Less $0.234 million Capitalized Interest; and
- Less $0.446 million for Interest Allocated to Commodity Cost of Gas.

Observations

It is recognized that SaskEnergy must maintain a capital structure that balances financial stability with the need to maintain competitive customer rates and to provide reliable services. The Consultant observes that SaskEnergy's deemed common equity ratio and ROE are within the range of peer utilities in Canada. SaskEnergy's 37% equity ratio is approximately the midpoint of the ranges used by SaskEnergy's peer utilities; and the target ROE of 8.30% is slightly below the average ROE target [average of 8.47%] for comparable major utilities in other jurisdictions.

[213] Tab 22, page 9, 2018 Commodity and Delivery Service Rate Application.
[214] Revised Schedule 4.5 for Mid-Application Update.
[215] $25.462 million divided by total average outstanding long-term debt of $578.999 million is 4.40% which reconciles to the information provided in Table 3-25.

As detailed below, the Consultant notes that expenses included in rates for asset decommissioning are not treated as no cost capital or as a credit to rate base.

The depreciation of decommissioning assets and accretion expense was introduced as part of the revenue requirement in the 2014 Financial Update. In the 2014 Financial Update, SaskEnergy stated that "negative salvage values, previously included in depreciation expense, have been replaced with accretion expense" and this is "directly related to the former net salvage value".[216]

SaskEnergy has noted that the concept of "decommissioning assets and liabilities" was introduced with the adoption of IFRS and "with the 2008 Depreciation Study, SaskEnergy effectively increased its depreciation rates to reflect the net negative salvage cost of distribution mains, services, and measuring and regulating equipment. When Gannett-Fleming prepared the current Depreciation Study they identified negative salvage costs associated with mains, services, and measurement and regulating equipment, and indicated that under IFRS these costs should be treated as decommissioning liabilities."[217]

The revenue requirement for delivery service includes two expense items related to asset decommissioning:

- Depreciation of decommissioning assets; and
- Accretion expense[218].

The total cost included in the 2019/20 test year revenue requirement related to decommissioning assets and liabilities is $7.447 million consisting of the following:

- $4.347 million for depreciation of decommissioning assets as reviewed in Section 3.3; and
- $3.100 million of accretion expense included as part of interest expense as reviewed in Section 3.5).

The information provided by SaskEnergy shows that from 2013 to end of 2019/20, SaskEnergy collected future decommissioning costs from customers totalling approximately $42.9 million.[219] For the same time period, 2013 through 2019/20, actual and forecast asset retirement costs charged against the decommissioning liability were forecast to be $21.6 million.[220]

Prior to 2013, when the cost of removal was built into depreciation expense, it was part of the accumulated depreciation and as a result was reducing the rate base and return on rate base.

Since the change in approach in 2013, depreciation of decommissioning assets and accretion expense have been included in revenue requirement. However, there is no offset to rate base to recognize that customers' funds are being used by SaskEnergy at no cost.

[216] Pages 3 and 4 of the 2014 Financial Update.
[217] 1st Round Information Request 3 (b), 2014 Financial Update.
[218] See Section 3.5. Accretion expense was introduced as a line item in interest expense in the June 2014 Financial Update; and is directly related to the former negative salvage value previously included in depreciation expense. Accretion expense measures and incorporates changes due to the passage of time into the carrying amount of the liability.
[219] Pre-ask #12 for 2013 through 2017/18 plus forecast for 2018/19 and 2019/20 as reviewed in the previous sections.
[220] December 7, 2018 email communication from SaskEnergy.

The table below illustrates the pre-2013 and post-2013 approaches[221]:

Table 3-36: Approaches to Collection of Future Cost of Removal

	Pre-2013	Post-2013
Future Cost of Removal is collected from customers as:	Part of Depreciation Expense [at the time of change it was about $5 million/year]	Decommissioning Depreciation Expense plus Accretion Expense [at the time of change it was about $4.4 million/year; now increased to about $7.4 million]
Recognition of Customer Funds for Future Removal:	Part of Accumulated Depreciation Expense that reduces total rate base, and as the result reduces ROE and cost of debt.	Not recognized in rate base financing.

A review of peer utilities indicates as follows:

- Peer utilities in jurisdictions such as Manitoba, Alberta and BC do not include asset retirement obligation-related costs in rates, but acknowledge that there is a reasonable expectation that asset retirement costs would be recoverable through future rates. Utilities in Alberta and BC include negative salvage as part of depreciation rates to collect funds for asset removal similar to SaskEnergy. These utilities also appear to include a rate base credit to account for pre-collection of money for future use.
- Some utilities include asset retirement obligation related costs for selected assets in revenue requirement (e.g., Newfoundland and Labrador Hydro); however, the collected funds are included in rate base as no cost capital to reflect pre-collection of money for future use.

The following is noted regarding the asset retirement costs/asset removal costs in other utilities:

- **Fortis BC Energy Inc**: The BCUC during the review of Fortis BC Energy Utilities' 2012-2013 Revenue Requirements and Rates[222] application noted the following:

> By adopting net negative salvage, the Commission Panel notes that the FEU will initially collect cash from ratepayers in excess of any actual salvage costs being incurred in the test period. The Commission Panel agrees with the FEU's proposal to treat the total collected negative salvage amounts, net of actual salvage costs, as a rate base credit account. The result will be a reduction in the FEU's overall rate base and ratepayers will benefit from such a reduction. However, the Panel believes that this net negative salvage account should be tracked and reported separately from plant in service to ensure

[221] In response to 1st Round Information Request 10 (d), SaskEnergy confirmed that the accumulated depreciation excludes decommissioning asset depreciation.
[222] https://www.bcuc.com/Documents/Proceedings/2012/DOC_30355_04-12-2012-FEU-2012-13RR-Decision-WEB.pdf

> maximum transparency. Therefore, the Commission Panel directs the FEU to establish a rate base credit account to tabulate the total net negative salvage provisions less actual salvage costs. The Panel does not approve the presentation of the net negative salvage provision as a component of plant-in-service within the Utilities' assets. [Emphasis added].

FortisBC Energy Inc.'s 2017 Financial Statements note that: "The Corporation will recognize the fair value of a future Asset Retirement Obligation ("ARO") as a liability in the period in which it incurs a legal obligation associated with the retirement of tangible long-lived assets" and "the Corporation has not recognized an ARO as at December 31, 2017 and 2016. For regulated operations there is a reasonable expectation that asset retirement costs would be recoverable through future rates."[223]

- **Newfoundland and Labrador Hydro**: Newfoundland and Labrador Hydro depreciation rates include negative salvage. The cost of removal collected through depreciation rates is part of the accumulated depreciation that reduces rate base. Newfoundland and Labrador Hydro also includes asset retirement obligations in rates [only for Holyrood Thermal Generating Station and polychlorinated biphenyls]. Newfoundland and Labrador Hydro includes depreciation of ARO and accretion of asset retirement obligation as part of the revenue requirement [similar to SaskEnergy]. However, Newfoundland and Labrador Hydro also includes the funded portion of the asset retirement obligations [accumulated balance of depreciation of ARO and accretion] as part of the capital structure as no cost capital.[224]

  In 2013 GRA Newfoundland and Labrador Hydro stated that:

  > "Hydro's regulated capital structure for rate making purposes is comprised of net regulated debt, regulated equity, and customer-supplied capital, which includes a portion of Hydro's asset retirement obligations (AROs) and employee future benefits (EFBs). The inclusion of AROs and EFBs as customer-supplied capital is based on the nature of the underlying liabilities. With respect to the AROs and EFBs, Hydro recovers funds from ratepayers in advance of those funds being used to settle the liabilities in the future. The amounts are included in the regulated capital structure at zero cost."[225] [Emphasis added].

- **Manitoba Hydro**: Manitoba Hydro has noted[226] that upon the April 1, 2015 transition to IFRS, existing negative salvage amounts that were included in accumulated depreciation would be carried forward as part of the opening IFRS net book value of Manitoba Hydro's PP&E. Going forward, negative salvage costs would no longer be included in depreciation rates for PP&E assets.

  Manitoba Hydro's 2017/18 Financial Statements note that asset retirement obligation continues to be recognized for the future decommissioning of the Brandon Thermal Generating Station coal pile

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[223] https://www.fortisbc.com/About/InvestorCentre/GasUtility/NatGasQuarterlyReport/Documents/FortisBC_Gas_2017_YE_FS_with_Notes_D2_SEDAR_Ext.pdf, pages 9 and 10.

[224] For example, please see Schedule 4-II, Page 4 of 9 of Newfoundland and Labrador Hydro's 2017 GRA application available at http://www.pub.nf.ca/applications/NLH2017GRA/applications/NLH%202017%20General%20Rate%20Application%20-%20Volume%20I%20-%20Revision%205%20-%202018-07-04.PDF.

[225] 2013 GRA, Volume I, page 3.9. http://www.pub.nf.ca/applications/NLH2013GRA/files/application/Application-VolumeI.pdf

[226] https://www.hydro.mb.ca/regulatory_affairs/electric/gra_2014_2015/ir_pdf/rd2_mipug.pdf, MIPUG/MH-II-26i-vii.

[about $3 million] and polychlorinated biphenyl (PCB) contaminated fluid in equipment bushings at transmission and distribution stations [about $3 million]. It also notes that "no funds are being set aside to settle the asset retirement obligations."[227] Manitoba Hydro's 2015/16 and 2016/17 GRA, Appendix 5.4[228] notes that it "has reviewed its circumstances and has concluded that no new provisions exist pertaining to constructive obligations relating to ARO's" and "MH will recognize such obligations when a commitment is made to decommission an asset and significant removal and/or remediation costs are expected to be incurred."

- **Alberta**: The Alberta Utilities Commission in Decision 2013-417 highlights that "none of the Alberta Utilities have recorded an asset retirement obligation", and "this did not mean there is no obligation to incur asset retirement costs, but due to the significance of discounting to the present value, the estimated future retirement costs over time, the costs are not considered material."[229] Some utilities in Alberta include cost of removal in the depreciation rates.[230] When the cost of removal is included in the depreciation rates it increases the accumulated amortization and reduces the rate base.

Since 2013, SaskEnergy has been collecting funds from customers for future decommissioning as part of rates. Information provided by SaskEnergy shows that by the end of 2019/20 SaskEnergy is forecasting to have about $21 million of unused customer provided capital [collected as part of rates at $42.9 million less $21.6 forecast to be used by end of test year]. The collected funds are being used by SaskEnergy to fund operational and capital projects [i.e., allowing SaskEnergy to avoid additional borrowing and use its own funds to fund some projects].

The review shows that utilities in the other jurisdictions include a credit in rate base to reflect customer provided capital for future cost of removal. SaskEnergy included a similar rate base offset in pre-2013 rate applications before transitioning to IFRS.

The table below provides an illustrative example which shows the impact of recognizing customer provided funds collected for future decommissioning[231] by including these amounts as no cost capital in financing rate base. For illustrative purposes, Table 3-37 includes customer-provided capital as a reduction in the debt portion of rate base (as SaskEnergy capitalization is based on 37% deemed equity). This reduces the debt portion of rate base and results in an approximate $0.955 million reduction in revenue requirement.

[227] https://www.hydro.mb.ca/corporate/ar/pdf/annual_report_2017_18.pdf pages 83 and 93.
[228] https://www.hydro.mb.ca/regulatory_affairs/electric/gra_2014_2015/pdf/appendix_5_4.pdf, page 32.
[229] http://www.auc.ab.ca/regulatory_documents/ProceedingDocuments/2013/2013-417.pdf, Paragraph 246.
[230] For example, the most recent review of ATCO Pipelines 2017-18 GRA.
https://www.trackenergyregs.ca/cga/abuc/en/307499/1/document.do
[231] Accumulated balance of depreciation of decommissioning assets and accretion expenses, less used amount by the end of the 2019/20 test year.

Table 3-37: Impact of Recognizing Net Customer Provided Funds for Future Cost of Removal

Line No		Total Rate Base	Capital Ratio	ROE/Cost of Debt	Total Return on Rate Base
		A	B	C	D=A*C
	As Filed By SaskEnergy				
1	Deemed Equity Portion	395,056	37.0%	8.14%	32,148
2=3-1	Deemed Debt Portion	672,663	63.0%	4.55%	30,638
3	**Total Rate Base**	**1,067,719**		**5.88%**	**62,786**
	Illustrative Option				
1	Deemed Equity Portion	395,056	37.0%	8.14%	32,148
2=4-1-3	Deemed Debt Portion	651,663	61.0%	4.55%	29,682
3	Net Customer Provided Funds for Future Cost of Removal	21,000	2.0%	0.00%	0
4	**Total Rate Base**	**1,067,719**		**5.79%**	**61,830**

Recommendations

Based on review of SaskEnergy's approach prior to 2013, and approaches used in other jurisdictions, the consultant has material concerns regarding the current treatment of customer provided capital for future decommissioning in rate base financing. The consultant recommends that SaskEnergy review how future asset removal costs [decommissioning cost, asset retirement obligations or negative salvage] are collected from customers and how pre-collected funds are reflected in utility rate base in other jurisdictions. It is recommended that customer provided capital for future decommissioning [accumulated balance of depreciation of decommissioning assets and accretion expenses, less used amount] be included in the financing of rate base as no cost capital.

3.7 OTHER REVENUE

SaskEnergy earns other revenue from a variety of sources including connect fees, asset optimization [previously gas marketing margins], distribution tolls and other miscellaneous revenues. Table 3-38 summarizes actual other revenue from 2013 to 2015 calendar years, 2015/16 to 2017/18 fiscal years, forecast for 2018/19 and 2019/20 fiscal years, as well as 2017/18 test year forecast from the previous application.

Table 3-38: Other Revenue ($000s)[232]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1 - Oct 31	Fiscal Year [April 1 to March 31]		
	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Connect Fees	2,190	2,164	2,072	2,058	2,034	1,983	2,094	1,900	2,050	*150*	*7.9%*
Asset Optimization	5,229	746	4,052	3,919	5,644	16,197	11,799	2,100	5,913	*3,813*	*181.6%*
Late Payment Charges	540	1,235	1,191	1,186	1,132	1,112	1,326	922	1,200	*278*	*30.2%*
Customer Financing	81	92	99	76	98	115	90	61	64	*3*	*4.9%*
Miscellaneous Revenue	941	1,058	476	413	520	568	464	384	575	*191*	*49.7%*
Distribution Tolls	13,196	14,658	16,420	16,557	16,264	18,414	19,333	18,856	20,609	*1,753*	*9.3%*
Total	**22,178**	**19,954**	**24,311**	**24,209**	**25,692**	**38,390**	**35,106**	**24,223**	**30,411**	***6,189***	***25.6%***
Annual Change		(2,224)	4,357		1,483	12,698	(3,284)				
Annual Change, %		-10.0%	21.8%		6.1%	49.4%	-8.6%				

Forecast Other Revenues for the 2019/20 test year are $30.411 million, which is about $6.189 million (or 25.6%) higher compared to the 2017/18 test year.

- **Connect Fees –** For the 2019/20 test year, connect fees are forecast to be about $0.150 million (or about 7.9%) higher than the 2017/18 test year. The forecast for the 2019/20 test year is also in line with the most recent actuals [average of $2.025 million for the last three year actuals, from 2015/16 to 2017/18].
- **Asset Optimization [Previous Margin on Gas Marketing] –** 2019/20 test year revenues from Asset Optimization are forecast to be about $3.813 million higher than the 2017/18 test year forecast (or about 182% higher). However, the forecast revenue of $5.913 million for 2019/20 test year is lower than the most recent actual revenue of $16.197 million in 2017/18. SaskEnergy notes that pipeline capacity constraints at the Alberta/Saskatchewan border have resulted in "unprecedented pricing differentials to the AECO price for downstream gas". This premium has continued over the summer period, and has allowed SaskEnergy to realize profit margins on its asset optimization activities because of the significant amount of under-utilized transportation capacity that SaskEnergy has available for optimization during the summer months. SaskEnergy also notes that "this pipeline constraint issue at the Alberta/Saskatchewan border is expected to continue for at least two or three more years, but diminishing slightly each year"[233] and the "magnitude of asset optimization revenues is dependent on the alignment of underutilized assets/capacity with market pricing opportunities, and is therefore difficult to forecast."[234]
- **Late Payment Charges –** Late payment charges in the 2019/20 test year are forecast to be about $1.200 million which is 30.2% (or $0.278 million) higher than the 2017/18 test year forecast, and within a reasonable range compared to the most recent actuals [the actual revenues for the last three years, from 2015/16 through 2017/18 fiscal years, was at $1.143 million].

[232] Schedule 4.7 from the 2018 Commodity and Delivery Service Rate Application and Schedule 1.7 from the 2017 Delivery Service Rate Application.
[233] 1st Round Information Request 13(a), 2018 Commodity and Delivery Service Rate Application.
[234] 1st Round Information Request 13(e), 2018 Commodity and Delivery Service Rate Application.

- **Miscellaneous Revenue –** Miscellaneous revenues in the 2019/20 test year are forecast to be about $0.575 million which is about 50% (or $0.191 million) higher than the 2017/18 test year forecast, and within a reasonable range compared to the most recent actuals [the actual revenues for the last three years, from 2015/16 through 2017/18 fiscal years, was at $0.500 million].
- **Distribution Tolls –** For the 2019/20 test year revenues from Distribution Tolls are forecast to increase by about $1.753 million (or 9.3%) over the 2017/18 test year forecast. The 2019/20 forecast is also higher than 2017/18 actuals, reflecting increased distribution tolls. During the review of 2017 Delivery Rate Application, SaskEnergy noted that increased Distribution Toll revenues are mainly due to an increase in forecasted delivered volumes from Distribution Toll customers, primarily in the Enhanced Oil Recovery (EOR) and potash sectors.[235] SaskEnergy confirmed that the Distribution Tolls are determined using the cost of service results provided in Tab 12 of the Application.[236]

Observations

The 2017 Delivery Service Rate Application forecast a reduction in all Other Revenue sources (except Distribution Toll revenues) in the 2017/18 test year compared to the 2016/17 test year.

For the current Application, Other Revenue sources are within a reasonable range compared to the most recent actuals, except for revenues from Asset Optimization.

It is understood that revenues from Asset Optimization are difficult to forecast and could be highly variable from year to year. Specifically, SaskEnergy notes that the "magnitude of asset optimization revenues is dependent on the alignment of underutilized assets/capacity with market pricing opportunities, and is therefore difficult to forecast."[237] However, experience in recent years shows that forecasts have been underestimated.[238]

Where there are variances between forecast and actual Other Revenues sources, SaskEnergy bears the risk (or benefit) to its net income. Table 3-38 shows year over year fluctuations in Asset Optimization revenues. While it is difficult to forecast revenues from this source, the ongoing impact of over or under-forecasting these revenues can be material. During the review of the 2017 Application, SaskEnergy forecast revenues from this source at $2.102 million while actual revenues were $16.197 million ($14.095 million higher than the forecast). This contributed to the very high net income realised for the 2017/18 fiscal year.

SaskEnergy notes that asset optimization revenues are expected to be higher than normal for the next few years, but will diminish slightly each year. However, the 2019/20 test year forecast shows a 63% reduction

[235] 1st Round Information Request 14 (d), 2017 Delivery Service Rate Application.
[236] 1st Round Information Request 13 (f), 2018 Commodity and Delivery Service Rate Application.
[237] 1st Round Information Request 13 (e), 2018 Commodity and Delivery Service Rate Application.
[238] For example, in the 2016 Commodity and Delivery Service Rate Application, the forecast revenues from this source were $2.081 million for the 2016 calendar year and $1.531 million for the 2017 calendar year [the forecast assumed to be included as the base for developing the 2016/17 test year forecast of $1.581 million which was from November 1, 2016 through October 31, 2017], while the actual revenues for the 2016/17 fiscal year were at $5.644 million. Similarly, in the 2017 Delivery Service Rate Application the forecast revenues from this source for the 2017/18 fiscal year were at $2.102 million, while the actuals for the same period were $16.197 million. See Schedule 4.7 from the 2016 Commodity and Delivery Rate Application; Schedule 1.7 from the 2017 Delivery Rate Application; and Schedule 4.7 from the 2018 Commodity and Delivery Rate Application.

in revenues from this source [reducing from $16.197 million in 2017/18 to $11.799 million in 2018/19 to $5.913 million in 2019/20].

The consultant is concerned that the asset optimization revenue forecast may be overly conservative. The following may indicate the basis for a higher than assumed forecast [of $5.913 million] for the 2019/20 test year:

- SaskEnergy increased firm transportation capacity from Alberta from 150,000 GJ/day to 170,000 GJs/day effective November 1, 2018,[239] and "SaskEnergy contracted for an additional 10,000 GJs/day of firm transportation from Alberta beginning in November of 2019, and another 10,000 GJs/day effective November 1, 2020."[240]
- SaskEnergy notes that "in October of 2017, TransCanada Pipelines announced that their firm transportation capacity to move gas out of Alberta was fully subscribed."[241] SaskEnergy also notes that a transformational change occurred regarding natural gas transportation in the fall of 2018, when the National Energy Board approved a long-term fixed price contract from Empress (Alberta/Saskatchewan border) to Dawn (Ontario) on TransCanada's mainline and this event "resulted in transportation capacity from Alberta to the Saskatchewan border becoming fully contracted" and with the system constrained, "the Saskatchewan price differential to AECO has been higher and much more volatile, resulting in natural gas prices in Saskatchewan trading between $0.09/GJ and $2.00/GJ higher than the AECO price."[242]
- "The design level for system delivery capacity used at SaskEnergy means there is only a 5% chance that the weather would be colder than the design level."[243]
- SaskEnergy notes that the pipeline constraint issue at the Alberta/Saskatchewan border is "expected to continue for at least two or three more years, but diminishing slightly each year. The current market price differentials to AECO for gas downstream of the constraint continues to be very strong, but decreases each forward year. Asset optimization revenues are expected to be higher than normal for these next few years, but potentially less than the current year because of these decreasing price differentials each year."[244]
- SaskEnergy notes that for the 2017/18 fiscal year approximately $9.0 million in Asset Optimization revenues were generated during the summer and $7.2 million during the winter months; and for 2018/19, the split is projected to be approximately $12 million during the summer months and $1 million during the winter months.[245] This supports the fact that in the recent year Asset Optimization revenues were mostly in summer months, which is not impacted by weather. SaskEnergy also notes that expected revenues from this source for the 2018/19 fiscal year are about $13.0 million, about $1.2 million higher than the forecast included in the Application. [246]

[239] Page 11, 2018 Commodity and Delivery Service Rate Application.
[240] 1st Round Information Request 2 (g) iii) [Commodity], 2018 Commodity and Delivery Service Rate Application.
[241] Page 10, 2018 Commodity and Delivery Service Rate Application.
[242] 2018-19 First Quarter Report, page 3. Tab 26, 2018 Commodity and Delivery Service Rate Application.
[243] Page 12, 2018 Commodity and Delivery Service Rate Application.
[244] 1st Round Information Request 13 (e), 2018 Commodity and Delivery Service Rate Application.
[245] 2nd Round Information Request 11 (b), 2018 Commodity and Delivery Service Rate Application.
[246] 2nd Round Information Request 11 (b), 2018 Commodity and Delivery Service Rate Application.

Recommendations

In the consultant's view, revenues from asset optimization are conservatively forecast and are likely to be much higher than estimated for the test year. It is recommended that this be taken into consideration as the Panel considers the impact of other recommended changes to SaskEnergy's total revenue requirement.

3.8 REVENUE DEFICIENCY

In the Revised Mid-Application Update SaskEnergy states that it reviewed the forecast 2019/20 heat value and determined that a higher heat value is expected for the test year. The Original Application was based on heat value of 38.5 MJ/m^3, while in the Mid-Application Update SaskEnergy proposed a heat value of 38.75 MJ/m^3.[247] This resulted in a reduction in revenues [both existing and proposed rates].

Table 3-39 provides a comparison of revenue requirements to get an 8.30% ROE, as well as the revenues at proposed rates and the revenue deficiency.

Table 3-39: Revenue Deficiency ($millions)[248]

	Original Application	Mid-Application Update
Net Delivery Revenue Requirement to get 8.30% ROE	280.2	279.8
Forecast Revenues at Current Rates	270.2	269.4
Revenue Deficiency at Current Rates	**10.0**	**10.4**
Average increase required over existing rates	*3.7%*	*3.9%*
Proposed Average Rate Increase	*3.7%*	*3.7%*
Forecast Revenues at Proposed Rates	280.2	279.2
Revenue Deficiency at Proposed Rates	**0.0**	**0.6**
Incremental Revenues with Rate Increase	**10.0**	**9.8**

SaskEnergy notes that the incremental delivery revenue results in an industry comparable ROE over the Application period. The following is specifically noted:[249]

- Ongoing investment relating to safety, system integrity and major growth infrastructure are the primary drivers for the delivery service rate increase. Code compliance and industry best practices

[247] See Section 10 of this report of details of the historical trend for heat value.
[248] Prepared based on Schedule 4.0 and Schedule 5.1, 2018 Commodity and Delivery Service Rate Application and Revised schedule as per Revised Mid-Application Update filed on December 3, 2018.
[249] Page 2, 2018 Commodity and Delivery Service Rate Application.

related to safety, paired with SaskEnergy's pipeline integrity and major growth infrastructure programs, continue to require high levels of capital investment.

- SaskEnergy requires an average rate increase of 3.7% beginning April 1, 2019. This increase is necessary to mitigate a revenue shortfall. SaskEnergy did not change the proposed rate in the Mid-Application Update. This results in $9.8 million of incremental revenues, and an ROE of 8.14% compared to a revenue deficiency of $10.4 million to achieve an 8.30% ROE.

SaskEnergy notes that incremental revenues are weather dependent [i.e., the proposed increase to the volumetric Delivery Charge is based on normal weather]. If weather is colder than normal, this revenue will be higher and customer bills will increase since more volume will be consumed. If weather is warmer than normal, customers will consume less natural gas, resulting in lower bills and lower delivery revenue for SaskEnergy.

Observations

SaskEnergy's projected revenue deficiency is consistent with the forecast revenue requirement and revenue at existing rates. The revenue deficiency is consistent with the average rate increase sought by SaskEnergy in the current application. Actual revenue will vary from forecast, particularly due to weather.

The revenue deficiency would be subject to any adjustments to the revenue requirements and revenues at existing rates as provided in this report.

4.0 PRODUCTIVITY AND EFFICIENCY

SaskEnergy operates an extensive gas distribution network with one of the lowest customer densities in North America, and notes that it is facing increased capital and operating costs related to increasing regulatory and industry standards. The Application indicates that $48 million in efficiency savings have been achieved between 2009 and 2017/18 through implementation of a number of different productivity and efficiency measures. Annual corporate cost savings between 2009 and 2017/18, and corporate cost savings forecast for the 2018/19 fiscal year, are summarized in Table 4-1 below.

Table 4-1: Summary of Efficiency Savings[250]

	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016/17 Actual	2017/18 Actual	2018/19 Forecast
Actual Savings 2009 – 2017/18 approximately $48 million										
Savings	$6.0 M	$5.2 M	$5.3 M	$6.2 M	$5.5 M	$4.6 M	$5.9 M	$4.0 M	$4.4 M	**$4.0 M**

SaskEnergy identified $4.4 million in estimated corporate savings in 2017/18 related to implementation of productivity and efficiency measures. SaskEnergy notes that it realized $4.2 million in efficiency savings in 2017/18; and that anticipated savings from Crown collaboration initiatives including billing, postage and e-billing did not meet target as demand for paper bills did not decline to the level expected in 2017/18.[251]

For the 2018/19 fiscal year, SaskEnergy targeted a further $4.0 million in annual efficiency savings. SaskEnergy notes that initiatives planned for 2018/19 are in progress and intended to continue to provide savings to ratepayers in future periods.[252] SaskEnergy confirmed that targeted productivity and efficiency savings of $4.0 million for 2018/19 were reflected in the forecast 2019/20 revenue requirement.[253]

Key measures that are anticipated to provide productivity and efficiency savings for 2018/19 are summarized in Table 4-2.

[250] 2018 Commodity and Delivery Service Rate Application, page 23. 2017 Delivery Service Rate Application, page 10. 2017 Delivery Rate Application Tab 25, page 1-2. 2016 Commodity and Delivery Service Rate Application (savings noted are for the consolidated company and not just the distribution company).
[251] 1st Round Information Request 27(c), 2018 Commodity and Delivery Service Rate Application.
[252] 1st Round Information Request, 27(d), 2018 Commodity and Delivery Service Rate Application.
[253] 1st Round Information Request 27(a), 2018 Commodity and Delivery Service Rate Application.

Table 4-2: Summary of Targeted 2018/19 Fiscal Year Savings[254]

Productivity and Efficiency Measures		Targeted Savings
New Revenue Initiatives	• LDC Service Change Policy Changes • Gas Marketing Diversion Transactions	**$1.2 million**
Crown Collaboration	• Crown Sector Land System leveraged by SaskEnergy, SaskPower, and SaskTel • Postage, Envelopes & E-Billing Savings in collaboration with SaskPower • Employee Surveys – exploring opportunities with other Crowns to realize savings on 3rd party delivery surveys • Procurement Collaboration • Cathodic Protection Upgrades	**$0.6 million**
Business Process Changes	• Mobile Compression • Reduce LDC field operations call-outs and overtime • Transition Contractors to FTEs • Overtime Policy and Tracking Changes • Cathodic Protection Crossing Review Process • Change Geotechnical Sponsored Project Work • Merge of Safety and Integrity Patrols • Joint Work Coordination • Multi-year Master Suppliers Agreement for Valves & Fittings	**$1.7 million**
Leveraging Technology	• Communications & Collaboration Infrastructure – Telecom Savings & Process efficiencies • Distribution Work Management • Capital Portfolio Planning Solutions Savings • Geographical Information Systems Environmental Screening Tool • OT Reporting and Approvals • Reporting Everything Online (REO) Updates • Crossing Group Digital Solution • Remote Video Surveillance	**$0.5 million**
Total Savings		**$4.0 Million**

SaskEnergy notes that the initiatives identified in Table 4-2 involve planned permanent spending reductions.[255]

A number of productivity and efficiency initiatives are continued from prior years and described in detail in prior applications. New measures being implemented in 2018/19 were described by SaskEnergy as follows:

[254] 2nd Round Information Request 21(c), 2018 Commodity and Delivery Service Rate Application
[255] 2nd Round Information Request 21(d), 2018 Commodity and Delivery Service Rate Application.

Table 4-3: Summary of New Initiatives in 2018/19

Crown Collaboration	**Crown Sector Land System** - The current system is at end of its useful life. Land information is used by many areas in the organization; other Crowns also rely heavily on this information. Leveraging the needs of other Crowns is expected to generate savings as well as internal efficiencies with a more robust solution.	$0.025 million
	Employee Surveys - Surveys are completed by all Crowns. Having one service provider for the Crown sector will result in savings.	$0.020 million
Business Process Changes	**Transition of Contract Resources-** Savings are being realized by converting contact resources to full time equivalent resources to keep skill sets in the organization.	$0.600 million
	Reduce LDC Call Outs and Overtime - This relates to the incremental savings related to no longer responding to no heat calls which began in 2017.	$0.400 million
	Cathodic Protection Crossing Review Process Change - Historically cathodic protection inspections for crossing were done on a rotational basis but are now being done based on risk assessment.	$0.075 million
Leveraging Technology	**Capital Portfolio Planning Solution -** System being implemented to manage capital planning	$0.050 million

Observations

The Consultant notes that capital spending and infrastructure renewal requirements are likely to continue to put upward pressure on delivery service rates for the foreseeable future. This highlights the need for SaskEnergy to continue to intensify its efforts to identify and implement productivity and efficiency improvements wherever possible.

Recent Applications have described both restraint measures and productivity and efficiency measures. SaskEnergy has noted that restraint measures are "undertaken or quantified in response to requests from the Province for incremental earnings and are generally short term in nature." In contrast, productivity and efficiency measures are "initiatives that are planned in advance in the categories of leveraging technology, Crown collaboration, or business processes changes that result in operating efficiencies and reduced costs."[256] SaskEnergy has confirmed that all initiatives planned to be implemented in 2018/19 fiscal year involve planned permanent spending reductions.

Recommendations

SaskEnergy's proposed productivity and efficiency measures and costs appear to be reasonable. However, it is recommended that for future rate applications SaskEnergy provide in the descriptions for each productivity and efficiency program a statement indicating how the initiative results in a permanent spending reduction that also benefits ratepayers. Alternatively, if the initiative is undertaken in response to a request from the shareholder for incremental earnings that are generally short term in nature this should

[256] 2nd Round Information Request 1(i), 2017 Delivery Service Rate Application.

be specified. Any restraint programs that have been, or that will be undertaken, should be clearly identified and described.

5.0 CAPITAL EXPENDITURES

Capital expenditures are outside the scope of review for the Panel. However, capital expenditures influence the Distribution Utility's interest expense, depreciation expense and O&M expenses. Therefore, a review of SaskEnergy's capital program is necessary to understand the cost drivers behind the proposed revenue requirement and delivery service rates.

5.1 OVERVIEW OF TEST YEAR CAPITAL EXPENDITURES

From 2010 through 2015, average annual net capital spending was approximately $80.9 million; however, annual net capital spending nearly doubled over this period increasing from $50.5 million in 2010 to $99.80 million in 2015. Over the period from 2015/16 to 2017/18, net capital spending declined slightly, ranging from $96.9 million to $93.6 million, potentially reflecting deferred spending or restraint measures over this period. Net spending is forecast to again increase materially after 2017/18 fiscal year from $147.1 million in 2018/19 to $150.5 million in 2019/20.

Table 5-1 summarizes actual and forecast capital spending for 2010 to 2015 (calendar), 2015/16 to 2017/18 (fiscal actual) and 2018/19 to through 2022/23 (fiscal forecast).

Table 5-1: Total Actual and Forecast Capital Spending ($ millions)[257]

	Calendar Year [Jan 1 to Dec 31]						Fiscal Year [Apr 1 to March 31]							
	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2019/20 Forecast	2020/21 Forecast	2021/22 Forecast	2022/23 Forecast
Distribution														
Customer Connections	34.9	38.4	40.2	50.2	51.5	49.8	48.3	37.7	37.2	53.8	55.6	31.8	31.8	31.8
System Improvements	7.4	19.4	24.2	33.6	34.9	43.1	40.2	52.8	53.1	56.8	67.6	68.9	68.3	73.2
Gas Measurement	1.8	3.6	6.4	12.4	25.4	14.6	14.1	6.4	8.0	7.7	6.8	9.2	8.7	8.7
Tools/Station	0.6	1.0	0.9	1.0	0.7	1.0	0.9	1.0	1.0	1.4	1.6	1.2	1.4	1.1
Sub-total	**44.7**	**62.4**	**71.7**	**97.3**	**112.5**	**108.5**	**103.6**	**97.8**	**99.2**	**119.7**	**131.6**	**111.0**	**110.2**	**114.8**
General Plant														
Information Systems	9.2	13.3	11.0	12.8	5.5	7.9	8.9	10.5	10.5	21.9	25.7	23.6	28.3	12
Vehicles	5.3	4.2	3.7	4.3	4.6	4.5	4.6	3.2	6.3	5.3	4.9	5	5	5
Building/Furniture	3.0	2.6	2.1	1.2	2.0	1.0	0.9	1.7	2.1	22.8	12.1	4.8	16.5	11.3
Regulators	0.4	0.7	0.5	0.6	0.5	0.7	0.7	0.5	0.5	0.7	0.7	0.7	0.7	0.7
Sub-total	**17.9**	**20.7**	**17.3**	**18.9**	**12.7**	**14.1**	**15.1**	**15.9**	**19.5**	**50.6**	**43.3**	**34.0**	**50.4**	**28.9**
Total Capital Expenditures	**62.6**	**83.1**	**89.0**	**116.3**	**125.2**	**122.6**	**118.8**	**113.7**	**118.7**	**170.2**	**174.9**	**145.0**	**160.7**	**143.7**
Customer Contributions	**(12.1)**	**(18.1)**	**(14.2)**	**(20.2)**	**(25.9)**	**(22.8)**	**(21.9)**	**(20.2)**	**(25.0)**	**(23.1)**	**(24.4)**	**(14.1)**	**(14.1)**	**(14.1)**
Net Capital Expenditures	**50.5**	**65.0**	**74.8**	**96.1**	**99.3**	**99.8**	**96.9**	**93.6**	**93.6**	**147.1**	**150.5**	**131.0**	**146.6**	**129.7**
Annual change		14.5	9.8	21.3	3.2	0.5		-3.3	0.0	53.5	3.4	-19.6	15.6	-17.0
Annual change, %		29%	15%	28%	3%	1%		-3%	0%	57%	2%	-13%	12%	-12%

[257] Prepared based on Pre-Ask #14 of 2018 Commodity and Delivery Service Rate Application, and 2017 Delivery Service Rate Application Tab 6, page 8.

Changes in Forecast Spending: 2016/17 and 2017/18 Test Years

During the 2017 Delivery Rate Application review, SaskEnergy noted that approximately $17 million of capital planned for the 2016/17 test year would be deferred and/or planned to be completed in 2017/18; and indicated that the deferral of this spending was not driven by restraint initiatives in 2016/17. Key areas of deferred spending included $6.0 million for Customer Connections; and $7.4 million for Information Systems.[258]

During the current review process, SaskEnergy has noted the following changes from forecast spending for the 2017/18 test year.

Table 5-2: Summary of Changes from 2017/18 Test Year Forecast[259]

	2017/18 Test Year Spending Lower than Forecast	2017/18 Test Year Spending Higher than Forecast
Distribution		
Customer Connections		$1.8 million
System Improvements	$0.2 million	
Gas Measurement	$2.7 million	
Tools/ Stations/ GIS	$0.6 million	
General Plant		
Information Systems	$2.3 million	
Vehicles		$1.6 million
Buildings and Furniture	$23.9 million	
Regulators	$0.2 million	
Total	**$29.9 million**	**$3.4 million**

SaskEnergy notes that actual 2017/18 test year capital spending was primarily impacted by the assumption that SaskEnergy would purchase SaskEnergy Place in the 2017/18 Test Year ($18.9 million). The purchase did not occur in 2017/18 test year and is not forecast to occur until after the 2019/20 test year.[260]

5.1.1 Summary of Distribution Expense

Distribution expense includes spending on Customer Connections, System Improvements, Gas Measurement and Tools/ Station.

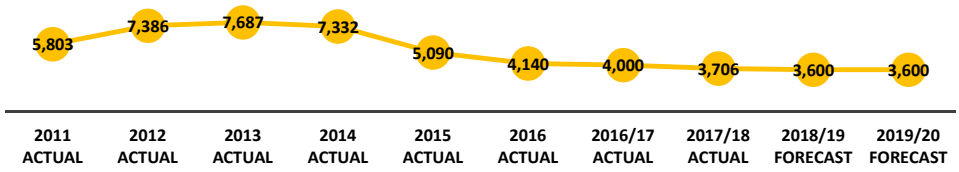
Overall spending on distribution is forecast to increase by 27% by 2019/20 (to $131.6 million) compared to 2015/16 ($103.6 million), peak in 2019/20 (at $131.6 million), and then decline by 16% in 2020/21

[258] 2017 Delivery Services Rate Application, 1st Round Information Request 16(a); and 2nd Round Information request 15(a).
[259] 2nd Round Information Request 12(a)(i) and (ii).
[260] 2nd Round Information Request 12(a)(iii).

averaging $112 million annually between 2020/21 to 2022/23. Spending on distribution has historically been dominated by Customer Connections. However, System Improvements expense has steadily and materially increased since 2008, and since 2016/17 has dominated distribution spending.

- Distribution spending on **System Improvements** increased significantly between 2010 and 2015 ($35.7 million increase), and is forecast to increase by $27.4 million between 2015/16 and 2019/20. Unlike spending on customer connections, capital spending related to integrity programming does not generate an incremental revenue stream for the corporation.
    - Between 2010 and 2015, actual spending averaged approximately $27.1 million annually, and between 2015/16 and 2019/20 spending on System Improvements is forecast to average $54.1 million annually. Spending increased by 31% (or $12.6 million) in 2016/17 compared to 2015/16 actual spending of $40.2 million, and increased by a 1% (or $0.3 million) in 2017/18 compared to 2016/17 actual spending of $52.8 million.
    - Spending on System Improvements is forecast to increase from $56.8 million in 2018/19 (7% increase over 2017/18) to $67.6 million in 2019/20 (19% increase over prior year). During the period from 2021/22 to 2022/23, spending on system improvements is forecast to average $70.8 million annually.
- Distribution spending increases are partially offset by forecast reductions in **Customer Connection** expense. Lower spending on customer connections between 2015/16 and 2017/18 relates to the slower pace of new connections since 2013. This reduces capital requirements to serve new customers, but also reduces the potential for revenue growth through system expansion and new customers.[261] Figure 5-1 indicate a decline in new customer connections since 2013.

Figure 5-1: Summary of Annual Active Increases in Customers[262]



- Table 5-1 shows that after peaking at $51.5 million in 2014, customer connection expense declined to $37.2 million in 2017/18. Spending on customer connections is forecast to increase materially in 2018/19 (45% increase over 2017/18) and 2019/20 (3% increase over 2018/19) driven by customer service requests for First Nations communities in Big River ($6.6 million in 2018/19), and Sturgeon Lake ($6.5 million in 2019/20), Piapot ($3.0

[261] Capital investment to connect new delivery customers generates incremental revenue through increased basic monthly charge revenue and incremental delivery service revenue.
[262] 1st Round Information Request 16 (k), 2017 Delivery Service Rate Application; Application 1st Round Information Request 14(g) 2018 Commodity and Delivery Service Rate.

million in 2019/20) and Muscowpetung ($3.0 million in 2019/20);[263] as well as investments related to two large industrial customers and SaskPower.[264]

- Subsequent to the material jump in expenditures between 2018/19 and 2019/20, spending is again forecast to decrease to below levels experienced in 2017/18 ($31.8 million forecast annual between 2020/21 and 2022/23). SaskEnergy notes that base capital costs to connect primarily residential customers over the period from 2019/20 to 2022/23 is forecast to remain approximately $31.8 million annually (3,600 new connections per year).[265]

- Over the period from 2018/19 through 2022/23 **Gas Measurement** spending is forecast to average $8.2 million annually. Increases after 2013 were driven in part by implementation of the AMI project, as well as new Measurement Canada related capital expenditures.[266] Actual expenditures decreased by 43% in 2015 (from $25.4 million in 2014 to $14.6 million in 2015; with a further reduction in 2016/17 to $7.0 million),[267] due primarily to completion of mass AMI deployment at the end of 2015.[268]
- Spending on **Tools/Station** has remained relatively flat over the period.

5.1.2 Summary of General Plant Expense

General Plant expense includes spending on Information Systems, Vehicles, Buildings/ Furniture and Regulators.

Overall spending on **General Plant** increases materially in the 2018/19 fiscal year from $19.5 million in 2017/18 (actual) to $50.6 million in 2018/19 (forecast). Spending remains higher than historic levels through to the end of 2022/23 (from a high of $50.6 million in 2018/19 and $50.4 million in 2021/22 to $28.9 million in 2022/23). SaskEnergy notes that the purchase of SaskEnergy Place (approximately $19 million) forecast to occur in the 2017/18 test year during the 2017 Delivery Rate Application, has been deferred to beyond the 2019/20 test year.[269]

Spending in each major cost area for General Plant is summarized as follows:

- **Buildings and Furniture:** Between 2010 and 2015, average annual spending in the Buildings and Furniture category was $2.0 million. Ongoing forecast annual expenditures in this category between 2019/20 and 2022/23 average $11.2 million. SaskEnergy notes that forecast expenditures in 2018/19 relate to the purchase of a new Regina Service Centre ($20 million). Costs related to the capital lease for SaskEnergy Place and other area office buildings are forecast to occur in

[263] 1st Round Information Request 14(a) notes that 1019/20 spending net of customer contributions is forecast to be $7 million. Gross spending is $12.5 million in that year.
[264] 1st Round Information Request 14(b); and 14(h) and 14(k).
[265] 1st Round Information Request 14(h).
[266] 2013 Delivery Rate Application, 1st Round Information Request, 20(i). 2014 Delivery Service Rate Financial Update, Information Request, 7(a).
[267] 2017 Delivery Service Rate Application Information Request 16(x).
[268] 2017 Delivery Service Rate Application 1st Round Information Request 16(x).
[269] 2nd Round Information Request 12(a)(iii).; see also 2017 Delivery Rate Application Response to 1st Round Information Request 16(u) which notes planned spending in 2017/18 of $19.4 million for the purchase of SaskEnergy Place.

2021/22 ($12.5 million expense). Costs related to the new Saskatoon Service Centre were deferred to 2022/23 ($7.5 million).[270]

Forecast costs in this category from 2019/20 to 2022/23 are summarized in Table 5-2.

Table 5-3: Forecast Buildings & Furniture Expense: 2019/20 to 2022/23[271]

	2019/20	2020/21	2021/22	2022/23
New Saskatoon Service Centre				$7.5 Million
Building Maintenance	$3.0 Million	$4.0 Million	$3.8 Million	$2.8 Million
Building Capital Leases[272]	$8.8 Million	$0.5 Million	$12.5 Million[273]	$0.8 Million
Furniture	$0.3 Million	$0.3 Million	$0.2 Million	$0.2 Million
Total	**$12.1 Million**	**$4.8 Million**	**$16.5 Million**	**$11.3 Million**

- **Information Systems:** Actual spending on Information Systems averaged $10 million between 2010 and 2015, and is forecast to double in 2018/19 (averaging approximately $22.3 million annually between 2018/19 and 2022/23). SaskEnergy forecasts material ongoing cost requirements related to "Business and Technology Optimization" focused on hardware and infrastructure, lifecycle upgrades and information and business technology initiatives. SaskEnergy notes that deferral of initiatives in previous years has resulted in the critical need to mitigate risk to SaskEnergy's technology infrastructure at this time.

  Table 5-4 summarizes key areas of spending and indicates that IT Technology Initiatives and Business Technology Initiatives are forecast to make up an increasing share of total Information Systems spending over the period form 2018/19 to 2021/22. IT Technology Initiatives make up between 31-42% of total Information Systems spending from 2019/20 to 2021/22; while Business Technology Upgrades make up between 37-53% of total spending over the same period. Spending on Licencing/ Hardware/ Infrastructure steadily declines steadily from 23% of total spending over the period to 4% of total spending in 2021/22.

[270] 1st Round Information Request 14 (a) and (b).
[271] 1st Round Information Request 14(u).
[272] SaskEnergy notes that pursuant to IFRS Standard 16, in 2019/20 building leases are recognized as capital leases as opposed to operating leases. Pursuant to 2nd Round Information Request 1(b) SaskEnergy notes that the impact to PP&E in 2019/20 is an increase of $8.8 million in capital additions composed of $2.4 million in area office buildings, $6.2 million for SaskEnergy Place and $0.2 million for parking lots based on lease renewal assumptions provided by Buildings and Security. The impact to depreciation expense is $2.9 million assuming a lease term of 3 years and rate base will increase by $5.9 million in 2019/20 as $8.8 million in capital additions will increase gross PP&E partially offset by a $2.9 million increase in accumulated depreciation.
[273] SaskEnergy Place and other area office buildings.

Table 5-4: Summary of Information Systems Expense 2018/19 & 2021/22 ($Millions)[274]

	2018/19	2019/20	2020/21	2021/22
Licensing/ Hardware/ Infrastructure • Refresh of core server, network, storage and end user devises software critical to the operation of day to day business. Spending forecasts are based on industry best practice refresh cycles. • Deferral of expense would leave data infrastructure unsupported and increase risk of application failures and business disruptions.	5.078	3.638	1.246	1.174
Lifecycle Upgrades • Upgrade of key business systems including email, enterprise resource planning and billing systems. • Regular upgrades within vendor support windows are required to ensure supportability from vendor.	9.280	4.471	0	4.310
IT Technology Initiatives • Initiatives core to supporting changing business needs and mitigating legacy technology security risks. • Spending deferral of would impact delivery of business technology initiatives and require ongoing mitigation efforts related to legacy technologies.	2.483	7.989	9.933	10.546
Business Technology Initiatives • Identified initiatives that drive value in the organization; governed by a stage gate approval process to ensure the value derived by the initiative is understood and documented.	5.061	9.561	12.420	12.268
Total	**21.902**	**25.659**	**23.599**	**28.299**

SaskEnergy notes that security plays a role in each information system project identified through secure design, identity and access management, vulnerability management and standards implementation. The lifecycle and IT Technology initiatives such as Desktop Refresh and Network upgrade and expansion also incorporate security control refresh and expansion activities. Cyber security represents 7% of overall IT spend.[275]

- **Other General Plant Expense:** Actual annual spending on **Vehicles** averaged $4.4 million between 2010 and 2015, and $4.7 million annually between 2015/16 and 2017/18; spending between 2018/19 and 2022/23 is forecast to be in the range of $5.0 million annually. Actual spending on **Regulators** averaged $0.6 million between 2010 and 2015, and for the period from 2015/16 through 2017/18. Spending for regulators is forecast to be in the range of $0.7 million annually between 2018/19 and 2022/23.

[274] Response to 1st Round Information Request 14(w); and 2nd Round Information Request 12(c).
[275] 2nd Round Information Request 12(c) (i).

5.1.3 System Integrity and Growth Spending

Since 2011, spending on system integrity projects has increased in order to address gaps in integrity programming compared to industry, and material ongoing investment levels are necessary to manage risk going forward, with increased spending required for asset life extension and replacement as legacy infrastructure ages.[276]

Material components of forecast system improvement capital relate to spending on risk management and growth activities in the following areas:

- **Service Upgrades ($21.9 million forecast in 2018/19 and $20.0 million forecast in 2019/20):**[277] Service upgrades make up 39% of total forecast spending on distribution in 2018/19 and 30% of total spending on distribution in 2019/20. Year over year spending is forecast to increase by 30% in 2018/19 over 2017/18 (actual) and is forecast to remain at the same approximate level in 2019/20. Forecast increased spending on service upgrades starting in 2018 relate to the significant amount of leaks identified in Saskatoon due to curb valve seal failures at the end of 2017 (SaskEnergy notes that in addition to the vintage of curve valve, the issue was directly related to the type of cold winter that occurred and related effects on ground conditions).

  SaskEnergy notes that it is upgrading Saskatoon services as well as undertaking service upgrades in other higher risk areas. Total leaks related to this issue were summarized as follows:

Table 5-5: Summary of Provincial Leaks: 2016/17 to 2018/19 (Q1)[278]

	2016/17	2017/18	2018/19 (Q1)
Provincial Leaks	363	882	218

  An upgrade program of $10 million and 1,000 upgrades was added to the 2018 service upgrade program to address the curve valve issue in Saskatoon and other areas, with spending to address this issue anticipated to remain at the $7 million level going forward. SaskEnergy notes that upgrade targets are planned to increase from 2,400 per year to 3,600 per year in 2018/19, and may continue at this level for the foreseeable future. SaskEnergy notes that higher spending will continue for at least two more years to completed required upgrades to portions of Saskatoon.[279]

- **Regulator/ Meter Station Upgrades ($6.236 million forecast in 2018/19 and $6.055 million forecast in 2019/20):**[280] Spending on Regulator/ Meter Station Upgrades makes up 9-15% of total spending on distribution over the period from 2016/17 to 2019/20 (with annual spending declining over the period from $8.008 million in 2016/17 to $6.055 million in 2019/20).

[276] See 2015 commodity and Delivery Service Rate Application 1st Round Information Request, 13(k); and 2016 Commodity and Delivery Service Rate Application 2st Round Information Request 23(a).
[277] Tab 6, Page 4. 2018 Commodity and Delivery Service Rate Application.
[278] 1st Round Information Request 14(o).
[279] 1st Round Information Request 16(d)(i) and (iv) and 14(o).
[280] Tab 6, Page 4.

SaskEnergy notes that annual spending is expected to continue at the 2018/19 and 2019/20 levels for future years.[281]

- **Meter Exchange Program:** Spending on the Meter Exchange Program makes up between 5-6% of total Distribution System Improvement expense over the period from 2016/17 (actual) to 2019/20 (forecast); with overall spending averaging $2.783 million per year over the period (ranging from $2.403 million forecast in 2018/19 to $3.250 million forecast in 2019/20). SaskEnergy notes meter exchanges are expected to decrease from 2017 levels (of 34,036) and average 18,583 per year over the period from 2018 to 2020 (with low of 16,300 in 2019 and high of 20,000 in 2020). SaskEnergy targets a consistent number of meter exchanges from year to year in order to manage the volume of work to be completed by SaskEnergy Operations.[282]
- **Distribution Main and Station Replacements ($5.453 million forecast in 2018/19 and $11.723 million forecast in 2019/20):**[283] Spending on the Distribution Main Replacement Program makes up about 2-17% of forecast spending on distribution between 2016/17 and 2019/20. The program was developed to create a prioritized list of gas distribution mains to be replaced in order to address potential risks related to aging infrastructure. The program currently targets polyvinyl chloride (PVC) and early generation polyethylene (PE) plastics and prioritizes replacements using a risk based approach and based on criteria that include age, material type, location and leak history. Materials were identified through an assessment completed by an external expert and replacement scheduled and prioritized based on risk over a 10-year program.[284] SaskEnergy notes that work to install new main and abandon aging PVC or early vintage PE pipelines has increased to ensure that the facilities are proactively upgraded in order to manage risks associated with ageing pipelines. Costs related to station upgrades are also marginally higher in 2018/19 and 2019/20, but not expected to continue at current elevated levels.[285]
- **Major Growth Infrastructure ($6.642 million forecast in 2018/19 an $11.300 million forecast in 2019/20)**:[286] Major Growth Infrastructure makes up 12-20% of forecast spending on distribution over the period from 2016/17 to 2019/20; this is a material increase over the 2013-2015/16 period, where it comprised between <1-8% of annual spending on distribution. SaskEnergy notes that that the MGI program assesses the infrastructure and capital requirements to ensure that distribution and transmission systems are capable of managing load growth and associated system reliability. The program is reviewed annually and is focused on growing communities and areas of higher risk.[287]

  Table 5-4 summarizes MGI program key activities over the next several years and indicates focused attention on addressing growth and reliability concerns in Saskatoon, Regina, Prince Albert, North

[281] 1st Round Information Request 14(n).
[282] 1st Round Information Request 14(t).
[283] Tab 6, page 4.
[284] Tab 6, page 6; and Response to 1st Round Information Request 14(f).
[285] 1st Round Information Request 14(s).
[286] Tab 6, Page 4.
[287] Application page 26. SaskEnergy notes that in order to ensure that its plans continue to be based on the most up to date and relevant information it the MGI program may be subject to more frequent updates as conditions change.

Battleford, Humboldt and Moose Jaw. Major changes in forecast assumptions compared to information reviewed in 2017 relate primarily to the following:

- Deferral of work planned to occur in 2018/19 in Regina[288] due to a reduction in the growth rate of the City and a change in delivery pressure opt a major industrial customer;
- Deferral of work planned to occur in 2018/19 in Saskatoon[289] due to the City of Saskatoon's North Commuter Parkway (NCP) project and potential impact of the substantial completion date for the NCP project. SaskEnergy notes it is working with the City of Saskatoon relative to the proposed pipeline routing; and
- Planned work in North Battleford and Prince Albert have been further refined. Review of station requirements related to the plan to re-build TBS#1 outside the flood risk zone in North Battleford led to a $2 million reduction in costs for the project. Planned work in Moose Jaw and Humboldt remains unchanged from that reviewed in the 2017 Delivery Rate Application.

[288] Planned project in South East Regina to expanded EP pipeline system to provide capacity for future growth and relocate TBS #2; and planned project in North West Regina including installation of TBS#4.
[289] Related to the Central Avenue IP Main project.

Table 5-6: Summary of Major Infrastructure Growth Spending[290]

City	Assessment of Current & Long Term Plans	Identified Projects	Project Timeline	Estimated Costs
Saskatoon	Management of load growth and system reliability. • Purchase new land parcel (2018/19). • Convert existing high pressure (HP) pipeline to intermediate pressure (IP) operating pressure (2020/21). • Relocate bulk odorant facilities outside city limits (2021/22). • Rebuild TBS#2 adjacent to existing station site (2022/23). • Decommission and reclaim existing site (2022/23).	TBS #2 Replacement	2018/19 to 2022/23	$7.15 million
	Additional pipeline infrastructure to accommodate changing load and to address further growth. Activities proposed in 2018/19 were deferred due to City of Saskatoon's North Commuter Parkway road project. Activities will occur over 2019/20 to 2022/23.	Central Avenue IP Main	2019/20 to 2022/23	$5.4 million
Regina	The current distribution system is approaching capacity due to continued subdivision growth. • Expansion of EP pipeline system to provide for future growth and facilitate relocation TBS#2; reduce of operating pressure of HP pipelines in residential and commercial areas. • Relocation of TBS#1 and reduce operating pressure of HP pipelines in residential and commercial areas to EP. • Installation of TBS#4 and associated pipeline to connect to existing distribution infrastructure.	South East Regina	2018/19 to 2023/24	$10.7 million
		Southwest Regina	2019/20 to 2023/14	$9.2 million
		Northwest Regina	2018/19 to 2023/24	$16.4 million
North Battleford	Management of load growth and system reliability. • Install TBS#3 to support growth potential. • Rebuild TBS#1 outside flood risk location.	TBS #3	2020/21 to 2023/24	$6.25 million
		TBS#1	2023/24	$2.0 million
Prince Albert	Management of load growth and system reliability. • Install TBS#2 to provide additional supply.	TBS#2	2018/19 to 2020/21	$7.6 million
Moose Jaw	Management of load growth and system reliability. • Install TBS#2 to provide additional supply. On south side of Moose Jaw.	TBS#2	2022/23 to 2023/24	$9.0 million
Humboldt	Provide future capacity to allow for growth and to increase reliability in the system. • Relocate TBS#2 and the associated pipeline to reduce reliance on TBS#1.	TBS#2	2018/19 to 2019/20	$1.15 million
Total Estimated Spending between 2018/19 and 2023/24				**$74.85 million**

[290] Response to 1st Round Information Request 14 (c), 2018 Commodity and Delivery Service Rate Application.

5.1.4 Capital Planning and Prioritization

SaskEnergy notes that it continues to advance implementation of capital prioritization to ensure the appropriate allocation of capital: (1) to address investments of highest value for SaskEnergy; and (2) that is aligned with the Crown Sector Priorities mandated by the Government of Saskatchewan. Advances in the capital prioritization process over the past year include:

- Formation of Capital Governance Committee comprised of experienced enterprise-focused resources from all areas of the company.
- Regular meetings to address capital prioritization using a collaborative process that leverages timing of existing investment opportunities, new investment opportunities, resource availability and cost of capital investments for SaskEnergy and its customers.

As a next step an enterprise capital budgeting, planning and approval tool is being developed and is expected to be available in Q4 of 2018/19.[291]

SaskEnergy indicates that implementation of the capital prioritization process has resulted in timely reallocation of capital investment, reducing lost opportunities driven by resource availability and procurement; and that the process has advanced collaboration and is allied with the "One Company, One Team" strategic mandate. The process has also helped to balance capital allocation between revenue generating investment and/or customer growth and system expansion and revenue sustaining investment and/or risk management and reliability.[292] The capital prioritization program is expected to result in $0.050 million in cost savings as well as increased efficiencies, cost avoidance and risk avoidance.

Observations

It is understood that the capital program is outside the purview of the Panel; however, capital expenditures impact other areas of the revenue requirement, and review of SaskEnergy's capital program is necessary in order to understand the cost drivers behind the proposed revenue requirement and delivery service rates, and provides some context for future rates.

Concern is noted regarding the sustained capital spending requirements that will continue to drive revenue requirement increases related to depreciation expense, capital tax and interest expense. SaskEnergy's net capital expenditures are forecast to average $133.1 million annually over the period between 2017/18 and 2022/23. SaskEnergy has continued to note that annual investment in safety and infrastructure is expected to continue for some time, and the five year forecast shows continued elevated spending levels in these areas.

Ongoing and sustained capital spending requirements will continue to place upward pressure on delivery service rates for the foreseeable future. Table 5-5 summarizes the impact that increased spending on system improvements has had on rates since 2011, and also provides the impact that ongoing spending

[291] 2nd Round Information Request 12(b).
[292] 2nd Round Information Request 12(b)(i)(ii) and (iii).

will continue to have over the period from 2017/18 to 2019/20. This indicates a steady and increasing impact on rate changes over the period from 2015/16 to 2019/20 (from 1.4% to 1.9%).

Table 5-7: System Improvements Impact on Rates and Debt: Equity[293]

	Calendar Year					Fiscal Year Forecast				
	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2019/20 Forecast
Impact to Rate Changes - Increase (decrease)	0.8%	1.0%	1.3%	1.2%	1.4%	1.4%	1.7%	1.5%	1.6%	1.9%
Impact ot Debt/ Equity - Increase (decrease)	1.3%	1.5%	1.7%	1.5%	1.7%	1.8%	2.2%	2.1%	2.1%	2.3%

While a significant portion of capital expense is focused on integrity and growth projects, material and increasing amounts are also being spent in the areas such as gas measurement, information systems and buildings and furniture which do not appear to relate directly to system integrity or growth.

- **Gas Measurement** ($8.0 million in 2017/18, with average annual spending of $8.2 million forecast over the period from 2018/19 to 2022/23): In 2017, SaskEnergy noted that planned ongoing spending related to metering costs associated with a proposed initiative to replace large diaphragm meters with a newer and more compact and lightweight meter technology.
- **Information Systems** ($10.5 million in 2017/18, and average annual spending of $22.3 million forecast between 2018/19 and 2022/23): Spending relates to a number of ongoing initiatives that relate to licensing/ hardware / infrastructure; lifecycle upgrades; IT technology initiatives' and business technology initiatives.
- **Buildings and Furniture** ($2.1 million in 2017/18, and forecast average annual spending of $13.5 million between 2018/19 and 2021/22). Spending relates items such as the assumed purchase of a new Regina Service Centre in 2018/19; capital lease expenditures; and a new Saskatoon Service Centre (assumed in 2022/23). SaskEnergy notes that the purchase of SaskEnergy Place ($18.9 million) did not occur in 2017/18 as forecast and is not forecast to occur in 2018/19 or 2019/20.

Of particular note are increases in spending on Information Systems – which doubled from $10.5 million in 2017/18 (actual) to $21.9 million in 2018/19 (forecast) and are expected to remain at 2018/19 levels until 2021/22 and then return to 2017/18 levels.

SaskEnergy described the "needs analysis" undertaken to support Information System capital investments. A project prioritization matrix is used to identify key initiatives that would supported the organization's strategic plan; identified initiatives are incorporated into the capital plan and subject to additional evaluation and oversight before being initiated. Information Systems Project delivery methodology requires

[293] 1st Round Information Request 14 (x). See also, 2016 Commodity and Delivery Service Rate Application response to 1st Round Information Requests, 14 (q); and response to 1st 2017 Delivery Service Rate Application, Round Information Request 16(y).

development of requirements, benefits and estimated total cost of ownership. SaskEnergy notes that projects are regularly reviewed and require additional approvals at four stage gates during the life of the project.[294]

The following was also noted regarding the material required increase in Information Systems Expenditures:

- **Impact of Prior Fiscal Restraint and Deferral of Upgrades:** Fiscal constraints have led to deferral of upgrades to data networks and business applications including the OneWorld enterprise resource planning system, desktop operating systems, email and collaboration systems, and video conferences infrastructure. SaskEnergy notes that continued deferral of investment in key systems and applications will result in unsupported systems, increasing potential unavailability of key systems for extended periods as well as the risk of cyber related breaches and critical incidents.[295]
- **The Network Must be Modernized to Meet the Corporation's Ongoing Needs:** SaskEnergy notes that "technical architecture development is needed to support business solutions so that high quality service delivery is both adaptable and sustainable".[296] The existing network is 30 years old and does not effectively support the growing needs of the organization. SaskEnergy is in the process of finalizing a contract with SaskTel to provide network architecture and associated investment requirements to transition SaskEnergy's computer room to SaskTel facilities. Additional work with SaskTel is also required to architect upgrading of data network capacity and implementation of network redundancy to increase resiliency.[297]

SaskEnergy confirmed that certain Information Systems projects relate to safety, including the Distribution Work Management System, Management of Change Solution, GIS Information Systems Solution and Hazard identification and Risk Assessment Project. Further, business cases for major technology projects outline specific savings – SaskEnergy noted that anticipated productivity and that efficiency savings related to major technology projects were forecast to be approximately $0.500 million per year.

SaskEnergy is making ongoing efforts to ensure that appropriate systems are in place to identify and respond to infrastructure and other risks and to prioritize capital spending accordingly. SaskEnergy should be encouraged to provide more detailed updates regarding its capital plans and prioritization systems, particularly where significant new spending requirements are being incurred (e.g., Information Systems).

[294] 2nd Round Information Request 12(c)(ii).
[295] 2nd Round Information Request 12(c)(iv)
[296] 1st Round Information Request 14(w).
[297] 2nd Round Information Request 12(c)(iii).

6.0 SAFETY AND RELIABILITY

SaskEnergy's distribution system is extensive, consisting of 85,000 km of transmission and distribution pipeline infrastructure that serves over 395,000 customers over a 380,000 km^2 service area that operates over diverse terrain in extreme weather conditions.[298] SaskEnergy indicates that substantial ongoing monitoring and maintenance is required to meet its primary objective of providing safe and reliable service to customers.[299] SaskEnergy also notes that natural gas utilities have had increased focus on public safety and infrastructure integrity in response to recent natural gas related incidents.[300]

SaskEnergy's system integrity program uses an enterprise risk approach that focuses on the risks faced by the approximate $1.9 billion of SaskEnergy/ TransGas facilities that deliver natural gas to industrial, businesses and residences throughout the province.[301] Forecast and actual system integrity capital and operating expense (as provide by SaskEnergy) is summarized in the Table 6-1 for the periods from 2013-2015 and 2015/16 to 2019/20.

Table 6-1: Capital and Operating Integrity Expense[302]

	Actual			Actual			Forecast	
	2013	**2014**	**2015**	**2015/16**	**2016/17**	**2017/18**	**2018/19**	**2019/20**
Integrity Capital ($Millions)	**26.4**	**23.2**	**23.4**	**22.7**	**22.2**	**28.9**	**36.0**	**35.1**
Integrity Operating (Millions)								
General Administration	0.00	0.14	0.21	0.26	0.27	0.16	0.25	0.25
Cathodic Protection	1.03	0.47	0.71	0.71	1.13	0.80	0.82	1.00
Leak Survey	1.49	1.63	2.23	2.39	2.12	1.69	1.67	1.70
	2.51	**2.23**	**3.14**	**3.35**	**3.52**	**2.65**	**2.74**	**2.95**

SaskEnergy notes that safety and infrastructure renewal activities are prioritized based on risk – and high risk items will take precedence over planned work. SaskEnergy also plans to ensure additional projects are "shovel ready" (design completed) in case planned work is delayed due to weather, customer outage availability or external approvals delays.[303] SaskEnergy indicates that 2016/17 spending on safety and infrastructure renewal activities occurred as planned; however, 2017/18 spending was materially higher ($28.9 million) than budgeted ($23.9 million) due primarily to the requirement to respond to materially higher leaks in Saskatoon in Q1 2018.

[298] 2018 Commodity and Delivery Service Rate Application. Tab 25, page 1.
[299] Page 19, 2018 Commodity and Delivery Service Rate Application.
[300] Page 25, 2018 Commodity and Delivery Service Rate Application.
[301] Page 25. 2018 Commodity and Delivery Service Rate Application.
[302] 1st Round Information Request 15(b). Per response to 2017 Delivery Rate Application, 2nd Round Information Request 14(e), it is assumed that operating expenses provided are non-labour.
[303] 2nd Round Information Request 12(d).

Safety and reliability spending is included in the following areas:

- **Capital Programming:** The application indicates that total annual distribution related capital programming spending has grown from approximately $33.6 million in 2013 to $43.1 million in 2015; and is forecast to grow from $40.2 million (actual) in 2015/16 fiscal year to $67.6 million in the 2019/20 fiscal year.[304] Key areas of spending on system integrity capital were reviewed in Section 5.1.3 and include Service Tee Upgrades and Distribution Main Replacements[305].
- **Planned Maintenance Program:** Approximately 13% of SaskEnergy's total operations and maintenance expenses relate to the planned maintenance program for the test period.[306] This includes spending on safety and integrity measures related to cathodic protection and leak surveys which averaged $2.6 million per year between 2013 and 2015 and $3.2 million per year between 2015/16 and 2017/18, and is forecast to average $2.8 million over 2018/19 and 2019/20.[307] Section 6.3 reviews the planned maintenance program.
- **Safety and Awareness Programming included in O&M Expense:** Actual O&M spending on safety and awareness programing decreased between 2013 and 2015 (from $0.587 million to $0.373 million), and increased materially over the 2015/16 and 2017/18 fiscal years (from $0.350 million in 2015/16 to $0.816 million in 2017/18). O&M spending on safety and awareness programing is forecast to average $0.672 million over the 2018/19 and 2019/20 period.[308]

SaskEnergy's safety and reliability activities and measures also include the following[309]:

- **Elevated Public Awareness** campaigns regarding facility contact and odour awareness.

  Enhanced Damage Prevention Activities (including Saskatchewan Common Ground Alliance and promotion of membership in Sask 1st Call) and work with enforcement agencies to ensure adherence and accountability to rules/ regulations.
- **Increased Scrutiny on Procedures** through the Competency Assessment Plan and proactive engagement with internal and external stakeholders regarding safety solutions, including work with external consultants and other distribution utilities across Canada to understand leading practices.
- **Expanding Integrity and Emergency Response Initiatives to manage Potential Risks Proactively**; including $22 million of planned expenditure on service line upgrades in 2018/19, as well as continuation of existing initiatives such as service tee upgrades, lane upgrade work, and other programming in.

[304] Tab 6, page 4; 2018 Commodity and Delivery Service Rate Application.
[305] 1st Round Information Request 15(b).
[306] 1st Round Information Request, 15(a)(i).
[307] 1st Round Information Request, 15(b). Amounts include general administration.
[308] Pre-Ask #5.
[309] Tab 7.

- **Employee Safety.**
- **Timely Response to Safety Incidents** through maintaining a distributed workforce throughout Saskatchewan and area offices located at the cities or larger towns within each early with technicians on standby to respond at any time whim an area.

6.1 SAFETY AND RELIABILITY MEASURES

SaskEnergy uses two metrics for measuring safety and reliability improvements for the distribution system:

- Target Leak Rate – leaks per 1,000 km of mains (lagging indicator); and
- Level of Spending directed at safety and integrity initiatives (leading indicator).

The number of leaks per 1,000 km of mains is the primary measure (lagging indicator), while the secondary measure is the level of spending directed at safety and integrity initiatives (leading indicator).[310] In the past, SaskEnergy has noted that meeting targets informs spending requirements, i.e., if the company starts to exceed targets it would review its approach and allocation of funds (relative to goals) as required. The overall goal for SaskEnergy is to achieve a continued reduction in leaks.[311]

Table 6-2 summarizes SaskEnergy's target leak rate and level of spending metrics compared to industry (normalized for the size of the SaskEnergy System).

Table 6-2: Summary of Safety and Reliability Metrics & Indicators[312]

	Industry Metrics & Indicators		SaskEnergy Metrics & Indicators			
	Services	**Mains**	**2017 Services**	**2018 Services**	**2017 Mains**	**2018 Mains**
Target Leak Rate	**1.1**	**8.0**	0.73	**2.03**	1.25	**1.34**
Level of Spending	**$18.1 million**	**$44.8 million**	$18.0 Million	**$28.9 million**	$13.8 Million	**$6.7 million**
PE	**68%**	**70%**	37%	**37%**	90%	**90%**
Steel	**30%**	**30%**	63%	**63%**	10%	**10%**
Other	**<1%**	**<1%**				

Table 6-1 notes as follows regarding SaskEnergy's performance:

- **Spending on Mains compared to Industry**: In 2018, SaskEnergy spending on mains was materially lower than industry ($6.7 million versus $44.8 million for industry); and materially lower than SaskEnergy spending on mains in 2017. However, SaskEnergy's system is newer; and SaskEnergy's leak rate for mains is significantly lower than industry. SaskEnergy spending in 2018 is also materially reduced from 2017 levels due to Major Growth Infrastructure expenditures being

[310] 2018 Commodity and Delivery Service Rate Application, Tab 7, page 1.
[311] 2016 Commodity Rate and Delivery Service Application. 2nd Round Information Request, 18(b).
[312] 1st Round Information Request 16(o). 2017 Delivery Service Rate Application, 2nd Round Information Request 16(i).

separated from this category in 2018. With Major Growth Infrastructure included, spending would be up to $14.8 million budgeted (a $0.700 million increase year over year).[313]

- **Spending on Services Compared to Industry:** SaskEnergy spending on services in 2018 is materially higher than industry ($28.9 million versus $18.1 million for industry) due to the requirement to address the increase in Saskatoon leaks. The SaskEnergy leak rate in 2018 was also almost double the industry average.

Target versus actual leak rates over the period from 2008 to 2017 (calendar years) and 2017/18 (fiscal) are summarized in Figure 6-1. The 2017/18 target leak rate was 5.7 leaks per 1,000 km of main – however, the actual leak rate in that year was significantly higher.

Figure 6-1: Actual Leak Rate vs Target Leak Rate: 2008 to 2017/18[314]

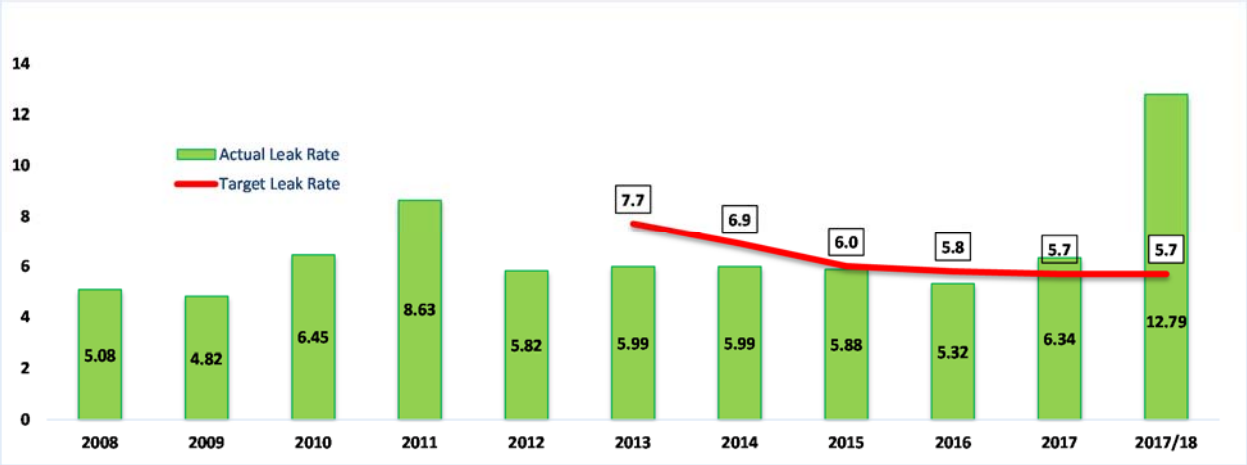


Table 6-3 summarizes the rationale for changes in leak rate each year. SaskEnergy notes that the significant increase in leaks in 2017/18 related to a vintage of curve valves installed in Saskatoon and other areas of the system between 1952 and 1965 (including Kindersley, Vanscoy, Delisle and Prince Albert).[315] In 2018, Saskatoon leaks increased from an historic average of 35 leaks/ year to 561 leaks (to the end of September 2018). With the impact of leaks related to the Saskatoon curve value issue removed, SaskEnergy's leak rate would be 4.14 leaks/ 1,000 km of main (well below the established target).[316]

[313] 2nd Round Information Request 13(c).
[314] See Table 6-3.
[315] 1st Round Information Request 16(d). In January 2018, unusually high leak activity was report in Saskatoon and investigation led to identification of issues related to a rubber seal inside curb valves installed on the system between 1952 and 1965. Weather and soil conditions were also noted as contributing factors with temperature swings from +40 degrees to +10 degrees multiple times throughout winter 2018.
[316] 1st Round Information Request 16(c).

Table 6-3: Target vs. Actual Combined Leak Rate per 1000 km of Main (2008 to 2017/18)[317]

Year	Actual Leak Rate	Target Leak Rate	Explanation for Increase/ Decrease
2008	5.08		
2009	4.82		Decrease due to reduction of line locate related issues
2010	6.45		Increase due to an increase in external interference (line hits)
2011	8.63		The Service Tee Program increased substantially, and leak surveys in Regina were increased to 5 week cycles (from 1 to 5 year cycle dependent on risk). Consequently, more leaks were detected. A very wet year also caused an increase in leaks in Regina and other areas around the province.
2012	5.82		A risk based approach was adopted which targeted areas of the province with the highest leak rate, bringing substantial gains to leak counts.
2013	5.99	7.7	Material and construction defects showed up in leak statistics, adding 20 additional leaks by this factor. These related to a type of fitting no longer used by SaskEnergy. A high snowmelt and wet year also resulted in more pulled services.
2014	5.99	6.9	Geotechnical leaks at Last Mountain Lake increased substantially due to wet weather, high snow fall and snow melt along with extreme cold weather throughout winter months. Wet and freezing conditions caused a high reported geotechnical leak rate.
2015	5.88	6.0	Line hits increased outside of the two major centres causing an increase in leaks.
2016	5.32	5.8	All categories are down, credited to dry year, service upgrade program and damage prevention efforts.
2017	6.34	5.7	This number is above target dueto the increased external interference leaks related to the long, dry digging season. The pulled services/ natural forces leaks were also up due to the start of a curb valve issue in Saskatoon late in 2017 that continued into 2018.
2017/18	12.79	5.7	Higher leak rate due to combination of weather, soil conditions and legacy pipeline infrastructure that resulted in over 500 underground gas leaks in the City of Saskatoon in early 2018.

SaskEnergy notes that weather can also materially impact changes to the annual number leaks, and that rainfall and snowmelt tend to correlate to increased system leaks in geotechnically sensitive areas such as Regina (heavy clay) and Last Mountain Lake (slope).[318]

Table 6-4 provides a breakdown of the causes/categories of leaks between 2013 and 2017 (calendar). It is noted that the impact of Saskatoon leaks in 2018 is not fully reflected in the information provided. However, Figure 6-2 that follows illustrates the impact of the curve valve issue on total Saskatchewan leaks over the 2017/18 period (and in particular leaks related to the pulled services/ natural forces category).

[317] Prepared based on Pre-Ask #15; and Tab 7, page 1. For 2008 to 2011 see 2013 Delivery Rate Application response to 1st Round Information Request 25(a) and response to 2nd Round Information Request 27(b). For 2012 to 2015 see 2016 Commodity and Delivery Rate Application 1st Round Information Request 23(c). Note that the actual leak rates provided in Pre-Ask #15 differ for 2013, 2014 and 2016 compared to information provided in prior years' information requests. 2016 Commodity and Delivery Rate Application 1st Round Information Request 23(c) notes as follows: 2012 (5.14); 2013 (5.95) and 2014 (5.99). The 2017 Delivery Rate Application notes in response to 2nd Round Information Request 16(e) notes: 2012 (5.82); 2013 (5.95); 2014 (5.96); 2015 (5.88) and 2017 (5.36).
2017 Delivery Service Rate Application, 2nd Round Information Request 16 (e), and
[318] 2017 Delivery Service Rate Application. Response to 1st Round Information request 17(d).

Table 6-4: Total Leaks and Leak Cause: 2013 to 2017[319]

Year	Leaks/ 1,000 of Mains	kms of Main	Pulled Service	Material Defects	Corrosion	Other	Total Leaks	Spending included in OM&A
2013	5.99	68,092	134	20	10	244	408	$2.5 Million
2014	5.99	68,613	142	28	14	227	411	$2.2 Million
2015	5.88	69,027	86	35	14	271	406	$3.1 Million
2016	5.32	69,547	73	33	17	247	370	$3.2 Million
2017	6.34	70,180	88	50	16	291	445	$3.3 Million

* Other includes lightening, rodents, grease plugs, flange gaskets, line hits.

** Total Underground Leaks Reported includes customer and line hits.

*** Safety and Integrity Spending included in OM&A for cathodic protection and leak surveys.

**** OM&A spending after 2016 is for split year. All other years are calendar.

Figure 6-2: Distribution Underground Leaks: 2007 to 2017/18[320]

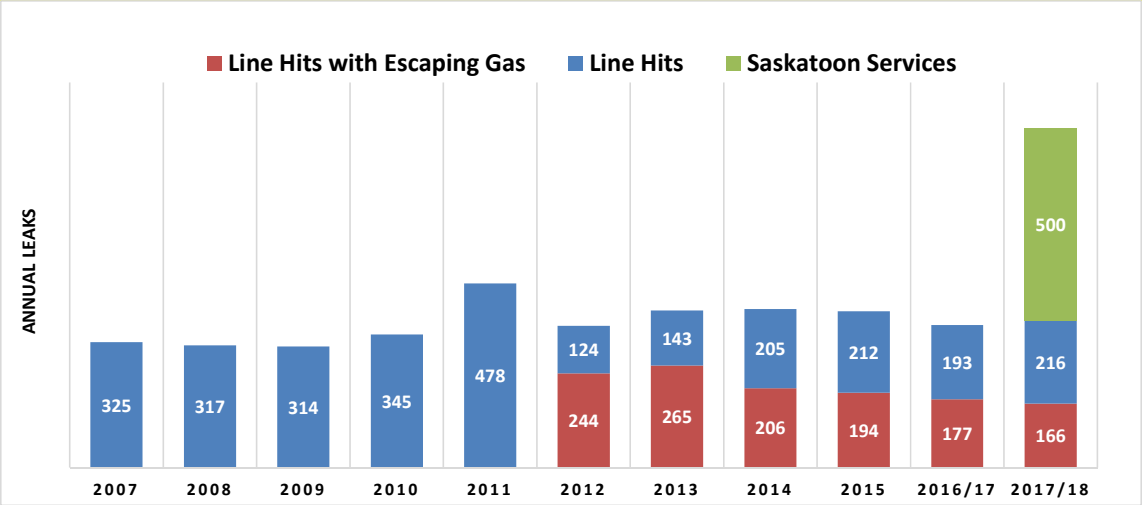


Table 6-4 indicates that over the period from 2013 to 2017 the total number of annual leaks has increased by 9%; however, there is considerable year to year variability with a 1% increase in 2014 over 2013, a 1% decrease in 2015 over 2014 and a 9% decrease in 2016 over 2015. In 2017 there was a 20% increase over 2016. OM&A spending has continued to increase over the period (from $2.5 million in 2013 to $3.3 million in 2017).

[319] Pre-Ask #16.
[320] Based on Power Point Presentation provided by SaskEnergy at the October 17, 2018 Public Meeting in Regina. Slide 15.

The following is specifically noted regarding the categories of leaks noted in Table 6-4.

- **Pulled Services (Natural Forces):** The percentage of total annual leaks relating to pulled services remained at approximately 20% of total leaks in 2016 and 2017, however, a significant increase is expected in 2018. As noted in Figure 6-2, approximately 500 of 882 leaks in 2017/18 relate to Saskatoon services.
- **Material Defects/Construction Defects:** The percentage of leaks relating to material defects/ construction defects has continued to increase over the period. Leaks due to material defects have increased from 5% of total leaks in 2013 to 11% of total leaks in 2017.
- **Corrosion:** Leaks due to corrosion have ranged between 10 and 17 leaks over the period from 2013 to 2017. Overall leaks in this category have been between 2% and 5% of total leaks over the period.
- **"Other":** The majority of pipeline leaks over the period relate primarily to the "Other" category which includes external interference, equipment malfunction, incorrect operation and "unable to classify". The percentage of leaks relating to the "Other" category has ranged from 55% of total leaks to 67% of total leaks over the period. Leaks in this category increased materially in 2015 (from 227 to 271), decreased in 2016 (to 247 leaks in that year) and increased to 291 in 2017. Total leaks in the "Other" category are summarized in Table 6-5 and outlined in further detail below (the impact of Saskatoon leaks over the 2017/18 period does not appear to be reflected yet in this information).

Table 6-5: Other Leaks Category from 2013 to 2017[321]

	2013	2014	2015	2016	2017
Pulled Service/ Natural Forces	134	142	86	73	88
Material Manufacturing or Construction Defect	20	28	35	33	50
Corrosion / Degradation	10	14	14	17	16
Other	**244**	**227**	**271**	**247**	**291**
Equipment Malfuction	*6*	*15*	*19*	*30*	*30*
External Interference	*192*	*189*	*217*	*154*	*194*
Incorrect Operation	*43*	*17*	*19*	*23*	*14*
Unable to Classify	*3*	*6*	*16*	*40*	*53*
Total Leaks	**408**	**411**	**406**	**370**	**445**

The following is specifically noted regarding the types of leaks included in the "other" category.

- **External Interference** is the largest component of the "other" category, comprising approximately 62-83% of leaks between 2013 and 2017. Comparison of 2017 leaks to

[321] Prepared based on Pre-Ask #16. The Total Leaks and Leak Cause: 2013 to 2017 Table indicates 28 leaks related to Material Defects in 2014; while the Other Leaks Category from 2013 to 2017 notes 0 leaks related to Material Manufacturing or Construction Defects in the same year [this is assumed to be an error]. Table 6-3 has include the 28 leaks noted in the Total Leaks and Leak Cause table as the overall totals with the 28 leaks are consistent with other information provided by SaskEnergy.

2013 leaks indicates an overall 1% increase in leaks in this category, however, there is material year to year variability in leaks with a 15% increase in 2015 over 2014, a 29% decline in 2016 over 2015 and a 26% increase in 2017 over 2016.

- **Equipment Malfunction**[322] accounted for between 2% and 12% of total leaks over the period from 2013 to 2017 (between 6 and 30 leaks each year). SaskEnergy has previously noted that this is a newer category of leaks added around 2013 and as a result increases in leaks in this category relate to better classification of leaks.[323]
- **Incorrect Operation** accounted for between 5%-18% of total leaks over the period from 2013 to 2017 (between 14 and 43 leaks); leaks in the category declined from 43 in 2013 to 14 in 2017.
- **Unable to Classify** accounted for between 1% and 18% of total leaks over the period from 2013 to 2017 (between three and six leaks per year from 2013 to 2014, 16 leaks in 2015 and increasing to 40 leaks in 2016 and 53 leaks in 2017).

The impact of external interference on overall leaks in the "other" category is notable and indicates the ongoing need to better understand the efforts being undertaken to reduce total leaks in this area.

SaskEnergy has noted that in order to normalize leak data and compare it to provincial averages, it uses a leak rate based on leaks per 1,000 services. The service upgrade program tracks community leak rates and prioritizes communities based on the historical leak rate for each community on a three and five year rolling average basis.[324] In 2017, SaskEnergy noted that the five year provincial average for leaks (not including external interference) was 0.56 leaks per 1,000 services.[325] This is well below average leaks for the communities outlined in Table 6-6 and Table 6-7 below.

Table 6-6: Leak Rates for Targeted Regina Neighbourhoods[326]

	3 year moving average										
Regina Neighbourhoods	**2006-2008**	**2007-2009**	**2008-2010**	**2009-2011**	**2010-2012**	**2011-2013**	**2012-2014**	**2013-2015**	**2014-2016**	**2015-2017**	**10 Year Average**
Hillsdale	1.9	1.5	1.7	2.8	3.9	3.9	3.5	1.6	0.5	0.0	**2.1**
Cathedral	1.9	3.1	2.6	1.8	0.5	1.7	3.5	3.5	2.5	0.8	**2.2**
Coronation Park	2.2	2.1	1.7	2.5	2.8	3.7	3.1	3.9	3.4	3.1	**2.9**
McNab	0.0	0.9	1.9	1.9	0.9	0.0	1.9	2.9	2.9	1.0	**1.4**
Rosemont/ Mount Royal	1.8	2.8	3.3	3.1	2.8	3.2	3.8	3.3	2.1	1.1	**2.7**
North Central	1.6	2.1	2.2	3.0	3.2	3.3	3.1	3.4	2.2	1.5	**2.6**
Normanview	1.0	0.7	1.0	0.3	1.7	2.8	3.8	3.1	1.8	1.8	**1.8**
Albert Park	0.7	0.7	0.7	1.8	2.6	3.0	2.0	1.3	0.9	1.5	**1.5**

[322] 2017 Delivery Rate Application 2nd Round Information Request 16(b) noted that this is a newer leak category and increases in annual leaks in recent years noted reflect better classification of leaks.
[323] 2017 Delivery Rate Application 2nd Round Information Request 16(b).
[324] 2017 Delivery Rate Application 1st Round Information Request 17(c). SaskEnergy notes that in order to normalize leak data and compare it to provincial averages, it uses a leak rate based on leaks per 1,000 services.
[325] 2017 Delivery Rate Application, 2nd Round Information Request 16(d).
[326] 1st Round Information Request 16(k).

Table 6-7: Leak Rates for Targeted Saskatchewan Communities[327]

	5 year moving average									
Saskatchewan Towns	**2005-2009**	**2006-2010**	**2007-2011**	**2008-2012**	**2009-2013**	**2010-2014**	**2011-2015**	**2012-2016**	**2013-2017**	**10 Year Average**
Sceptre	4.4	0.0	0.0	4.5	4.5	4.5	4.5	4.5	0.0	**2.3**
Lancer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Abbey	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	**1.0**
Regina Beach	0.0	0.0	1.1	1.1	1.1	5.7	7.2	7.7	7.7	**4.4**
Drinkwater	7.4	7.4	7.7	15.7	15.7	15.7	15.7	8.0	0.0	**7.8**
Sovereign	8.0	0.0	0.0	8.3	8.3	8.3	8.3	8.3	0.0	**4.2**
Humboldt	2.6	2.0	2.4	1.2	1.4	1.4	1.8	3.3	3.7	**2.5**
Dinsmore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	**0.8**
Wiseton	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	**1.7**
Milden	0.0	0.0	2.2	2.2	2.2	4.5	4.5	2.3	2.3	**2.3**
Beatty	8.3	8.3	0.0	0.0	8.7	8.7	17.8	17.8	17.8	**8.9**
Delisle	0.0	1.1	1.6	2.7	2.7	3.2	2.7	2.2	1.1	**1.9**

Note: SaskEnergy provided only nine years of average leak data for Saskatchewan communities.

SaskEnergy notes that Service Upgrade program spending closely relates to community leak rates – as project areas are prioritized by leak rate. However, work planning and prioritization will also consider factors such as total services in an area and spreading work across operating districts.

Planned service upgrade program spending in targeted areas in 2018 is summarized below:

Table 6-8 Service Upgrade Program 2018 Targeted Spending[328]

Risk Area	Quantity	Program Spending	5 Year Average Leak Rate	2018 Leak Rate
Regina	1,370	$9.5 Million	3.1	5
Saskatoon	1,255	$7.0 Million	0.3	17
Other	755	$3.5 Million	3-8	-
Total Spending	**3,380**	**$20 million**		

SaskEnergy notes that it has upgraded service connections Abbey, Elrose, Humboldt, Kyle, Lancer, Leader, Pense, Prelate, Regina, Regina Beach, Rosetown, Rouleau, Shackleton and Scepter[329]; and has also prioritized activities in Drinkwater, Sovereign, Dinsmore, Wiseton, Milden, Betty and Delisle.[330] Saskatoon

[327] 1st Round Information Request 16(k).
[328] 2nd Round Information Request 13(d).
[329] Tab 25, page 22.
[330] 1st Round Information Request 16(k).

was added to the service upgrade program in 2018 after detection of the curve valve issue (Saskatoon leaks were about 60 leaks per 1,000 services).[331]

6.2 OTHER SAFETY PERFORMANCE MEASURES

SaskEnergy indicates that it has the following targets for responding to safety incidents:[332]

- For call response in rural areas 1.5 hours maximum
- In larger urban centres and towns[333] 1 hour
- Provincial Average < 30 minutes

Table 6-9 summarizes the actual average response time for all safety calls between 2011 and 2018 (January to June). The table also provides the urban versus rural response times over that period.

Table 6-9: Actual Average Response Time and Location of Safety Calls[334]

	Minutes			
	Response Time - SIR Required	Response Time (All Safety Calls)	Rural Response Time	Urban Response Time
2011	39	24	34	16
2012	40	24	34	16
2013	44	24	33	16
2014	45	23	32	16
2015		22	29	15
2016		23	33	17
2017		25	39	24
2018 *		24	40	22

* January to June

Table 6-10 summarizes information regarding SaskEnergy actual lost time injuries, medical aid and preventable vehicle collisions since 2010 and indicates a reduction in all of these metrics over the past three years.

[331] 1st Round Information Request 16(k).
[332] Tab 7, page 5. 2018 Commodity and Delivery Service Rate Application.
[333] Tab 7, page 5 notes this reflects larger urban centers and towns where SaskEnergy has an office. 2018 Commodity and Delivery Service Rate Application.
[334] Prepared based on Pre-Ask #17.

Table 6-10: Actual Lost Time Injuries, Medical Aid and Preventable Vehicle Collisions[335]

	2010	2011	2012	2013	2014	2015	2016	2016/17	2017/18
Lost Time Injuries (LTI)	13	20	13	11	10	7	12	11	13
Medical Aids (MA)	11	11	15	13	12	11	6	4	9
Preventable Vehicle Collisions (PVC)	33	23	39	30	22	20	26	22	27
Total Recordable Injury Frequency Rate*	2.51	3.24	2.91	2.46	2.22	1.86	1.93	1.63	2.43
PVC Frequency Rate **	2.69	1.83	2.94	2.35	1.69	1.47	2.04	1.74	2.12

* Corporate Recordable Injury Rate is the sum of the Lost Time Injuries and Medical Aid multiplied by 200,000 and divided by total hours worked.

** Corporate PVC Frequency Rate is the number of Preventable Vehicle Collisions multiplied by 1 million an divided by the total km driven.

SaskEnergy notes that lagging factors can be cyclical and it is common for lagging indicators to ebb and flow when comparing statistics over one or two years. Longer trends provide a better sense of the overall rate of continual improvement.[336]

- The 2017/18 Total Recordable Injury Frequency (TRIF) rate of 2.43 which was above the 5 year average of 2.02 but below the 10 year average of 2.81. SaskEnergy notes that as of September the TRIF was 1.33 which was on track to be the lowest on record for SaskEnergy.
- The 2017/18 Preventable Vehicle Collision Frequency (PVCF) rate of 2.12 was above the 5-year average of 1.85 but below the 10-year average of 2.37. SaskEnergy notes that as of September 30, the PVCF was 1.68 and on track to be one of the lowest PVCF on record for SaskEnergy.

SaskEnergy notes that it continues to monitor these metrics and promote processes that will continually strengthen and improve the company's health and safety efforts and performance.

Observations

SaskEnergy notes that over the last 10 years it has moved from "just in time" intervals to a risk-based program. Under the former program, all areas were treated equally using five-year intervals (except for identified higher risk areas in Regina). The risk-based approach being used likely increases leak findings significantly in higher risk areas.[337]

SaskEnergy notes areas where there has been continuous improvement of safety and reliability – including the following:

- **Ongoing Elevated Public Awareness and Enhanced Damage Prevention Activities:** Since 2014, SaskEnergy has implemented a number of damage prevention and public awareness initiatives to reduce third party damage (which is considered the largest threat to underground gas

[335] Prepared based on Pre-Ask #17.
[336] 1st Round Information Request 16(q). The average for the nine years of information provided in Pre-Ask #17 is 2.35 (TRIF) and 2.10 (PVCF) which is lower than the 10 year average provided.
[337] 1st Round Information Request 16(e). SaskEnergy note that more sensitive technologies are in use today that can detect concentrations of gas at 1ppm, however, the risk based cycle times has likely led to increased detection rates compared to the technology itself.

lines.[338] SaskEnergy notes that with continued focus on these programs there has been an approximate 35% reduction in third party damage to its pipelines since 2013.[339] Reduction of 3rd Party line hits reduces the financial burden on SaskEnergy and contractors related to line hits, increases the reliability of gas service and improves public safety by reducing the level of risk associated with line hits and gas escapes.[340]

- **Expanding Integrity and Emergency Response Initiatives:** Since 2011, 17,000 services have been upgraded through the Service Upgrade Program – which equates to 51 leaks prevented per year, and as more service upgrades are completed the level of reduction is expected to grow. The program was expanded in 2018 to include Saskatoon (adding 1,000 upgrades), and an additional 19-20 leaks saved per year is expected. [341] The service upgrade program will target 3,600 upgrades per year starting in 2018/19 and is expected to stay at this level for the foreseeable future. [342] Estimated 2017 savings due to the program were approximately $0.400 million and are projected to grow by $0.080 million annually.[343]
- **Increased Scrutiny on Procedures:** In 2017, SaskEnergy delivered training related to responding to natural gas emergencies to 33 first responders representing 41 different communities; SaskEnergy also indicates its annual customer satisfaction research demonstrates the effectiveness of key focus areas and communication initiatives.[344]
- **Response to Safety Incidents:** SaskEnergy notes that in 2017/18 it achieved an average emergency response time to site of 23 minutes, which is comparable to other utilities and is considered an appropriate level of service.[345]

SaskEnergy has provided information that indicates that measures implemented to reduce leaks in targeted categories in Regina and other areas of the province have resulted in continuous improvement over the last several years. Total leaks in 2017 (445) were higher than the 5-year average for total leaks (408 leaks) [see Table 6-4 and Figure 6-2]; however, total leaks have tended to change materially year over year. During the 2017 Delivery Rate Review it was also noted that leaks between 2011 and 2016/17 also appear to be higher than for the period between 2007 and 2011.[346]

[338] Tab 25, page 8. This includes: Supervision of dig sites around critical infrastructure (based on risk) in Regina and Saskatoon; Daily line patrols of critical infrastructure in Regina and Saskatoon; and Collaboration with Sask 1st Call, SaskTel and SaskPower on Safety Patrols in key locations across the province to actively engage contractors and homeowners in requesting locates and safe digging practices.
[339] Tab 7, page 3.
[340] Tab 25, Page 9.
[341] 1st Round Information Request 16(k)(iv)
[342] Tab 25, page 22.
[343] Tab 25, page 22.
[344] Tab 7, page 2.
[345] Tab 7, page 5.
[346] 2017 Delivery Rate Application Tab 23, page 13.

6.3 PLANNED MAINTENANCE PROGRAM

SaskEnergy has developed Construction, Operations and Maintenance Practices (COMPs – formerly Standard Practice Instructions Manual), which incorporate all the necessary design, operation and maintenance instructions to be in compliance with the related codes, industry and corporate standards. COMP manuals are reviewed regularly and adjusted as required to meet corporate standards as well as applicable codes and regulations.[347] SaskEnergy also maintains two electronic work management systems to manage maintenance activities; and its end point measurement equipment is maintained in compliance with Measurement Canada requirements.[348] SaskEnergy notes that maintenance of customer end point gas measurement equipment through sample and recall exchanges for Measurement Canada compliance is now a capitalized cost.[349]

SaskEnergy's annual maintenance activities fall into two main categories: (1) pressure regulation stations and (2) distribution mains and service lines. Key activities under each category are as follows[350]:

Pressure Regulation Stations

- Building and Site Maintenance.
- Pressure regulator and relief inspections and overhauls.
- Valve maintenance.
- Line heater maintenance.
- Odorant management (tank re-fills, injections equipment, monitoring systems and procedures).
- Station piping and riser inspection.

Distribution Mains and Service Lines

- Cathodic protection maintenance (corrosions control).
- Underground valve maintenance.
- Pipeline locating.
- Leak surveys.
- Service pressure regulator maintenance.

As this work does not result in an extension of the useful life of assets or increased functionality of assets, the planned maintenance program is considered to be operation and maintenance spending.[351]

Table 6-11 below summarizes planning maintenance spending from 2016/17 to 2017/18 (actual) and forecast spending for 2018/19 to 2020/21 and indicates as follows:

- Approximately 13% of operations and maintenance expenses relate to the planned maintenance program.[352]
- Regulator Stations make up about 77% of planned maintenance spending over the period from 2016/17 to 2017/18 and forecast from 2018/19 to 2020/21.

[347] Tab 6, page 2, 2018 Commodity and Delivery Service Rate Application.
[348] Tab 6, page 2, 2018 Commodity and Delivery Service Rate Application.
[349] 1st Round Information Request 15(a)(ii).
[350] Tab 6, page 2.
[351] 2015 Commodity and Delivery Service Rate Application 1st Round Information Request, 12(a).
[352] 1st Round Information Request 15(a).

- Mains and Services make up the remaining 22-23% of planned maintenance spending over the same period.
- Planned maintenance expense is forecast to increase from an average of $15.069 million over 2016/17 – 2017/18, to an average of $17.407 million over the period form 2018/19 to 2020/21.

Table 6-11: Spending on the Planned Maintenance Program[353]

	Actual		Forecast		
	2016/17	**2017/18**	**2018/19**	**2019/20**	**2020/21**
Total OM&A (Hours)	118,419	113,690	117,000	117,000	117,000
Total Planned Maintenance (Hours)	15,385	15,215	15,300	15,258	15,279
Total Planned Maintenance ($)	15,038,535	15,079,899	17,049,300	17,765,077	17,407,720
Total Planned Maintenance % of Total OM&A ($)	*13.0%*	*13.4%*	*13.1%*	*13.0%*	*13.1%*
Regulator Stations (Hours)	11,813	11,813	11,813	11,813	11,813
Regulator Stations ($)	11,546,975	11,708,108	13,163,620	13,754,472	13,459,046
% of Total Planned Maintenance($)	*76.8%*	*77.6%*	*77.2%*	*77.4%*	*77.3%*
Mains and Services (Hours)	3,572	3,402	3,487	3,445	3,466
Mains and Services ($)	3,491,560	3,371,792	3,885,680	4,010,605	3,948,674
% of Total Planned Maintenance ($)	*23.2%*	*22.4%*	*22.8%*	*22.6%*	*22.7%*

Observations

In the Consultant's view, the methods used by SaskEnergy to plan and deliver its maintenance program appear to be reasonable and consistent with industry standards.

[353] 1st Round Information Request 15(a).

7.0 LOAD FORECAST

A utility's load forecast is an essential aspect of developing the revenue requirement. The load forecast determines the revenue forecast during the test years, as well as cost drivers such as required gas volumes and capital costs related to customer additions.

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. SaskEnergy uses regression equations for Residential and Commercial Small customer classes, which accounts for over 80% of total sales, to quantify the historical trend in customer use. The calculation for heating degree day variance is done on a province-wide basis using average temperatures in Regina and Saskatoon. SaskEnergy states that for Commercial Large and Small Industrial customers the historic use per customer is used as there is no statistically valid regression equation for this data.[354]
2. **Forecast Number of Customers:** The forecast average number of customers for each customer class is calculated as the sum of the actual average number of customers served for the previous period plus estimated additions.

Table 7-1 summarizes the weather normalized average use per customer for each customer class from 2013 to Forecast 2019/20.

Table 7-1: Average Weather Normalized Use per Customer (GJ)[355]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				
	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Forecast	2018/19 Forecast	2019/20 Forecast
Customer Class								
Residential	105	107	104	103	103	107	107	107
Annual change, %		*2%*	*-3%*	*-1%*	*0%*	*4%*	*0%*	*0%*
Commercial Small	497	514	507	502	506	511	511	503
Annual change, %		*3%*	*-1%*	*-1%*	*1%*	*1%*	*0%*	*-2%*
Commercial Large	6,911	7,075	6,174	6,030	6,891	6,584	6,567	6,551
Annual change, %		*2%*	*-13%*	*-2%*	*14%*	*-4%*	*0%*	*0%*

SaskEnergy notes that use per customer in Saskatchewan has been declining on average by 1% to 2% annually since 1982, and indicates that this is a common trend across North America due to a number of contributing factors including: customer acquisition of more energy efficient furnaces and appliances, installation of set-back thermostats, improved insulation in home and businesses, reduced hot water consumption and generally increased awareness of energy consumption. However, it also notes that the use per customer trend has begun to level off in recent years due to customers maintaining more energy

[354] Page 35, 2018 Commodity and Delivery Service Rate Application.
[355] Prepared based on information on page 25 of 2017 Delivery Service Rate Application and Page 35, 2018 Commodity and Delivery Service Rate Application.

efficient homes, fewer homes with low energy equipment, and lower natural gas prices.[356] During the review of 2017 Delivery Service Rate Application, SaskEnergy noted that 2014 was an "abnormally cold winter" and therefore the UPC is high for that year.[357]

The total number of customers is forecast by taking the sum of the actual average number of customers served for the previous period and the forecast customer additions based on anticipated new construction and planned projects to un-serviced areas.[358]

Table 7-2 summarizes the actual average number of customers for 2013 through 2017/18 compared to the forecast for the same period.

- Table 7-2 shows that the actual number of customers were within +/-1% compared to the forecast for the Residential and Commercial Small customer classes, which are slightly more than 80% of the total load on the system.
- There are large differences related to customer forecasts for the Commercial Large [ranges between -5% and 8%] and Small Industrial customer classes [ranges between -3.3% and 50%]. For the last four reporting years, i.e., 2014 through 2017/18 fiscal year, the actual number of Large Commercial customers was on average 5.2% higher compared to forecast.

Table 7-3 summarizes the annual change in the actual average number of customers for 2013 through 2019/20.

The average annual growth of total customers was approximately 1.4% over the last four actual years, 2013 to 2015 calendar years and the 2015/16 to 2017/18 fiscal years. The 2018/19 and 2019/20 forecast years assume the following annual changes in number of customers:

- For Residential, a 1.0% increase in 2018/19 over 2017/18 actuals, and a further increase of 0.9% in 2019/20;
- For Commercial Small, a 0.7% increase in 2018/19 over 2017/18 actuals, and a further increase of 0.7% in 2019/20;
- For Commercial Large, a 0.3% increase in 2018/19 over 2017/18 actuals, and a further increase of 0.3% in 2019/20; and
- Small Industrial customers are forecast to stay at 29 customers, 2017/18 actual level.

[356] Page 35. 2018 Commodity and Delivery Service Rate Application.
[357] Page 25. 2017 Delivery Service Rate Application.
[358] Page 36. 2018 Commodity and Delivery Service Rate Application.

Table 7-2: Actual Average Number of Customers Compared to Forecast[359]

	Calendar Year [Jan 1 to Dec 31]									Fiscal Year [Apr 1 to March 31]								
	2013			2014			2015			2015/16			2016/17			2017/18		
	Actual	Forecast	% Var.	Actual	Forecast	% Var.	Actual	Forecast	% Var.	Actual	Forecast	% Var.	Actual	Forecast	% Var.	Actual	Forecast	% Var.
	A	B	C=A/B	D	E	F=D/E	G	H	I=G/H	J	K	L=J/K	M	N	O=M/N	P	Q	R=P/Q
Residential	328,330	325,827	0.8%	336,305	332,915	1.0%	341,421	341,017	0.1%	342,508	342,441	0.0%	346,218	346,450	-0.1%	349,789	349,874	0.0%
Commercial Small	37,814	37,658	0.4%	38,469	38,194	0.7%	38,838	38,484	0.9%	38,940	38,555	1.0%	39,380	39,648	-0.7%	39,658	39,761	-0.3%
Commercial Large	1,417	1,490	-4.9%	1,390	1,322	5.1%	1,430	1,332	7.4%	1,440	1,333	8.0%	1,437	1,388	3.5%	1,468	1,440	1.9%
Small Industrial	18	18	0.0%	18	18	0.0%	27	18	50.0%	27	18	50.0%	29	27	7.4%	29	30	-3.3%
Total	**367,579**	**364,993**	**0.7%**	**376,182**	**372,449**	**1.0%**	**381,716**	**380,851**	**0.2%**	**382,915**	**382,347**	**0.1%**	**387,064**	**387,513**	**-0.1%**	**390,944**	**391,105**	**0.0%**

Table 7-3: Average Actual Number of Customers for 2013 through 2019/20[360]

	Calendar Year [Jan 1 to Dec 31]					Fiscal Year [Apr 1 to March 31]										
	2013 Actual	2014		2015		2015/16		2016/17		2017/18		2018/19		2019/20		
		Actual	Annual Change	Actual	Annual Change	Actual	Annual Change	Actual	Annual Change	Forecast	Annual Change	Forecast	Annual Change	Forecast	Annual Change	
	A	B	C=B/A	D	E=D/B	F	G	H	I=H/F	J	K=J/H	L	M=L/J	N	O=N/L	
Residential	328,330	336,305	2.4%	341,421	1.5%	342,508	n/a	346,218	1.1%	349,789	1.0%	353,190	1.0%	356,506	0.9%	
Commercial Small	37,814	38,469	1.7%	38,838	1.0%	38,940	n/a	39,380	1.1%	39,658	0.7%	39,937	0.7%	40,216	0.7%	
Commercial Large	1,417	1,390	-1.9%	1,430	2.9%	1,440	n/a	1,437	-0.2%	1,468	2.2%	1,473	0.3%	1,478	0.3%	
Small Industrial	18	18	0.0%	27	50.0%	27	n/a	29	7.4%	29	0.0%	29	0.0%	29	0.0%	
Total	**367,579**	**376,182**	**2.3%**	**381,716**	**1.5%**	**382,915**	**n/a**	**387,064**	**1.1%**	**390,944**	**1.0%**	**394,629**	**0.9%**	**398,229**	**1.9%**	

[359] 1st Round Information Request, 23(b). The numbers for 2013 are from 1st Round Information Request, 24(b) of 2017 Delivery Service Rate Application.
[360] 1st Round Information Request, 23(b) and information available in Tab 20.

In forecasting additions related to new customers, SaskEnergy indicates that it consults the Canada Mortgage and Housing Corporation's (CMHC) housing outlook, and that the customer growth forecast is based on a review of the following:

- Single detached and multi-family housing starts;
- Migration statistics (Saskatchewan net migration, interprovincial migration breakdown, net migration by major center);
- Economic activity (building permit values, net job creation in Saskatoon and Regina, Saskatchewan real GDP growth);
- Attractiveness of Saskatchewan (labour market comparison to other provinces and costs to own and rent homes); and
- Additional sources of information include the Government of Saskatchewan and Statistics Canada websites.[361]

Table 7-4 provides a comparison of the weather normalized load by customer class for 2013 through 2017/18 actuals compared to forecast. The table shows as follows:

- The weather normalized actuals for the Residential customer class were within -0.9% and 3.3% of forecast [mostly impacted by 2017/18 with 3.3% variation; the remaining years between -0.9% and 0.8%];
- There were slightly larger variations in the load forecasts for Commercial Small [ranging between -0.9% and 4%]; and
- There were notable variations in Commercial Large [ranging between -9.2% and 6.3%] and Small Industrial [ranging between -28.5% and 17.4%] classes.

[361] 1st Round Information Requests, 23(c).

Table 7-4: Actual and Forecast Sales for 2013-2017/18[362]

	Calendar Year [Jan 1 to Dec 31]									Fiscal Year [Apr 1 to March 31]								
	2013			2014			2015			2015/16			2016/17			2017/18		
in 000s GJs	Actual	Forecast	% Var.	Actual	Forecast	% Var.	Actual	Forecast	% Var.	Actual	Forecast	% Var.	Actual	Forecast	% Var.	Actual	Forecast	% Var.
	A	B	C=A/B	D	E	F=D/E	G	H	I=G/H	J	K	L=J/K	M	N	O=M/N	P	Q	R=P/Q
Residential	34,391	34,706	-0.9%	35,816	35,746	0.2%	35,474	35,550	-0.2%	35,241	34,970	0.8%	35,745	35,756	0.0%	37,357	36,158	3.3%
Commercial Small	18,795	18,283	2.8%	19,960	19,193	4.0%	19,675	18,980	3.7%	19,551	19,099	2.4%	19,947	19,230	3.7%	20,254	20,439	-0.9%
Commercial Large	9,165	10,097	-9.2%	9,571	9,231	3.7%	8,827	9,314	-5.2%	8,684	9,259	-6.2%	9,899	9,308	6.3%	9,667	9,895	-2.3%
Small Industrial	1,193	1,016	17.4%	728	811	-10.2%	671	901	-25.5%	722	901	-19.9%	950	1,329	-28.5%	889	810	9.8%
Total	**63,544**	**64,102**	**-0.9%**	**66,075**	**64,981**	**1.7%**	**64,647**	**64,745**	**-0.2%**	**64,198**	**64,229**	**0.0%**	**66,541**	**65,623**	**1.4%**	**68,167**	**67,303**	**1.3%**

Table 7-5: Weather Normalized Consumption by Customer Class (000s of GJs)[363]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1- Oct 31	Fiscal Year [April 1 to March 31]		
in 000s GJs	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2017/18 Test Year Forecast from 2017 Application	2019/20 Forecast from Current Application	*Change*	*Percent Change*
Customer Class											
Residential	34,391	35,816	35,474	35,241	35,745	37,357	37,644	35,911	38,144	2,233	6.2%
Commercial Small	18,795	19,960	19,675	19,551	19,947	20,254	20,423	19,423	20,243	820	4.2%
Commercial Large	9,165	9,571	8,827	8,684	9,899	9,667	9,675	10,126	9,683	-443	-4.4%
Small Industrial	1,193	728	671	722	950	889	889	1,284	889	-395	-30.8%
Total Deliveries	**63,544**	**66,075**	**64,647**	**64,198**	**66,541**	**68,167**	**68,631**	**66,744**	**68,959**	**2,215**	**3.3%**
Annual Change		2,531	-1,428		2,343	1,626	464				
Annual Change, %		4.0%	-2.2%		3.6%	2.4%	0.7%				

[362] 1st Round Information Request, 23(b) and Tab 20, 2018 Commodity and Delivery Service Rate Application.
[363] Prepared based on information provided in Tab 20, Schedule 2.2 of the 2017 Delivery Service Rate Application and Schedule 5.2 of the 2018 Commodity and Delivery Service Rate Application. In Mid-Application Update filing from November 26, 2018 SaskEnergy used a heat value of 38.75 MJ/m^3, a change from 38.5 MJ/m^3 used in the Original Application.

Based on the forecast average use per customer and the average number of customers, SaskEnergy constructs a forecast of consumption by customer class. Table 7-5 summarizes actual weather normalized consumption for 2013 through 2017/18 and forecast weather normalized consumption for 2018/19 and 2019/20 by customer class. Volumes presented in Table 7-5 are inclusive of all delivered gas (i.e., includes delivered gas supplied by SaskEnergy and other gas retailers). The following is noted:

- The annual average increase in total weather normalized consumption for the actual 2013 through 2017/18 period was about 1.8%.
- Growth in Residential consumption over the period from 2013 through 2017/18 averaged 2.1% annually, while growth in Commercial Small customer class consumption increased by an average of 1.9% annually. Annual consumption for the Commercial Large class declined slightly between 2013 and 2015. However, the consumption increased again in 2016/17 and 2017/18 with the annual average increase from 2013 to 2017/18 for Commercial Large class at 1.3%.
- Small Industrial class consumption was high in 2013, declined in 2014 through 2015/16 and increased slightly in 2016/17. The average annual change from 2013 through 2017/18 was -7.1% due to higher consumption levels in 2013; the average annual change from 2014 through 2017/18 was 6.9%.

Overall, sales for the 2019/20 test year (in GJ) are forecast to be about 1.2% higher compared to the 2017/18 fiscal year weather normalized consumption; and show a 1.8% annual average increase from 2015/16 through 2019/20:

- The average annual increase for the **Residential customer class** is forecast to be 2.0% from 2015/16 to 2019/20. This is consistent with the annual average increase from 2013 through 2017/18 as indicated above. 2019/20 sales are forecast to be 2.1% higher than the most recent actuals [2017/18 fiscal year actuals].
- The average annual increase for the **Commercial Small customer class** is forecast to be 0.9% from 2015/16 to 2019/20. This is lower than the annual average increase of 1.9% from 2013 through 2017/18 as indicated above. 2019/20 sales are forecast to be at the 2017/18 fiscal year actual level.
- The average annual increase for the **Commercial Large customer class** is forecast to be 2.8% from 2015/16 to 2019/20. This is higher than the annual average increase of 1.3% from 2013 through 2017/18 as indicated above. 2019/20 sales are forecast to be about 0.2% higher than the most recent actuals [2017/18 fiscal year actuals].[364]
- The forecast for **Small Industrial class consumption** is expected to be at the 2017/18 actual level.

[364] SaskEnergy notes that in 2017/18, customer accounts were reviewed and customers were re-classified based on actual consumption between Commercial Small, Commercial Large or Small Industrial customer classes. 1st Round Information Request, 23(h), 2018 Commodity and Delivery Service Rate Application.

During the review of prior recent applications, it was noted that monthly sales forecasts are traditionally important to utility decision making processes. With the implementation of Advanced Metering Infrastructure (AMI) SaskEnergy should have more reliable monthly data available to conduct monthly load forecast analysis, which may improve load forecasting and related decision making processes. SaskEnergy has noted in the current review that once AMI is fully implemented the possibility of creating a process that would read all meters at month-end would more accurately record the volume of natural gas consumed in a specific month. However, for the purpose of forecasting it is expected that "at least five years of accurate historical AMI data will first be required in order to show an improvement to load forecasting".[365]

Mid Application Update

In the Mid-Application Update, SaskEnergy states that it reviewed the forecast 2019/20 heat value and determined that a higher heat value of 38.75 m^3/MJ (compared to 38.5 m^3/MJ in the Original Application) is expected for the test year and updated its Application accordingly.[366] SaskEnergy prepares its load forecast in GJ and converts into m^3 using a heat value forecast [as the commodity and delivery variable rates are in m^3]. The increase in heat value results in a lower load forecast in m^3.

Table 7-6 provides a summary of the changes due to the heat value update from 38.5 MJ/m^3 to 38.75 MJ/m^3. Table 7-6 shows that 0.25 MJ/m^3 change in heat value results in about 0.6% change in load forecast.

Table 7-6: Impact of Heat Value to the Load Forecast[367]

Customer Classes	Original Application	Mid-Application Update	Change	Change, %
in 000s GJs				
Residential	38,144	38,144	0	0%
Commercial Small	20,243	20,243	0	0%
Commercial Large	9,683	9,683	0	0%
Small Industrial	889	889	0	0%
Total Deliveries	**68,959**	**68,959**	**0**	**0%**
in 000s m^3				
Residential	990,756	984,364	-6,392	-0.6%
Commercial Small	525,793	522,401	-3,392	-0.6%
Commercial Large	251,506	249,883	-1,623	-0.6%
Small Industrial	23,092	23,009	-83	-0.4%
Total Deliveries	**1,791,148**	**1,779,657**	**-11,491**	**-0.6%**

[365] 1st Round Information Request 24 (b).
[366] See Section 10 of this report of details of the historical trend for heat value.
[367] Prepared based on information provided in Revised Schedule 5.2, Mid-Application Update as revised on December 3, 2018. The analysis shows that, for the Small Industrial customer class, the Mid-Application Update did not use a heat value of 38.75 MJ/m^3. This resulted in a slightly lower change for this customer class compared to the other classes. The impact from this is not significant and does not have any impact to rates as SaskEnergy is not proposing change to the rates requested in the Original Application.

Observations

The load forecast for the 2019/20 test year appears to be reasonable compared to the historical trends. The Mid-Application Update filing shows that although there is no change in the energy [GJ] based load forecast, the heat value change has a notable impact on the load forecast in volume [m^3], as well as to the revenue forecasts as SaskEnergy rates are based on m^3 usage and not on energy. This highlights continued concerns that relate to heat value as discussed in Section 10.

Recommendations

In Consultant's view, the load forecast proposed in the Application is reasonable.

It is recommended that once AMI is fully implemented and sufficient data is available, that SaskEnergy review the reasonableness of its load forecast based on available monthly data.

The Mid-Application Update highlights continued concerns that relate to rates based on volumes as opposed to energy. This indicates the need to shift to billing in energy as soon as possible.

8.0 COST-OF-SERVICE STUDY

A cost-of-service study is a tool used in utility ratemaking to determine the average costs to serve each customer class. A cost-of-service study apportions the utility's revenue requirement to each customer class based on cost causation principles. The results of the cost of service study are used to inform the utility's rate design and ensure each customer class is paying a fair share of costs. Costs are matched to customer class revenues at proposed rates to calculate the revenue-to-cost coverage ratio (RCC ratio). SaskEnergy states its objective is to have all classes within a revenue-to-cost ratio band of 95% to 105%.[368]

Table 8-1 summarizes the cost of service results and RCC ratios for the last three applications, 2016/17 test year from 2016 Commodity and Delivery Service Rate Application, 2017/18 test year from 2017 Delivery Service Rate Application, and 2019/20 test year from the current 2018 Commodity and Delivery Service Rate Application.

Table 8-1: Cost of Service Study Results for 2016/17, 2017/18 and 2019/20 Test Years[369]

	Revenue-to-Cost Ratio, %		
	2016/17 Test Year	**2017/18 Test Year**	**2019/20 Test Year**
Residential	98.9%	98.8%	98.9%
Commercial Small	102.5%	103.0%	102.9%
Commercial Large	103.2%	102.9%	102.6%
Small Industrial	103.3%	102.6%	103.2%
Total	**100.0%**	**100.0%**	**100.0%**

Table 8-1 shows that in the 2019/20 test year the Residential customer class RCC ratio is slightly below 100%, meaning that revenues do not fully recover the costs to serve this customer class. All other customer classes have RCC ratios greater than 100%, indicating revenues are somewhat higher than the costs to serve these classes. All customer classes are within the 95%-105% band and the total revenue-to-cost ratio is 100%.

The following is noted regarding the RCC ratios for the last three test years:

- Changes in Residential class RCC ratios are not significant and within only +/-0.1%. The overall change from the 2016/17 test year to the 2019/20 test year is 0%.
- The change in the Commercial Small class RCC ratio in the 2017/18 test year compared to the 2016/17 test year is 0.5%, however, the change in the 2019/20 test year compared to the 2017/18

[368] Page 1 of Tab12 of 2018 Commodity and Delivery Service Rate Application.
[369] Page 1 of Tab12 of 2018 Commodity and Delivery Service Rate Application.

test year is only -0.1%. The overall change from the 2016/17 test year to the 2019/20 test year is 0.4%.

- The changes in the Commercial Large class RCC ratio in the 2017/18 test year compared to the 2016/17 test year is -0.3%; the change in the 2019/20 test year compared to the 2017/18 test year is also -0.3%. The overall change from the 2016/17 test year to 2019/20 test year is -0.6%.
- The change in the Small Industrial class RCC ratio in the 2017/18 test year compared to the 2016/17 test year is -0.7%; the change in the 2019/20 test year compared to the 2017/18 test year is 0.6%. The overall change from the 2016/17 test year to the 2019/20 test year is -0.1%.

SaskEnergy's cost of service methodology was last subject to external review in 2013 by Chymko Consulting Ltd (Chymko). The Chymko study concluded that overall the results of "SaskEnergy's methods and models are consistent with generally accepted ratemaking principles and practices" resulting in "fair and reasonable" rates.[370] Chymko provided seven recommendations to SaskEnergy on its cost allocation and rate design methods.[371]

SaskEnergy noted that "the 2019-20 cost of service was prepared using the same methods reviewed by Chymko Consulting in 2013 and the 2017-18 test year cost of service" and "the change in cost of service allocation factors from the 2017-18 test year cost of service study are solely due to the change in customer class peak and usage characteristics." [372] SaskEnergy also noted that "the classification and functionalization methods have not changed and are as per the review by Chymko Consulting."[373]

A new cost of service study is planned for 2019.[374]

Mid Application Update

The Revised Mid-Application Update increased the forecast heat value for the test year from 38.5 MJ/m^3 in the Original Application to 38.75 MJ/m^3.[375] This resulted in a $1.0 million reduction in revenues [both existing and proposed rates]. With the updated heat value, the forecast revenues at proposed rates are 279.2 million compared to $280.2 million in the Original Application. SaskEnergy has noted that this will not change the cost of service results and RCC ratios.

Observations

SaskEnergy's objective of keeping RCC ratios for all customer classes within a range of 95% to 105% is consistent with normal utility practice in Canada. The cost of service study establishes the revenue to be collected from each customer class, has relevance to rates charged to each class, and is an important tool for understanding and evaluating the utility's rate proposal.

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[370] Page 1 of the Chymko study provided in Tab 12 of 2018 Commodity and Delivery Service Rate Application.
[371] Pages 2-6 of the Chymko study provided in Tab 12 of 2018 Commodity and Delivery Service Rate Application.
[372] 1st Round Information Request 20(a) and (c), 2018 Commodity and Delivery Service Rate Application.
[373] 2nd round Information Request 17(c), 2018 Commodity and Delivery Service Rate Application.
[374] Page 4 of Tab 12, 2018 Commodity and Delivery Service Rate Application.
[375] See Section 10 of this report of details of the historical trend for heat value.

SaskEnergy notes that "the 2019-20 cost of service was prepared using the same methods reviewed by Chymko Consulting in 2013 and the 2017-18 test year cost of service" and "the change in cost of service allocation factors from the 2017-18 test year cost of service study are solely due to the change in customer class peak and usage characteristics". [376] SaskEnergy also notes that the "Cost of Service is reviewed every year during its preparation. As new business units are added or existing groups are re-organized, they are reviewed to determine how they should be functionalized and classified within the cost of service and may result in percentage changes to functional classifications."[377]

Table 8-2 shows that a required 3.9% increase to Residential customer rates is required in 2019/20 to maintain an RCC ratio similar to the 2017/18 test year. This is higher than the 3.7% average rate increase for 2019/20.

Table 8-2: Proposed Delivery Service Rate Increase[378]

Rate Class	2017/18 Test Year Revenue-to-Cost Ratio, %	Proposed Delivery Service Rate Increase	2019/20 Test Year Revenue-to-Cost Ratio, %
Residential	**98.8%**	**3.9%**	**98.9%**
Commercial Small	103.0%	3.7%	102.9%
Commercial Large	102.9%	1.4%	102.6%
Small Industrial	102.6%	0.5%	103.2%
Total Average		**3.7%**	

The cost allocation for Service Line Customer Functional Classification, where the Residential class shares a majority of costs [77.28%], was about 18.6% of total costs in the 2019/20 cost of service study compared to 15.5% in the 2017/18 cost of service study. SaskEnergy notes that costs allocated to the Service Line Customer Functional Classification have increased due to "increased integrity spending associated with service lines (i.e. Saskatoon service upgrade due to curb valve issue)."[379]

Key elements of increase in costs for Residential class include: "the infrastructure renewal costs associated with municipal growth plans and the associated long term growth capital to meet multiple objectives. These objectives include safe and reliable service, increased capacity, and improved asset life. Risk management programs also increase costs and include the service upgrade program, mains replacement program, station upgrades to meet regulatory requirements and asset life extensions. Public safety and damage prevention activities are also supported."[380]

[376] 1st Round Information Request 20 (a) and (c), 2018 Commodity and Delivery Service Rate Application.
[377] 1st Round Information Request 20 (j) and (k).
[378] Page 34, 2018 Commodity and Delivery Service Rate Application.
[379] 2nd Round Information Request 17 (c), 2018 Commodity and Delivery Service Rate Application.
[380] 2nd Round Information Request 17 (b), 2018 Commodity and Delivery Service Rate Application.

The cost allocation for the functional classifications where Residential class shares large portion of the costs has increased resulting in a higher than average rate increased required for the residential class.

Recommendation #7 of the 2013 Chymko Report from 2013 noted that the weighting factors in the cost of service model should be reviewed again after completion of SaskEnergy's AMI project.[381]

Recommendations

The Consultant recommends that SaskEnergy consider the potential implications of billing customers on the basis of energy instead of volume as part of future reviews regarding issues related to variation in heat value; and as part of future reviews of its cost allocation methods for future rate applications. This is consistent with Recommendation #4 of the Chymko Report.[382]

The Consultant recommends that SaskEnergy consider highlighting the following for review by its external consultant for the next external review of SaskEnergy's cost of service study:

- Review the reasonableness of the demand and customer percentages in Schedule 3.3 [page 1 of 5] of cost of service study; and
- Review the reasonableness of using weighted number of customers instead of actual number of customers for allocation of customer related costs.

[381] Chymko Report, page 33 [provided in Tab 12 of 2018 Commodity and Delivery Service Rate Application].
[382] The Chymko Report, Recommendation #4 notes that "if one must choose between either volume or energy for use in all analysis and ratemaking…that per-GJ measures are the appropriate choice."

9.0 DELIVERY SERVICE RATE DESIGN

SaskEnergy is proposing a 3.7% average rate increase to delivery rates that will result in an incremental revenue increase of approximately $10 million.[383] SaskEnergy proposes to recover these additional revenues by increasing the Delivery Charge for all customer classes. No change is proposed to the Basic Monthly Charge.

Table 9-1 summarizes current and proposed delivery rates effective April 1, 2019.

Table 9-1: Current and Proposed Delivery Service Rates[384]

Rate Class & Components	Units	Current Rates ($)	Rate Increase	Proposed Rates April 1, 2019
Residential				
Basic Monthly Charge	$/Mo.	23.20	0.00	23.20
Delivery Charge	$/m^3	0.0924	0.0076	**0.1000**
Commercial Small				
Basic Monthly Charge	$/Mo.	38.50	0.00	38.50
Delivery Charge	$/m^3	0.0770	0.0041	**0.0811**
Commercial Large				
Basic Monthly Charge	$/Mo.	137.40	0.00	137.40
Delivery Charge	$/m^3	0.0673	0.0011	**0.0684**
Small Industrial				
Basic Monthly Charge	$/Mo.	216.00	0.00	216.00
Delivery Charge				
- First 40,000 m^3/mo.	$/m^3	0.0440	0.0002	**0.0442**
- Balance	$/m^3	0.0379	0.0002	**0.0381**

Bold Figures identify changes from current rates

SaskEnergy identified six rate design principles that it considered in developing its recommended delivery service rates:[385]

1. **"Postage Stamp" Pricing Philosophy:** Charging the same rate regardless of geographical location or distance to a given customer within each rate class. This is the norm across all major natural gas distribution utilities in Canada.
2. **Fixed Costs vs. Volumetric Rates:** SaskEnergy notes that over "98% of the cost of delivery service consists of fixed costs". As a result, even the volumetric delivery charge, which is based on

[383] Page 2 of 2018 Commodity and Delivery Service Rate Application.
[384] Schedule 5.0 of 2018 Commodity and Delivery Service Rate Application.
[385] Summarized from pages 30 - 32, 2018 Commodity and Delivery Service Rate Application.

natural gas usage, is recovering fixed costs related to the distribution system. While this is typical for natural gas distribution utilities in Canada it poses a challenge, especially in light of declining natural gas usage on a per customer basis.

3. **Revenue Requirement:** Delivery rates should fully recover the cost of providing service to allow the utility the opportunity to achieve its approved financial targets, as well as provide revenue stability over time.
4. **Fairness between Rate Classes:** Rate adjustments should be fair and equitable to all customers with revenue-to-cost ratios within an acceptable range of 0.95 to 1.05, providing a measure of fairness between classes.
5. **Fairness within Rate Classes:** Ideally, for each rate class, the Basic Monthly Charge and the Delivery Charge should be set as close as possible to their corresponding average unit price to ensure minimal cross-subsidization between different sized users in the same rate class. SaskEnergy's long-term objective is to recover at least 75% of its customer care related costs through the Basic Monthly Charge.
6. **Gradualism:** Allowing for rate realignment over several rate applications to avoid significant rate changes for customers at one time.

The current and proposed revenue and cost comparison for each rate class is shown in Table 9-2.

Table 9-2: Current and Proposed Delivery Rate Comparison[386]

	Basic Monthly Charge ($000s)				Delivery Charge ($000s)				Total ($000s)			
	Revenues	Total Unit Cost	Variance	Revenue-to-Cost Ratio	Revenues	Total Unit Cost	Variance	Revenue-to-Cost Ratio	Revenues	Total Unit Cost	Variance	Revenue-to-Cost Ratio
Residential												
Current Rates	99,251	141,199	- 41,947	70%	91,546	59,389	32,157	154%	190,797	200,587	- 9,790	95.1%
Rate Design Rates	99,251	141,199	- 41,947	70%	99,076	59,389	39,687	167%	198,327	200,587	- 2,260	98.9%
Current Revenue Mix	52%	70%			48%	30%			100%	100%		
Rate Design Revenue Mix	50%	70%			50%	30%			100%	100%		
Total Proposed Rate Increase				**0.0%**				**8.2%**				**3.9%**
Commercial Small												
Current Rates	18,580	27,978	- 9,399	66%	40,486	31,517	8,969	128%	59,066	59,496	- 430	99.3%
Rate Design Rates	18,580	27,978	- 9,399	66%	42,642	31,517	11,124	135%	61,222	59,496	1,726	102.9%
Current Revenue Mix	31%	47%			69%	53%			100%	100%		
Rate Design Revenue Mix	30%	47%			70%	53%			100%	100%		
Total Proposed Rate Increase				**0.0%**				**5.3%**				**3.7%**
Commercial Large												
Current Rates	2,437	4,059	- 1,622	60%	16,926	15,076	1,850	112%	19,364	19,135	228	101.2%
Rate Design Rates	2,437	4,059	- 1,622	60%	17,203	15,076	2,127	114%	19,640	19,135	505	102.6%
Current Revenue Mix	13%	21%			87%	79%			100%	100%		
Rate Design Revenue Mix	12%	21%			88%	79%			100%	100%		
Total Proposed Rate Increase				**0.0%**				**1.6%**				**1.4%**
Industrial - Small												
Current Rates	75	77	- 1	98%	925	898	28	103%	1,001	974	27	102.7%
Rate Design Rates	75	77	- 1	98%	930	898	33	104%	1,005	974	31	103.2%
Current Revenue Mix	8%	8%			92%	92%			100%	100%		
Rate Design Revenue Mix	7%	8%			93%	92%			100%	100%		
Total Proposed Rate Increase				**0.0%**				**0.5%**				**0.5%**
Overall Total												
Current Rates	120,343	173,313	- 52,969	69%	149,884	106,880	43,004	140%	270,227	280,192	- 9,965	96.4%
Rate Design Rates	120,343	173,313	- 52,969	69%	159,851	106,880	52,971	150%	280,194	280,192	2	100.0%
Current Revenue Mix	45%	62%			55%	38%			100%	100%		
Rate Design Revenue Mix	43%	62%			57%	38%			100%	100%		
Total Proposed Rate Increase				**0.0%**				**6.6%**				**3.7%**

[386] Tab 12, Summary of Revenues and Degree of Cost Recovery by Rate Class, 2018 Commodity and Delivery Service Rate Application [the last schedule of Cost of Service study].

Table 9-2 shows that the proposed rate increases are different for each customer class.

- Higher than average rate increases are proposed for the Residential customer class (3.9% overall compared to 3.7% average for all customer classes). SaskEnergy notes that this is primarily due to declining revenues in the residential rate class.[387]
- The Commercial Small customer class rate increase is at the system average (3.7% rate increase).
- Lower than average rate increases are proposed for the Commercial Large (1.4% rate increase), and Small Industrial customer classes (0.5% rate increase).

SaskEnergy notes that if an equal percentage increase of 3.7% is applied to all customer classes the RCC ratio for Commercial Large and Small Industrial customer classes would be higher. Table 9-3 provides a comparison of RCC ratios and average bill impacts in the Application compared to the RCC ratios and average bill impacts if a 3.7% rate increase applied to all customer classes.

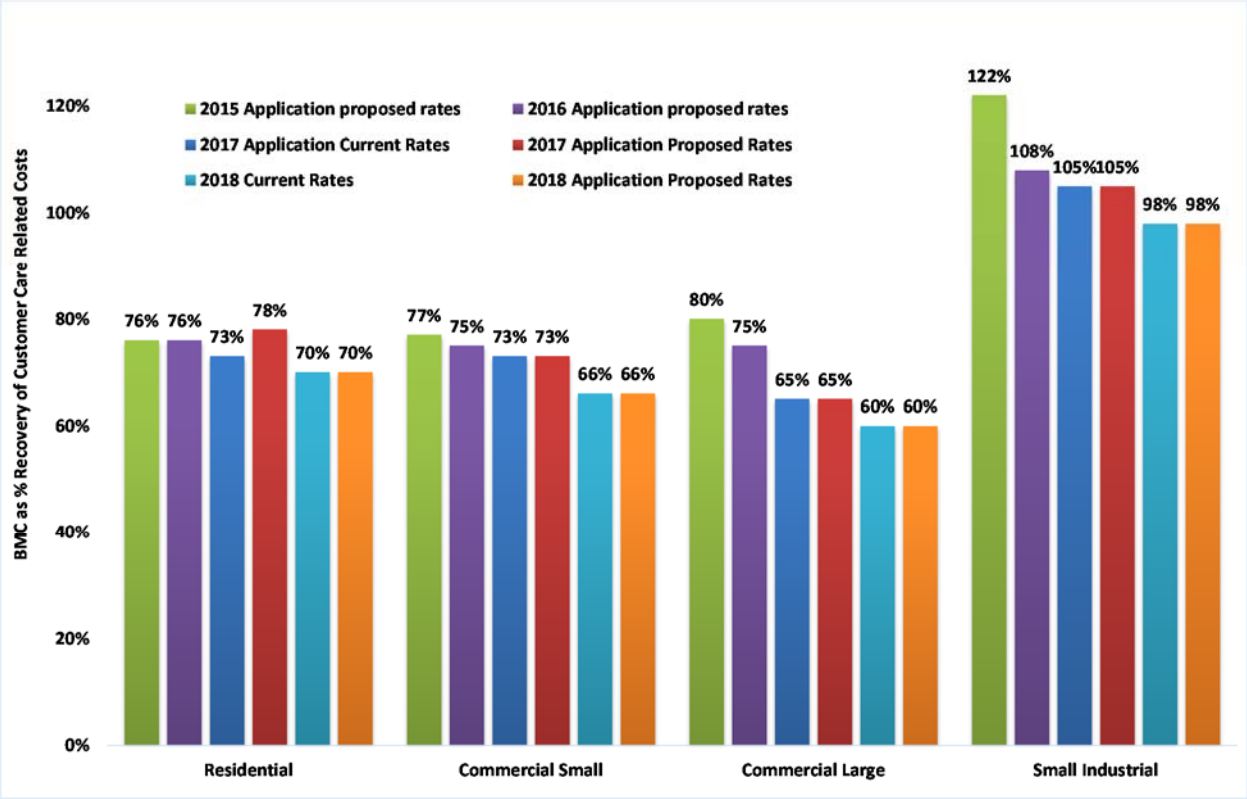
Table 9-3: Comparison of RCC Ratios and Bill Impacts[388]

Rate Class	Proposed in the Application			If Equal % Increase Applied			Difference	
	Delivery Service Rate Increase	Revenue-to-Cost Ratio, %	Bill Impact, %	Delivery Service Rate Increase	Revenue-to-Cost Ratio, %	Bill Impact, %	Revenue-to-Cost Ratio, %	Bill Impact, %
A	B	C	D	E	F	G	H=F-C	I=G-D
Residential	3.9%	98.9%	2.3%	3.7%	98.6%	2.1%	-0.3%	-0.2%
Commercial Small	3.7%	102.9%	1.6%	3.7%	102.9%	1.6%	0.0%	0.0%
Commercial Large	1.4%	102.6%	0.5%	3.7%	104.9%	1.3%	2.3%	0.8%
Small Industrial	0.5%	103.2%	0.1%	3.7%	106.5%	0.9%	3.3%	0.8%
Total Average	**3.7%**			**3.7%**				

SaskEnergy's long-term objective is to recover at least 75% of its customer care related costs through the fixed Basic Monthly Charge. The proportion of customer care costs recovered through the Basic Monthly Charge for each customer class is shown in Figure 9-1. Figure 9-1 shows that at 2018 Application Recommended Rates, the Basic Monthly Charge for the Residential class, the Commercial Small and Commercial Large class are all below the long term target of 75%, while the Small Industrial class recovers more than the long-term target of 75%. SaskEnergy is not proposing to change the Basic Monthly Charge for any customer classes.

[387] 1st Round Information Request 20 (d) and 24 (a), 2018 Commodity and Delivery Service Rate Application.
[388] Prepared based on 1st Round Information Request 24 (b), page 34 of the application and page 1 of Tab 12, 2018 Commodity and Delivery Service Rate Application.

Figure 9-1: SaskEnergy Basic Monthly Charges[389]



SaskEnergy notes that it is only seeking an increase to the volumetric charge, and not an increase in the BMC as a result of outcomes of the 2017 Delivery Service Rate Application. Specifically SaskEnergy notes that during the last application review period "comments from customers and the public indicated a resistance to further increase in the BMC," and "as a result the Panel recommended, and Cabinet approved, a smaller increase in the BMC, coupled with a modest increase to the Delivery Charge. In consideration of this, SaskEnergy is seeking only an increase to its volumetric Delivery Charge in this rate application."[390]

In its report to the Minister Responsible for Crown Investments Corporation of Saskatchewan Regarding the SaskEnergy Delivery Service Rate Application Effective date November 1, 2017, the Panel indicated that applying a rate change to both the volumetric charge and the BMC [instead of only the BMC as proposed at the time] would provide for rates consistent with SaskEnergy's long-term policy objective to recover 75% of costs through the BMC. The Panel noted the view that this would provide greater fairness within rate classes and encourage energy efficiency. [391]

[389] Prepared based on figures provided on page 23 of 2015 Commodity and Delivery Service Rate Application, page 27 of 2016 Commodity and Delivery Service Rate Application, page 21, 2017 Delivery Service Rate Application and page 31 of the 2018 Commodity and Delivery Service Rate Application.
[390] 2018 Commodity and Delivery Service Rate Application, page 32.
[391] Page 9, http://www.saskratereview.ca/docs/saskenergy2017/srrp-2017-saskenergy-report-final.pdf.

SaskEnergy indicates that in order to maintain the BMC at the 75% target all required rate increases would need to be shifted to the BMC rather than volumetric charge.[392]

Mid Application Update

Mid-Application Update does not seek changes to the proposed rates in the Original Application.

Observations

Utility rate design requires careful consideration of a number of competing objectives. Regulatory principles require that the utility demonstrate that its proposed rate design reflect an appropriate balance between these rate principles. There are advantages and disadvantages to SaskEnergy's rate proposal, including the following:

- **Energy Efficiency Price Signals:** Applying the rate increase to the volumetric portion of the rate provides a stronger price signal to customers and can make it easier for customers to recognize the advantages of energy efficiency. SaskEnergy's proposal to increase only volumetric charge will provide a stronger price signal to customers.
- **SaskEnergy's Long-term Objective and Customer Acceptance:** Applying the rate increase only to the volumetric charge will move further from SaskEnergy's objective of recovering 75% of customer related costs through the fixed Basic Monthly Charge. SaskEnergy notes that during the last application review period "comments from customers and the public indicated a resistance to further increase in the BMC" and therefore a consideration was given to increase only volumetric charge to recover revenue shortfall. Review of the Panel's comments indicates that the Panel's concerns were focused on ensuring consistency with SaskEnergy's long term policy objective to recover 75% of costs through the BMC. As noted, the current rate design approach proposed by SaskEnergy does not address this concern and moves further away from the specified target.
- **Fairness of Rates and Intra-class Impacts:** With the proposed volumetric charge increase, customers would see bill increases for the delivery portion of the bill based on their usage.
    - The bill impact for Residential customers from the delivery rate increase would be about 2.1% for low usage customers [represents about 68% of total residential customers], about 2.5% for medium usage customers [represents about 30% of total residential customers], and about 2.9% for high usage customers [represents about 2% of total residential customers].
    - For Commercial Small customers the delivery rate increase bill impact would range between 1.28% and 1.85% depending on usage.
    - Commercial Large customers would see a 0.5% bill impact.
    - High consumption customers would see higher dollar value bill impacts.[393]

[392] 1st Round Information Request 24 (d) (iv), 2018 Commodity and Delivery Service Rate Application.
[393] For example, figure provided in response to 1st Round Information Request 21 (b) shows that the average use [2,779 m^3/year] customers will see about $21 increase in their bills, while 6,000 m^3/year customers bill increase by $46.

- **Financial Impact to SaskEnergy:** The proposed rates are based on normal weather conditions. With the proposed increase to the volumetric charge incremental revenues would be weather dependent. SaskEnergy would see lower revenues due to periods of warm weather and/or due to increased customer energy efficiency. However, if actual consumption is higher than forecast due to colder than normal weather or other conditions SaskEnergy's net income would be higher than forecast. SaskEnergy notes that reducing the "amount recovered through the BMC would result in more income variability for SaskEnergy".[394] Schedule 5.5 of the Application shows that 20% colder weather would increase the revenues by about 11.35% [from $280.2 million under the normal weather conditions to $312 million]. In contrast, 20% warmer weather would reduce revenues by about 11.35% [from $280.2 million under the normal weather conditions to $248.2 million].
- **Comparison to the other peer utilities:** The information provided in Section 18.1.1 shows that SaskEnergy's residential BMC is the sixth largest out of eight peer utilities reviewed, and is only lower than Edmonton and Calgary [it is noted that the customer charge for these cities is also impacted by an added charge for a retailer].

Recommendations

Meeting or making progress towards long-term targets is an important consideration. SaskEnergy is currently setting rates that will result in movement away from its long-term target for the BMC, and indicates that in order to maintain the BMC at the 75% target all required rate increases would need to be shifted to the BMC rather than volumetric charge. This should be considered carefully by the Panel as it reviews SaskEnergy's rate proposal.

It is recommended that SaskEnergy review its long-term policy objective to recover 75% of costs through the BMC, to determine if it is still reasonable, considering the following:

- It is understood that the majority of the delivery service costs are fixed and SaskEnergy is entitled to recover those costs from its customers. BMC provides a more stable revenue stream for SaskEnergy compared to the volumetric charge, which is dependent on weather conditions [when it is colder than normal with higher consumption this results to higher than forecast revenues, however, when it is warmer than normal this could reduce the revenue].
- Customer acceptability – as SaskEnergy indicates that comments from customers and the public indicated a resistance to further increases in the BMC.
- Peer utility comparisons – as comparison of peer utilities regarding the portion of the revenues collected through fixed rates versus variable rates, as well as comparison monthly charges by customer class.

[394] 1st Round Information Request 24 (d) iii), 2018 Commodity and Delivery Service Rate Application.

10.0 HEATING VALUES

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.[395] The weighted average heat value for delivered gas experienced over the past five years has ranged from 36.72 MJ/m^3 to 43.26 MJ/m^3, depending on the location of the delivery point.[396]

Heat value of natural gas was fairly stable prior to 2008 due to the fact that SaskEnergy was a net exporter of natural gas, and the majority of natural gas processed and used in the province was sourced from conventional gas. Lower natural gas commodity prices led to a decline in conventional gas well drilling activities in Saskatchewan; and by 2016 approximately half of the natural gas produced in the province was from associated gas which is typically hotter than conventional gas.[397]

With the decline in drilling activities in Saskatchewan, the province also became a net importer of natural gas. SaskEnergy has noted that the heat value of natural gas received at different locations along the Alberta border differs, and may change over time depending on whether or not natural gas liquids' prices are driving extraction of liquids from the natural gas stream. A rise in natural gas liquids' prices could result in lower provincial heat values, as gas processing plants increase throughput and processing, removing liquids that otherwise may be retained in the gas stream delivered to the TransGas system.

Table 10-1 provides the quantity of gas sourced from Alberta and Saskatchewan from 2011/12 test year to the 2017/18 test year (November to October) and the estimated heat values by year for all gas produced from Saskatchewan and all gas imported into Saskatchewan from Alberta, and indicates as follows:

- Alberta purchases have increased as a percentage of total gas volumes (from 19% in 2011/12 to 57% in 2017/18).
- While the heat value for Alberta purchases has increased from 38.1 MJ/m^3 to 38.6 MJ/m^3 over the period; the heat value for Saskatchewan purchases has increased more materially (from 37.1 MJ/m^3 to 38.7 MJ/m^3). Over the past three years the heat value for both Alberta and Saskatchewan purchases has been in the range of 38.5 MJ/m^3 to 38.8 MJ/m^3.

[395] 2016 Commodity and Delivery Service Rate Application 1st Round Information Request, 27(a).
[396] 2018 Commodity and Delivery Service Rate Application, 1st Round Information Request, 26(a).
[397] This was reviewed in detail in the 2016 Delivery and Commodity Rate Application, Tab 24 and in response to 2016 Delivery and Commodity Rate Application 1st Round Information Request 27(n) and 2nd Round Information Request 20(e).

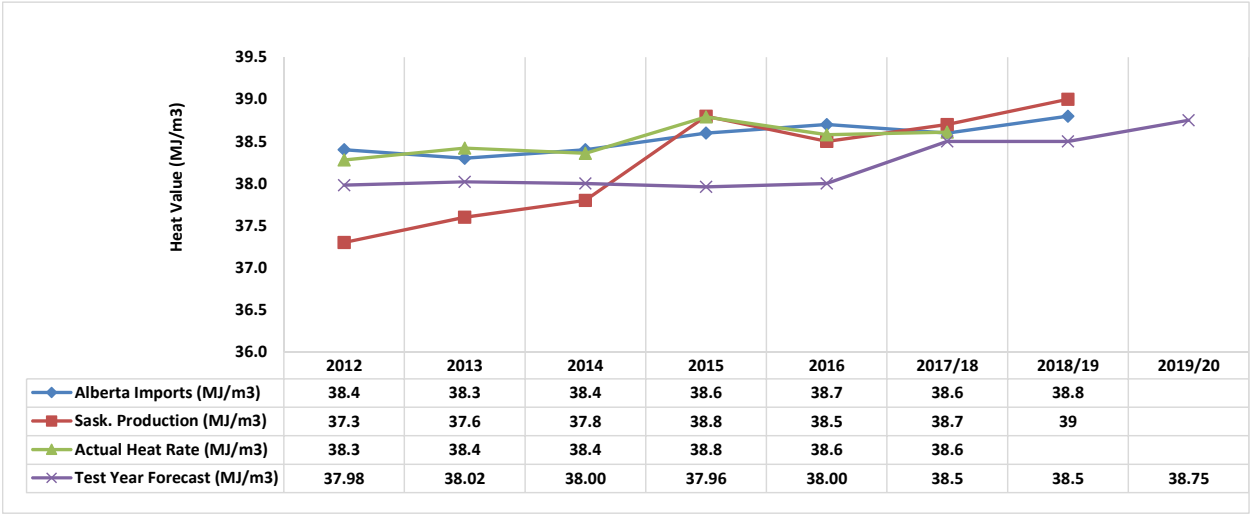
Table 10-1: Summary of Volumes Purchased and Estimated Heat Value[398]

	Volumes of Natural Gas Purchased						
	Alberta (PJ)	Alberta % of Total Purchased	Heat Value (MJ/m^3) *	Sask. (PJ)	Sask. % of Total Purchased	Heat Value (MJ/m^3) *	Total (PJ)
Nov 2011 - Oct 2012 - Actual	9.5	19%	38.1	39.9	81%	37.1	49.4
Nov 2012 - Oct 2013 - Actual	25.6	44%	38.4	32.7	56%	37.3	58.3
Nov 2013 - Oct 2014 - Actual	31.7	49%	38.3	33.3	51%	37.6	64.9
Nov 2014 - Oct 2015 - Actual	26.3	43%	38.4	34.4	57%	37.8	60.7
Nov 2015 - Oct 2016 Actual	30.3	58%	38.6	21.5	42%	38.8	51.8
Nov 2016 - Oct 2017 - Actual	30.8	59%	38.7	21.5	41%	38.5	52.3
Nov 2017 - Oct 2018 - Forecast	35.1	57%	38.6	26.9	43%	38.7	62.0

*Estimated heat values are based on all of the gas received into the TransGas transportation system for both Saskatchewan gas as well as the gas imported from Alberta.

Figure 10-1 provides a comparison of estimated heat value for Alberta Imports, Saskatchewan Production, Test Year Forecasts and the Actual Heat Rate experienced between 2012 and 2017/18 and forecasts for 2018/19 and 2019/20. This indicates that actual heat rates were generally aligned with heat rates for Alberta imports over the period from 2012 through 2017/18; and although initially lower than actual heat rates, heat rates for Saskatchewan production have steadily climbed over the period and are now in the same range as actual heat rates. Test year forecast heat rates have tended to remain lower than actuals since 2012, but have increased since 2016.

Figure 10-1: Estimated Heat Value: 2012 to 2019/20[399]



	2012	2013	2014	2015	2016	2017/18	2018/19	2019/20
Alberta Imports (MJ/m3)	38.4	38.3	38.4	38.6	38.7	38.6	38.8	
Sask. Production (MJ/m3)	37.3	37.6	37.8	38.8	38.5	38.7	39	
Actual Heat Rate (MJ/m3)	38.3	38.4	38.4	38.8	38.6	38.6		
Test Year Forecast (MJ/m3)	37.98	38.02	38.00	37.96	38.00	38.5	38.5	38.75

[398] 1st Round Information Request 26(e). 2016 Deliver Service and Commodity Rate Application, 1st Round Information Request 27(l). See also 2017 Delivery Rate Application response to 1st Round Information Request 28(e).
[399] 1st Round Information Request 26(b) and (e). Mid-Application Update page 1.

Prior SaskEnergy applications and prior Panel reports have outlined concerns that heat value variance may have on SaskEnergy customer bills as well as on the Corporation's net revenues and the GCVA balance.

10.1 HEAT VALUE VARIANCE & CUSTOMER BILLS

SaskEnergy buys natural gas in energy (GJ) but bills customers on a volumetric basis (m^3). In past proceedings concerns have been raised by the Panel and by members of the public, regarding variations in heat value that resulted in some customers paying more than others to achieve the same heating energy, depending on geographic location.[400]

Table 10-2 indicates that the weighted average heat value has ranged from 37.47 MJ/m^3 to 42.29 MJ/m^3.[401]

Bill impacts for residential customers in major centres across Saskatchewan due to variations in heating value in 2017/18 are summarized in Table 10-2 and Figure 10-2 that follow.

- Over the period since 2012, the distribution of the weighted average heat value by region has declined, with bill impacts for most communities converging within a 2% (+/-) range of the system average heat value in 2016 (see Figure 10-2).
- While heat values in most regions of the province are within a narrow range around the system average, heat values in Yorkton and Estevan continue to be higher and diverge materially from the system average heat value. As a result, average residential customers in these communities had average bill impacts that were 5.4% to 6.5% lower than average residential customers in other areas of Saskatchewan (See Table 10-2).

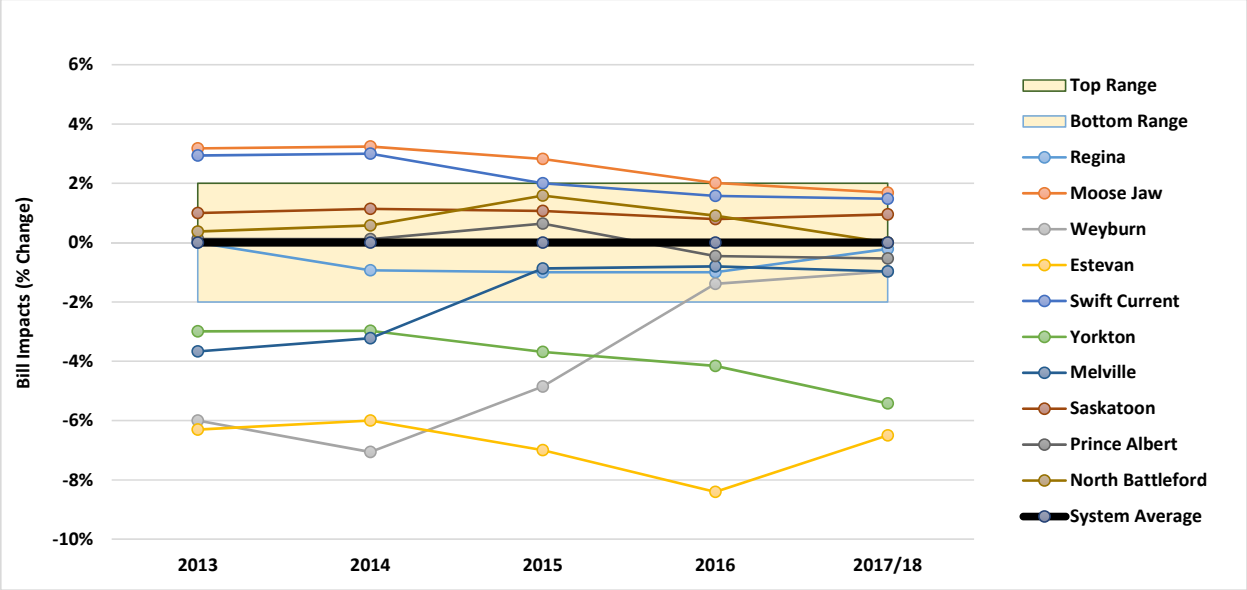
SaskEnergy notes that heat values are expected to slowly increase and attributes more stable heat values compared to prior years to the operation of the straddle plant in southeast Saskatchewan (which reduced heat value of gas coming from this area); decreased volume of natural gas from conventional gas wells; and new gas volumes from oil production or from shale gas in Alberta (which have higher heat values).[402]

[400] During the 2013 Delivery Service Rate Application, Connect Energy indicated a concern that heat value variations are unfair to customers and create financial risk to gas retailers (as they cannot recover variances related to heat value from customers). This was outlined in a written submission by Connect Energy.
[401] 1st Round Information Request 26(a). SaskEnergy notes that the actual number of customers being served in each heat value region is not available as customers are not currently attached to heat values. To estimate the number of customers in each region, the number of current customers being served in each of the major ten centres was extrapolated to include rural customers in each area. This profile was then applied to the average number of customers outstanding each year.
[402] 1st Round Information Request 26(b), (d) and (f).

Table 10-2: Average Consumption & Average Bill Impacts for 12 Month Period (2017/18)[403]

		Heat Value				Average 2017/18 Residential Average Bills					
	Estimated Average Number of Customers	Weighted Average HV (MJ/m^3)	Minimum Heat Value	Maximum Heat Value	Heat Value Variance	Annual Basic Monthly Charge ($)	Annual Delivery Charge ($)	Annual Commodity Charge ($)	Total Bill ($)	Total Bill Variance ($)	Total Bill Variance (%)
Regina	132,064	38.74	39.71	38.41	0.34%	273	262	397	932	- 2.00	-0.21%
Moose Jaw	**22,253**	**37.47**	**38.43**	**37.55**	**-3.04%**	**273**	**269**	**408**	**950**	**16.00**	**1.68%**
Weyburn	8,243	39.18	40.45	38.92	1.45%	273	259	393	925	- 9.00	-0.97%
Estevan	**8,356**	**42.29**	**43.52**	**41.79**	**8.70%**	**273**	**240**	**364**	**877**	**- 57.00**	**-6.50%**
Swift Current	13,489	37.81	38.20	37.58	-2.12%	273	268	407	948	14.00	1.48%
Yorkton	12,377	41.64	43.34	40.57	7.28%	273	243	370	886	- 48.00	-5.42%
Melville	4,098	39.18	42.72	38.13	1.45%	273	259	393	925	- 9.00	-0.97%
Saskatoon	152,673	38.10	38.42	37.93	-1.34%	273	266	404	943	9.00	0.95%
Prince Albert	25,865	38.90	39.10	38.50	0.75%	273	261	396	929	- 5.00	-0.54%
North Battleford	11,498	38.65	39.13	37.76	0.10%	273	262	398	934	-	0.00%
System Average	**390,915**	**38.61**	**39.38**	**38.15**	**0.00%**	**273**	**262**	**399**	**934**		

Figure 10-2: Residential Bill Impacts due to Heat Value Variance (% change)[404]



Average bill impacts for Small Commercial and Large Commercial customers are summarized in Table 10-3 that follows.

[403] 1st Round Information Request 26(a).
[404] 1st Round Information Request 26(a).

Table 10-3: Average Consumption & Average Bill Impacts for over 12 Month Period for Small Commercial and Large Commercial Customers (2017/18)[405]

	Average 2017/18 Small Commercial						Average 20117/18 Large Commercial					
	Average Bills						Average Bills					
	Annual Basic Monthly Charge ($)	Annual Delivery Charge ($)	Annual Commodity Charge ($)	Total Bill ($)	Total Bill Variance ($)	Total Bill Variance (%)	Annual Basic Monthly Charge ($)	Annual Delivery Charge ($)	Annual Commodity Charge ($)	Total Bill ($)	Total Bill Variance ($)	Total Bill Variance (%)
Regina	462	1045	1,901	3,409	- 9.00	-0.26%	1,649	11,634	24,249	37,532	- 121	-0.32%
Moose Jaw	**462**	**1073**	**1,952**	**3,487**	**69.00**	**1.98%**	**1,649**	**11,942**	**24,892**	**38,483**	**830**	**2.16%**
Weyburn	462	1034	**1,880**	3,375	- 43.00	-1.27%	1,649	**11,503**	23,977	37,129	- 524	-1.41%
Estevan	**462**	**958**	**1,742**	**3,161**	**- 257.00**	**-8.13%**	**1,649**	**10,657**	**22,214**	**34,520**	**- 3,133**	**-9.08%**
Swift Current	462	1071	1,948	3,481	63.00	1.81%	1,649	11,920	24,846	38,415	762	1.98%
Yorkton	462	973	1,769	3,203	- 215.00	-6.71%	1,649	10,824	22,560	35,033	- 2,620	-7.48%
Melville	462	1034	1,880	3,375	- 43.00	-1.27%	1,649	11,503	23,977	37,129	- 524	-1.41%
Saskatoon	462	1063	1,933	3,458	40.00	1.16%	1,649	11,829	24,657	38,135	482	1.26%
Prince Albert	462	1041	1,893	3,396	- 22.00	-0.65%	1,649	11,586	24,149	37,384	- 269	-0.72%
North Battleford	462	1048	1,906	3,415	- 3.00	-0.09%	1,649	11,661	24,306	37,615	- 38	-0.10%
System Average	**462**	**1049**	**1,908**	**3,418**			**1,649**	**11,673**	**24,331**	**37,653**		

10.2 HEAT VALUE VARIANCE & SASKENERGY NET EARNINGS

SaskEnergy has noted that during the annual budget and rate application process, an annual heat value is forecast and used to translate energy into volume.

Because SaskEnergy purchases natural gas in energy (GJ) and sells natural gas to customers based on volume (m^3), a financial risk results due to the difficulty in accurately estimating the average annual heat value. SaskEnergy's net earnings vary depending on the difference between forecast and actual heat values.

Heat value variances from forecast also impacts 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.

The actual impact that heat value variance has had on SaskEnergy commodity and delivery revenues is summarized in Table 10-4, including the forecast impact for the 2018/19 fiscal year (assuming a commodity rate of 38.50 m^3/MJ). This indicates that adverse impacts to SaskEnergy revenues have declined since 2015/16 as the variation between forecast and actual heat values has narrowed.

[405] 1st Round Information Request 26(a).

Table 10-4: Heat Value Revenue Impacts ($ millions)[406]

	2015/16	2016/17	2017/18	2018/19 (Forecast)
Impact to Delivery Revenue ($ millions)	$(5.531)	$(2.067)	$(2.450)	$(0.333)
Impact to Commodity Revenue (GCVA) ($ millions)	$(5.703)	$(3.188)	$(6.065)	$(1.097)

SaskEnergy notes that heat value impacts for 2018/19 and 2019/20 will depend on the difference between forecasted heat value and actual heat value. Generally, an actual heat value higher than forecast will result in lower actual delivery and commodity revenues. A lower heat value than forecast will result in actual higher delivery and commodity revenues.

The November Update Filing increased the forecast heat value used to determine commodity and delivery rates from 38.50 m^3/MJ to 38.75 m^3/MJ.

Observations

Material concerns related to heat value variance impacts on customer bills, on net revenues, and the GCVA have been noted by the consultant, SaskEnergy and the Panel in prior years. As summarized in Table 10-2 and Figure 10-2, variations in heat value result in some customers paying more than others to achieve the same heating energy, depending on geographic location. This has resulted in ongoing fairness concerns for ratepayers and other stakeholders.

Billing in energy would eliminate the need for forecasting heat value and the associated risks related to heat value variance and variances in customer bills.

In recent years the impacts of billing in volume versus billing in energy have been mitigated due to factors such as the operation of the straddle plant in southeast Saskatchewan. However, the extent to which these factors will continue to operate to reduce heat value variation in Saskatchewan is uncertain. In 2016, SaskEnergy outlined in detail a number of external factors that impact heat value and that make it difficult to accurately forecast including the following:

- The price of natural gas;
- The volume of natural gas imported from Alberta;
- The volume of natural gas produced and exported from Saskatchewan;
- The price of oil and where it will be over the forecast period; and
- The price of natural gas liquids and the degree of liquids extraction in gas plants.

[406] 1st Round Information Request 26 (c).

SaskEnergy noted that these factors are often in a state of flux and beyond SaskEnergy's control. However, as the consultant has previously noted, SaskEnergy is capable of making changes to its billing system that would mitigate these concerns for both the Corporation and its customers.[407]

SaskEnergy previously noted that billing in energy is viewed as "most appropriate for a distribution system that receives natural gas from a number of different supply sources" and it is "easier for customers to understand since energy (GJs) is the unit most widely used by the media." SaskEnergy has continued to indicate a willingness to review measures required to transition to billing in energy, however, little progress has been made since the issue was raised by the Panel in 2012. Reasons for deferring the transition to billing in energy have included the "current economic environment and fiscal restraints", and requirements for "conditions conducive to adding additional financial and staffing resources as well as the support of SaskEnergy's owner".[408] In the 2018 Application, SaskEnergy notes that it "continues to evaluate transitioning to billing in energy", "is in the process of a major technical upgrade to its customer information system" expected to be completed in 2019 and "upon completion a project to evaluate and transition to billing in energy will be initiated."[409]

Recommendations

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

[407] See 2016 Consultant's report, page 10-8.
[408] 2017 Delivery Service Rate Application, 1st Round Information Request 27(c).
[409] Tab 24, Page 2.

11.0 NATURAL GAS MARKET UPDATE

Natural gas prices are set in an open market and can be affected by production, natural gas storage levels, economic conditions and pipeline capacity available to move gas from producing basins to consuming areas.[410]

In October 2017, TransCanada Pipelines' firm transportation capacity to move gas out of Alberta was fully subscribed. This resulted in gas production being trapped in Alberta, and historically low gas prices at AECO. The AECO forward prices are depressed in the near term and over the longer term as it will take time for pipelines to be constructed to address the capacity restriction.[411]

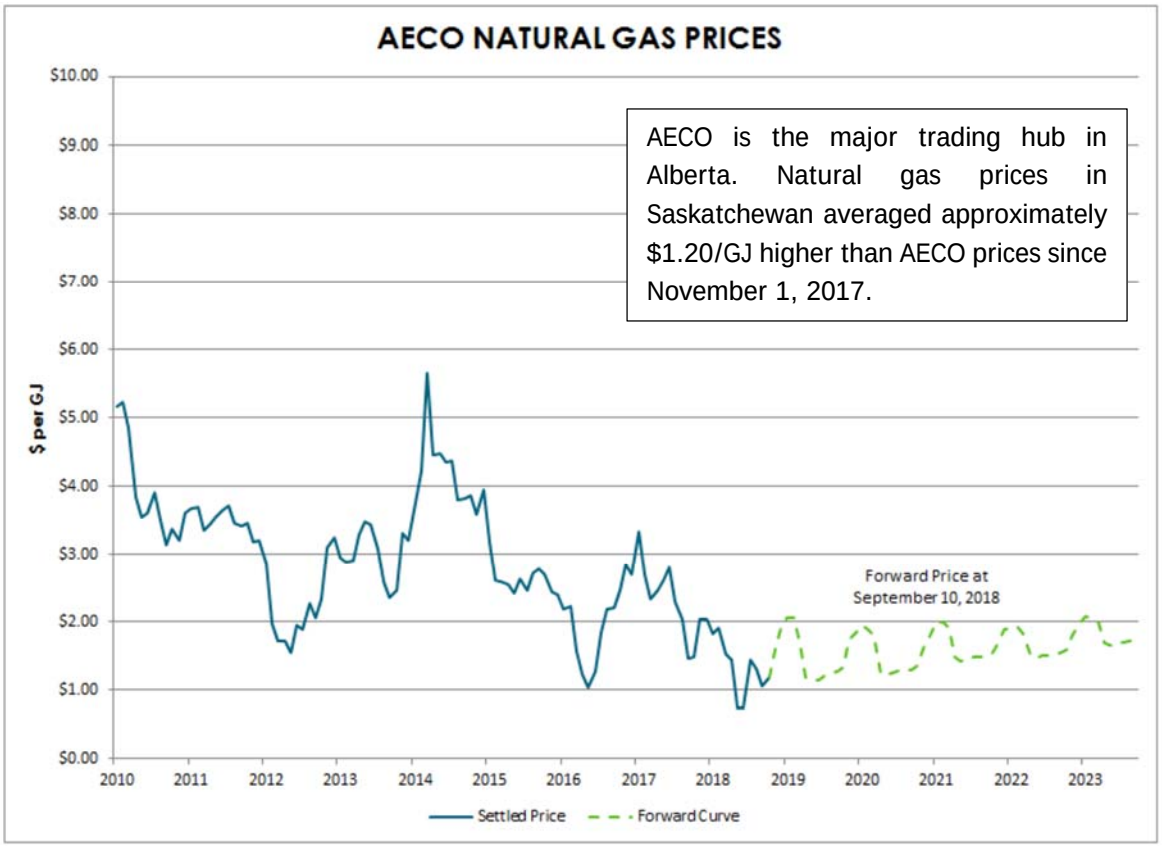
Saskatchewan is downstream of the pipeline capacity restriction, and the lower gas price environment in Alberta does not extend to Saskatchewan. SaskEnergy notes that the strong Saskatchewan price relative to Alberta has led to a significant increase in the price differential between these two points. Specifically, while in recent years the typical differential between Alberta and Saskatchewan has been about $0.15 to $0.20/ GJ, in recent months natural gas in Saskatchewan has been trading in excess of AECO plus $1.00/GJ. SaskEnergy expects that the strong price differential will continue into the 2018/19 gas year,[412] and notes that the monthly pricing variations "are symptoms of a relatively small and very thinly traded market."[413] With the high price differential, SaskEnergy will be paying more for its Saskatchewan sourced gas relative to the AECO index "but will be purchasing less gas from Saskatchewan and more from Alberta during the application period."[414]

SaskEnergy also notes that due to pipeline capacity restrictions natural gas is trapped in Alberta, therefore, the price of gas at AECO will not move with other natural gas hubs until physical expansions of new pipeline capacity go into service in two to three years. After new pipeline capacity is in service SaskEnergy expects that AECO will resume its role as a relevant comparator for Canadian market conditions.[415] SaskEnergy notes that when comparing SaskEnergy's commodity rate to market prices, both AECO and Empress natural gas prices should be taken into consideration until such time as new transport capacity goes in service in Alberta.

Figure 11-1 illustrates that AECO natural gas prices have declined from the highs experienced in 2014, and based on the September 2018 forecast are expected to remain at or below $2/GJ for the next four-five years.

[410] Application page 9, 2018 Commodity and Delivery Service Rate Application.
[411] Application page 10, 2018 Commodity and Delivery Service Rate Application.
[412] Application page 10, 2018 Commodity and Delivery Service Rate Application.
[413] 1st Round Information Request 2 (i) [commodity], 2018 Commodity and Delivery Service Rate Application.
[414] 1st Round Information Request 2 (j) [commodity], 2018 Commodity and Delivery Service Rate Application.
[415] 2nd Round Information Request 5 (a) (i) [commodity], 2018 Commodity and Delivery Service Rate Application.

Figure 11-1: Recent AECO Natural Gas Prices[416]



Observations

SaskEnergy has provided sufficient information on the current and forecast as market to support its requested commodity rate.

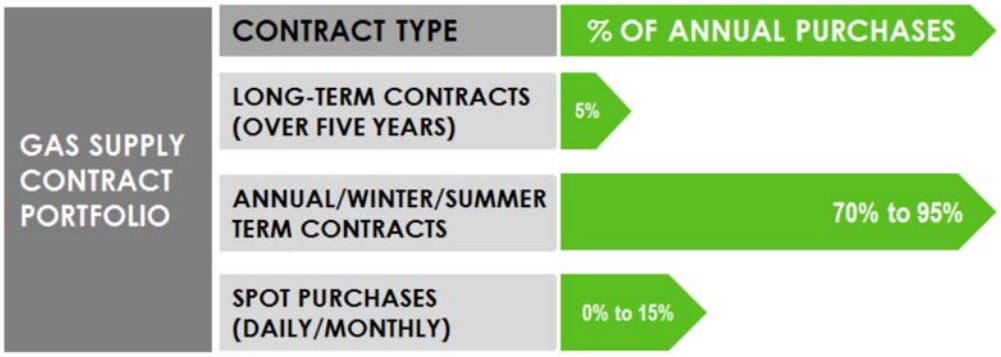
[416] Page 10, 2018 Commodity and Delivery Service Rate Application.

12.0 GAS SUPPLY OVERVIEW

12.1 SUPPLY PORTFOLIO AND PURCHASE REQUIREMENTS

The Figure 12-1 illustrates SaskEnergy's gas supply portfolio for a normal year:[417]

Figure 12-1: SaskEnergy's Gas Supply Portfolio for a Normal Year



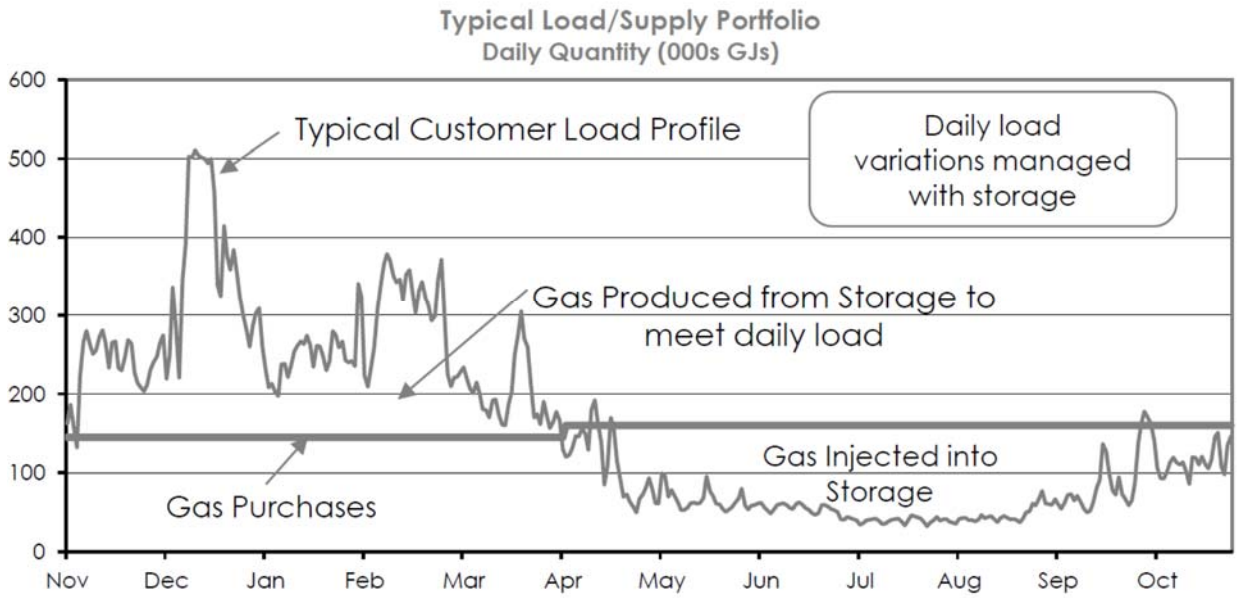
SaskEnergy notes that the gas supply portfolio is designed to give the least cost mix while providing required flexibility and security of supply:

- Long-term contracts provide 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.
- Annual contracts allow SaskEnergy to adjust to customer migration to/from SaskEnergy's regulated commodity service.
- 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. Contracts of one-year or less in duration minimize costs, as potential premiums associated with long-term contracts are avoided.

Due to large seasonal variance in gas consumption in Saskatchewan,[418] 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 of four to five million gigajoules throughout the year.[419] Figure 12-2 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.

[417] Page 13, 2018 Commodity and Delivery Service Rate Application.
[418] Approximately 70% of the total requirement must be supplied during the winter months.
[419] Application Page 12. Forecast monthly purchase volumes are provided at line 14 of Schedule 1.0 of the 2018 Commodity and Delivery Service Rate Application.

Figure 12-2: Typical Load/ Supply Portfolio[420]



SaskEnergy indicates that during normal weather situations, storage provides approximately 30% of annual natural gas requirements, 40% of a normal winter gas requirements, and 65% of gas consumed on the coldest day of the year.[421]

SaskEnergy is forecasting that it will supply approximately 57 million GJs to customers over the 2019/20 test period. 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; in contrast, 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 accordingly over the summer period. Alternatively, if gas prices remain relatively high despite a mild winter in Saskatchewan, SaskEnergy may sell some of this excess gas during the winter period.[422]

Over the last several years SaskEnergy has become more reliant on imports from Alberta as domestic production has decreased. Figure 12-3 illustrates the gas supply for Saskatchewan. The figure shows that since 2011 Saskatchewan become a net importer filling the gap in supply through purchases from Alberta.

[420] Page 11, 2018 Commodity and Delivery Service Rate Application.
[421] Page 11, 2018 Commodity and Delivery Service Rate Application.
[422] Page 12, 2018 Commodity and Delivery Service Rate Application.

Figure 12-3: Saskatchewan Gas Supply [423]

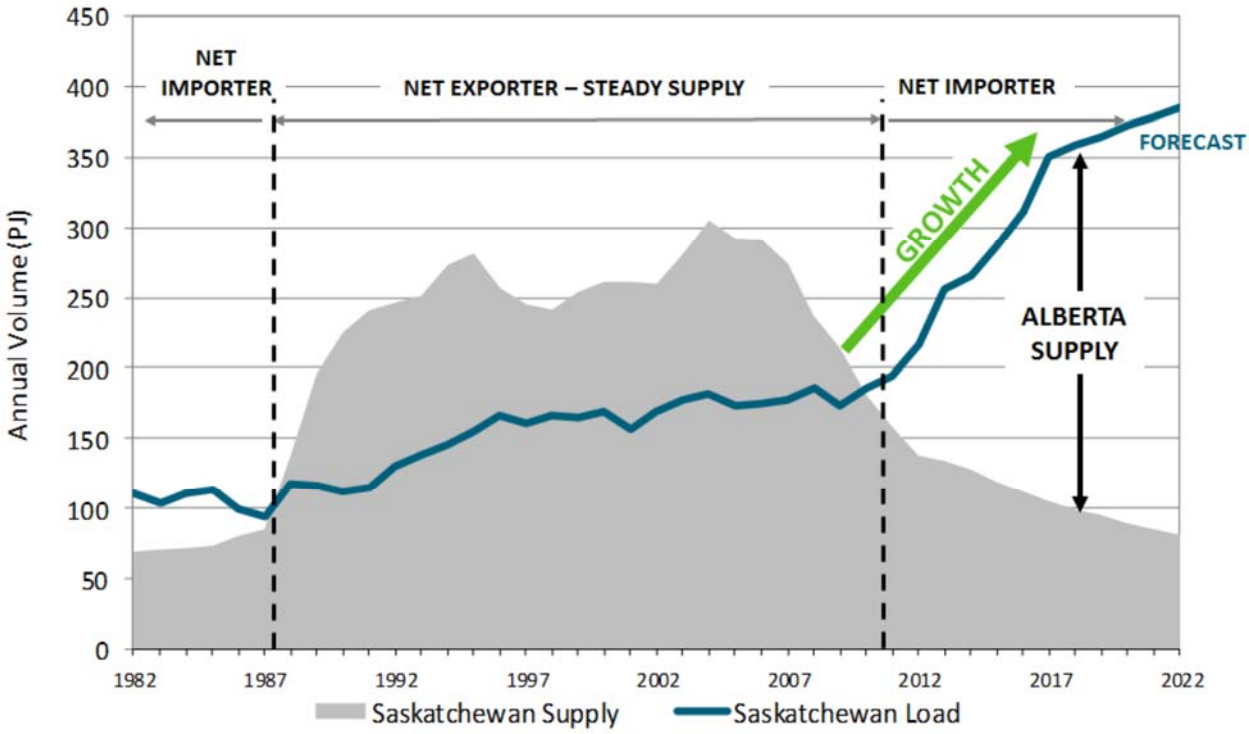


Table 12-1 summarizes the breakdown between actual Saskatchewan and Alberta purchases for the last four years of actuals (from 2014/15 to 2017/18) and the forecasts for the 2018/19 and 2019/20 fiscal years; and indicates that purchases from Alberta have increased over the period.

Table 12-1: Gas Purchases by Source (Petajoules or PJs)[424]

Line		SK Purchases (PJ)	%	AB Purchases (PJ)	%	Total
1	April 2014 - March 2015	33.7	*54%*	28.2	*46%*	61.9
2	April 2015 - March 2016	27.8	*52%*	25.6	*48%*	53.4
3	April 2016 - March 2017	20.9	*40%*	31.9	*60%*	52.8
4	April 2017 - March 2018	23.6	*41%*	33.7	*59%*	57.2
5	April 2018 - March 2019	25.5	*44%*	32.7	*56%*	58.2
6	April 2019 - March 2020	20.6	*36%*	36.3	*64%*	56.9

[423] Page 7, 2018 Commodity and Delivery Service Rate Application.
[424] 1st Round Information Request Commodity 2 (g), i) [Commodity], 2018 Commodity and Delivery Service Rate Application.

SaskEnergy notes that it is increasing firm transportation from Alberta by 30,000 GJs/day (up to 180,000 GJ/day total firm transportation by the end of the Application period),[425] to allow SaskEnergy to source more Alberta gas at the "depressed" AECO price as the price differential is expected to be higher in Saskatchewan due to pipeline capacity restrictions. SaskEnergy also notes that with the increased firm transportation contract the trend of increasing Alberta gas purchases is expected to stabilize at approximately 70% for the April 2020 to March 2021 period.[426]

Observations

SaskEnergy's supply portfolio is changing in response to decreasing availability of gas supply in Saskatchewan as well as lower AECO prices due to pipeline capacity restrictions. 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.

SaskEnergy plans to increase firm transportation from Alberta by 30,000 GJs/day to 180,000 J/day by the end of the Application period.[427] This would allow SaskEnergy to source more Alberta gas at the "depressed" AECO price as the price differential is expected to be higher in Saskatchewan due to pipeline capacity restrictions. Although, this may reduce costs for ratepayers, the cost for added transportation contracts are also paid by ratepayers. It is assumed that increased firm transportation contracts from Alberta facilitate increased Asset Optimization revenues as discussed in Section 3.7.

12.2 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. SaskEnergy indicates that this design criterion is within the typical range used by other natural gas utilities in Canada and the United States, who use a range of "1 in 5 design" to a "coldest ever design".[428] While a lower peak day design criterion may reduce costs; this must be weighed against the requirement to provide continued safe and reliable service. SaskEnergy's 2019/20 test year forecast contracted demand is 605,000 GJs/day.

Table 12-2 summarizes the forecast supply mix for peak day requirements, and shows that the majority portion of supply for maximum peak day requirements are from storage [64%] followed by base supply [25%]. SaskEnergy notes that "the peak day requirement from gas retailers is simply the amount of gas forecast to be supplied by gas retailers for their customers on peak day. Similar to SaskEnergy, gas retailers must satisfy their customers' annual and peak day gas requirements."[429]

[425] 10,000 GJs/day effective November 1, 2018; 10,000 GJs/day effective November 1, 2019; and 10,000 GJs/day effective November 1, 2020 to reach 180,000 GJ/day total firm transportation.
[426] 1st Round Information request 2 (g) iii) [Commodity], 2018 Commodity and Delivery Service Rate Application.
[427] 10,000 GJs/day effective November 1, 2018; 10,000 GJs/day effective November 1, 2019; and 10,000 GJs/day effective November 1, 2020 to reach 180,000 GJ/day total firm transportation.
[428] Page 37, 2018 Commodity and Delivery Service Rate Application. SaskEnergy's design criteria assumes there is a 1 in 20 probability that the design peak day load will be reached during the upcoming winter.
[429] 1st Round Information request 13 (c), 2018 Commodity and Delivery Service Rate Application.

Table 12-2: Forecast Supply Mix for Peak Day Requirements[430]

		GJs/ day
1	Annual base supply	154,000
2	Storage	390,000
3	Spot purchases	30,000
4	Gas retailers	31,000
5	**Total**	**605,000**

During the review of the 2016 Commodity and Delivery Service Rate Application, SaskEnergy stated that should the peak day requirements be above the designed maximum peak, it has several options including:[431]

- Purchasing additional gas in Saskatchewan either directly from producers or from other end-users (including SaskPower) that could reduce gas requirements;
- Purchasing additional storage deliverability from another storage customer to draw additional gas from SaskEnergy's storage inventory;
- Purchasing additional gas from AECO/NIT in Alberta, subject to the availability of transportation from Alberta;
- Contacting customers who are exporting gas and arranging for displacement with Alberta gas;
- Purchasing additional gas from customers shipping gas on TransCanada's pipeline and diverting the gas to Saskatchewan; and/or
- Requesting that customers reduce consumption for a short period of time.

Observations

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

[430] Page 12, 2018 Commodity and Delivery Service Rate Application.

[431] 2nd Round Information Request 17(f), 2016 Commodity and Delivery Service Rate Application.

13.0 PRICE RISK MANAGEMENT STRATEGY AND POLICY

13.1 STRATEGY

SaskEnergy manages its cost of gas in accordance with a Commodity Price Risk Management Strategy (Strategy) that is approved by its Board of Directors each year. 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.[432]

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. 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 and opposing objectives of gas price risk management that must be balanced against each other in any commodity rate application:[433]

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.

SaskEnergy indicates that the purpose of the strategy is to provide stable and competitive rates, and it is understood that at times following the strategy will result in higher costs than simply following the market.[434] In the past, SaskEnergy has compared the strategy to an insurance policy, i.e., customers have a higher commodity rate, but at times when gas prices spike (and in particular in high consumption months) this has shielded customers from impacts of higher costs and price volatility. This allows SaskEnergy to offer its customers competitive and stable rates in what can be considered a very volatile market.

Figure 13-1 summarizes the relative stability in the SaskEnergy Commodity rates compared to historic AECO/Empress prices from 2008 to 2020. The figure illustrates the degree of rate stability that the strategy has afforded customers over the past decade. SaskEnergy indicates that customer surveys continue to indicate that the majority of Saskatchewan customers prefer stability related to natural gas commodity prices. SaskEnergy notes that customers want to avoid unexpected changes in bills as well as stability for budgeting purposes[435].

[432] Page 15, 2018 Delivery and Commodity Service Rate Application.
[433] Page 15, 2018 Delivery and Commodity Service Rate Application.
[434] 2016 Commodity and Delivery Service Rate Application, 1st Round Information Request Commodity 6 (d).
[435] Application, Page 15

Figure 13-1: SaskEnergy Commodity Rate vs AECO and Empress Prices (2008 – 2019)[436]

In accordance with the Commodity Price Risk Management Strategy, SaskEnergy has approximately 91% of its natural gas purchase price protected for winter 2018/19 [November 1 to March 31], and 73% of its natural gas purchases hedged over the application period [April 1, 2019 to March 31, 2020].[437] This strategy allows SaskEnergy to lock in purchase prices while the forward price of natural gas is at or below the long term average. This focus on stability may impact competitiveness if the market price of natural gas declines further. However, if commodity prices increase there may be a positive effect, especially in months of high consumption.

73%, or approximately 40 PJs, of SaskEnergy's forecasted purchases during the application period are hedged. The remaining 27% of forecast purchases (approximately 16 PJs) are exposed to market prices. As forecast purchases are based on normal weather, this remaining exposure would increase if there was colder-than-normal weather.[438]

[436] 2nd Round Information Request 5(a)(iii).
[437] Application, page 15.
[438] Application, page 15.

There are two factors that could result in the need for a commodity rate change prior to April 2020 or April 2021, a change in the market price of natural gas and/or a change in the amount of gas required to be purchased. Since only 50% of SaskEnergy's forecasted gas purchases for the summer of 2019 has been hedged (fixed price), a change in the market price (AECO) during this period would affect SaskEnergy's cost of gas and therefore affect commodity rates. Also, despite having 95% of forecasted gas purchases hedged for the winters of 2019-2020 and 2020/2021, the forecasted gas purchases are based on normal or average weather. In the event of colder-than-normal weather SaskEnergy must purchase additional gas to satisfy the increased consumption.[439]

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's Board of Directors, and notes that while the Panel may release the net effect of the gas price management transactions and purchase contracts, the Strategy (and any details of price management transactions or gas purchase contracts) cannot be publicly released. In the Consultant's view, the natural gas price management strategy appears to be being executed as approved.

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

The Policy specifies objectives, control principles, reporting principles and risk management systems, and specifically 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 a formal review by the Audit and Finance committee every two years, and 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. Ticket testing is reviewed annually. At any time, recommendations for corrective action may be made by Audit Services if appropriate.

SaskEnergy indicates that in accordance with industry best practices all transactions are independently monitored daily by the Middle Office for compliance. Any exceptions are noted. When external auditors perform their year-end review it is one of the areas tested. Further, with CEO/ CFO certification, and key controls are tested as they relate to financial statements. The last internal audit was completed in October 2017 and revealed compliance to the well documented policies, procedures and strategies relating to

[439] Application, page 6.

commodity activities. Established controls were found to be functioning effectively. Audit services continues to review a sample of gas marketing tickets monthly.[440]

SaskEnergy notes that an external audits of the Commodity Risk Management Policy and Procedures has never been directly performed by SaskEnergy's external auditors, but certain procedures including the review of transition tickets are part of the CEO/CFO certification process and reviewed annually. Any significant change in policy would require the external auditors to perform a more extensive review.[441]

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.

[440] 1st Round Information Request 6(b)[Commodity].
[441] 1st Round Information Request 6(c) [Commodity].

14.0 FORECAST COST OF GAS SOLD

SaskEnergy's forecast cost of gas sold for the 2019/20 test year (April 1, 2019 to March 31, 2020) is made up for the following components:

1. Cost of purchased gas;
2. Transportation costs;
3. Price management activities';
4. Storage costs;
5. Operations, maintenance and administration, interest and operating costs; and
6. Cost of internal use.

SaskEnergy's forecasts for the test period for each of these components are reviewed in the following sections.

14.1 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.[442] As such, SaskEnergy's gas purchase portfolio consists of both AECO indexed purchases as well as fixed price purchases.

SaskEnergy forecast AECO forward prices to be $1.220/GJ for the period from April to October 2019, and $1.860/GJ for the period from November 2019 to March 2020.[443] SaskEnergy notes that natural gas prices are influenced by a number of factors including production, demand, natural gas storage levels and economic conditions, as well as the availability of pipeline capacity to move gas out of producing basins which affects regional natural gas prices.

Figure 11-1 [see Section 11] illustrates AECO natural gas prices from 2010 to September 2018 (actuals) and forward prices to 2023. SaskEnergy notes that natural gas in Saskatchewan "has been trading in excess of AECO plus $1.00/GJ in recent months, which is significantly higher than the typical differential of about $0.15 to $0.20/GJ in recent years." The following is noted regarding the high price differential:[444]

- In October 2017, TransCanada Pipelines announced that their firm transportation capacity to move gas out of Alberta was fully subscribed which resulted in some gas production trapped in Alberta leading to historically low gas prices at AECO/Alberta.

[442] Page 13, 2018 Commodity and Delivery Service Rate Application.
[443] Schedule 1.1, 2018 Commodity and Delivery Service Rate Application.
[444] Page 10, 2018 Commodity and Delivery Service Rate Application.

- Since Saskatchewan is downstream of the pipeline capacity restriction at the Alberta/Saskatchewan border, natural gas prices in Saskatchewan have not participated in the price decreases experienced in Alberta. This strong Saskatchewan price relative to the Alberta price has resulted in the pricing differential between the two points to increase significantly.
- AECO prices are currently depressed in both the near-term and the longer-term, as it will take several years for pipelines to be constructed to increase export capacity.

SaskEnergy notes that "TEP/AECO price differential for 2018-19 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 $0.65/GJ for gas purchased in Saskatchewan."[445]

SaskEnergy secured an additional 20,000 GJs/day of firm transportation from Alberta effective November 1, 2018, 10,000 GJs/day effective November 1, 2019, and another 10,000 GJs/day effective November 1, 2020; the incremental firm transportation from Alberta will allow SaskEnergy to source more Alberta gas at the "depressed" AECO price and less from Saskatchewan at the current premiums.[446]

In total, SaskEnergy forecasts Saskatchewan purchases of $43.748 million and Alberta purchases of $85.340 million for total gas purchase costs of $129.088 million in 2019/20 test year before price risk management activities. Gas sales are forecast to be 55.7 million GJs. This results in an average cost of gas sold of $2.317/GJ (before price risk management activities, transportation and storage costs).[447]

14.2 TRANSPORTATION COSTS

SaskEnergy incurs transportation costs to ship Alberta purchased gas. SaskEnergy contracts for transportation service from Alberta with TransGas.[448] Transportation costs are forecast to average $0.423/GJ for April through October 2019, and $0.430/GJ for the period from November 2019 to March 2020.[449] Total transportation costs are forecast to be approximately $24.221 million for the 2019/20 test year resulting in an average transportation cost of $0.428/GJ.

SaskEnergy notes that the transportation cost per GJ is higher for April through October due to a decrease in the volume of natural gas purchased on a daily basis during the summer (April through October) compared to the winter period [regardless of how much natural gas is purchased, the transportation costs are fixed] and the change in November 2019 is due to an increase in the amount of firm transportation capacity contracted from Alberta.[450]

[445] Page 13, 2018 Commodity and Delivery Service Rate Application.
[446] 1st Round Information request 2 (h) [Commodity], 2018 Commodity and Delivery Service Rate Application.
[447] Calculated based on Schedule 1.0, 2018 Commodity and Delivery Service Rate Application.
[448] Page 7, 2018 Commodity and Delivery Service Rate Application.
[449] Schedule 1.1, 2018 Commodity and Delivery Service Rate Application.
[450] 2nd Round Information request 2 (b) [Commodity], 2018 Commodity and Delivery Service Rate Application.

SaskEnergy has increased firm transportation from Alberta by 30,000 GJs/day[451] to allow SaskEnergy to source more Alberta gas at the "depressed" AECO price as the price differential expected to be higher in Saskatchewan due to pipeline capacity restrictions.

Table 14-1: Historical and Forecast Gas Purchases by Source[452]

Line		SK Purchases (PJ)	%	AB Purchases (PJ)	%	Total
1	April 2014 - March 2015	33.7	*54%*	28.2	*46%*	61.9
2	April 2015 - March 2016	27.8	*52%*	25.6	*48%*	53.4
3	April 2016 - March 2017	20.9	*40%*	31.9	*60%*	52.8
4	April 2017 - March 2018	23.6	*41%*	33.7	*59%*	57.2
5	April 2018 - March 2019	25.5	*44%*	32.7	*56%*	58.2
6	April 2019 - March 2020	20.6	*36%*	36.3	*64%*	56.9

SaskEnergy notes that with the increased firm transportation contract the trend of increasing Alberta gas purchases is expected to stabilize at approximately 70% for the April 2020 to March 2021 period.[453]

14.3 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.

SaskEnergy notes that currently it has "approximately 91% of its natural gas purchases hedged for the upcoming winter, November 1, 2018 to March 31, 2019, and 73% of its natural gas purchases price protected over the application period, April 1, 2019 to March 31, 2020, in accordance with SaskEnergy's Commodity Price Risk Management Strategy."[454] SaskEnergy forecasts its price management activities to result in outflows of approximately $1.132 million in 2019/20 test year.[455]

SaskEnergy notes that it conducted customer research in 2018 to assess if there were any changes in customer preferences with respect to price management and rate stability. SaskEnergy states that overall a majority of customers continue to indicate a preference for stable rates in order to avoid unexpected change sin bills and to provide stability for budgeting purposes.[456]

[451] 10,000 GJs/day effective November 1, 2018; 10,000 GJs/day effective November 1, 2019; and 10,000 GJs/day effective November 1, 2020 to reach 180,000 GJ/day total firm transportation.
[452] 1st Round Information request 2 (g) ii) [Commodity], 2018 Commodity and Delivery Service Rate Application.
[453] 1st Round Information request 2 (g) iii) [Commodity], 2018 Commodity and Delivery Service Rate Application.
[454] Page 15, 2018 Commodity and Delivery Service Rate Application.
[455] Schedule 1.0, 2018 Commodity and Delivery Service Rate Application.
[456] Page 15, 2018 Commodity and Delivery Service Rate Application.

14.4 STORAGE GAS COSTS

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

SaskEnergy is forecasting injection to storage of 17.338 million GJs for the period from April through October of 2019 and withdrawal of 17.282 million GJs for the period from November 2019 through March 2020 to net of 0.057 million GJs during the 2019/20 test year. This results at overall cost of $0.165 million for storage injection/withdrawal.[457]

14.5 O&M, INTEREST AND OPERATING COSTS

SaskEnergy's cost of gas sold includes direct operating costs, overheads, capital related costs, bad debt expense and gas in storage carrying costs. These costs are partially offset by late payment charges. Forecast costs in 2019/20 include:

- **Interest Expense of $0.471 Million**:[458] 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 forecast borrowing rate is 1.79% per annum.[459] Due to an internal communication error, SaskEnergy did not use the same interest rate forecast for the commodity service and GCVA balances as for Delivery Service, however, SaskEnergy estimates that the impact of using the correct interest rate forecast will have a minimal impact.[460] The short-term interest rate used for delivery service short-term debt interest expense was 2.22% as reviewed in Section 3.5.
- **Operations, Maintenance and Administration Costs of $1.425 Million**: These include gas accounting; treasury; legal; administrative support costs; external audit fees; executive costs and board of directors' costs; and capital related costs.[461]
- **Gas Supply Related Bad Debt Expense of $0.944 Million**: SaskEnergy notes that since 2014 the bad debt expense has begun to trend upward as customer accounts in arrears have increased taking bad debt expense from 0.1% in 2014 to 0.3% in 2017/18, and the bad debt expense forecast is expected to trend upward similar to historic results based on estimated aged accounts receivable.[462] SaskEnergy notes that $0.944 million is 50% of the total bad debt expense related to both commodity and delivery revenues, and that it intends to revisit this allocation in the next budget cycle as it recognizes that if this rate application is approved, delivery revenue will be closer to 60% of the total bad debt expense and commodity revenue will be closer to 40%.[463]

[457] Schedules 1.0, 2018 Commodity and Delivery Service Rate Application.
[458] Schedule 1. 2018 Commodity and Delivery Service Rate Application.
[459] Page 8, 2018 Commodity and Delivery Service Rate Application.
[460] Commodity 2nd Round Information Request 3 (a).
[461] Summarized from Tab 19 of the 2018 Commodity and Delivery Service Rate Application.
[462] 2nd Round Information request 3 (c) [Commodity], 2018 Commodity and Delivery Service Rate Application.
[463] 2nd Round Information request 3 (d) [Commodity], 2018 Commodity and Delivery Service Rate Application.

Total forecast costs related to these items are $2.840 million in the 2019/20 test period. This increases the average cost of gas sold by $0.051/GJ. These costs are offset by revenues from gas supply related late payment charges, forecast at $0.839 million,[464] reducing the average cost of gas sold by $0.015/GJ.

14.6 COSTS OF INTERNAL USE

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

- Line and catalytic heating loads at town border stations to ensure reliable operation;
- Use in SaskEnergy owned buildings; and
- Lost and unaccounted for gas.[465]

Internal usage reduces the total cost of gas sold as these costs are recovered through delivery service rates. The forecast reduction is $2.073 million for 2019/20 or an average reduction to the cost of gas sold of $0.037/GJ.

14.7 SUMMARY

Table 14-3 summarizes the calculation of the $154.536 million total forecast cost of gas sold for the 2019/20 test year. The average cost of gas sold over this period is approximately $2.77/GJ, ranging monthly between $2.646/GJ and $2.849/GJ. This is lower than the period from April 2017 to March 2018 (with cost of gas sold ranging monthly between $3.089/GJ and $3.704/GJ); and for the period from April 2018 to March 2019 (with cost of gas sold ranging between $2.618/GJ and $3.121/GJ).[466]

Observations

The cost of purchased gas appears to be properly calculated and consistent with previous practice. It is noted that SaskEnergy indicates that it intends to revisit the method for allocating bad debt in the next application. SaskEnergy also acknowledged the issue regarding consistency of interest rates used in the delivery and commodity applications.

The increase in firm transportation capacity enables SaskEnergy's purchase of more from Alberta during a period of lower Alberta prices and higher price differentials; however, it is noted that the incremental cost will be paid by customers through rates.

[464] Schedule 1.0, 2018 Commodity and Delivery Service Rate Application.

[465] Page 8, 2018 Commodity and Delivery Service Rate Application.

[466] Based on information provided in response to 1st Round Information request 2 (e) [Commodity], 2018 Commodity and Delivery Service Rate Application.

Table 14-2: Calculation of Cost of Gas Sold for 2019/20[467]

Line	Description	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Total	Average Cost per GJ Sold
1	Saskatchewan Purchases	$3,239	$3,347	$3,239	$3,347	$3,347	$3,239	$3,348	$4,074	$4,210	$4,210	$3,938	$4,210	$43,748	0.785
2	Alberta Purchases	$6,726	$6,950	$6,726	$6,950	$6,950	$6,726	$6,950	$7,374	$7,620	$7,620	$7,128	$7,620	$85,340	1.532
3	Transportation	$0	$0	$0	$0	$0	$0	$0	$224	$231	$231	$216	$231	$1,132	0.020
4	Price Hedging (Inflows)/Outflows	$1,938	$2,003	$1,938	$2,003	$2,003	$1,938	$2,003	$2,052	$2,120	$2,120	$1,984	$2,120	$24,221	0.435
5	**Cost of Purchase Gas**	**$11,903**	**$12,300**	**$11,903**	**$12,300**	**$12,300**	**$11,903**	**$12,301**	**$13,723**	**$14,181**	**$14,181**	**$13,266**	**$14,181**	**$154,441**	**2.773**
6	Storage Withdrawal (Injection)	-$1,681	-$6,895	-$8,582	-$9,289	-$9,238	-$7,366	-$2,270	$5,350	$11,495	$13,231	$10,028	$5,382	$165	0.003
7	Gas Supply Related Interest Expense	$37	$37	$37	$37	$37	$37	$37	$43	$43	$43	$43	$43	$471	0.008
8	Gas Supply OM&A Expense	$119	$119	$119	$119	$119	$119	$119	$119	$119	$119	$119	$119	$1,425	0.026
9	Gas Supply Related Bad Debt Expense	$65	$34	$21	$19	$20	$29	$65	$114	$155	$166	$140	$115	$944	0.017
10	Gas Supply Related Late Payment Charges	-$99	-$84	-$67	-$54	-$46	-$41	-$40	-$45	-$58	-$85	-$110	-$111	-$839	(0.015)
11	Less Cost of Internal Usage	-$234	-$157	-$97	-$64	-$58	-$79	-$68	-$148	-$259	-$237	-$354	-$319	-$2,073	(0.037)
12	**Cost of Gas Sold**	**$10,111**	**$5,354**	**$3,333**	**$3,067**	**$3,133**	**$4,602**	**$10,144**	**$19,156**	**$25,676**	**$27,418**	**$23,131**	**$19,410**	**$154,536**	**2.774**
13	Sales (GJ - 000s)	3,822	2,009	1,234	1,128	1,150	1,707	3,812	6,722	9,174	9,841	8,267	6,832	55,700	$2.77
14	Purchases (less Fuel Gas & Line Loss) (GJ -	4,554	4,705	4,554	4,705	4,705	4,554	4,706	4,742	4,900	4,900	4,583	4,900	56,507	$2.73
15	Cost of Purchase Gas ($/GJ)	$2.614	$2.614	$2.614	$2.614	$2.614	$2.614	$2.614	$2.894	$2.894	$2.894	$2.895	$2.894		
16	Storage Withdawal (Injection)	(643)	(2,638)	(3,283)	(3,554)	(3,534)	(2,818)	(868)	2,033	4,367	5,027	3,810	2,045	(57)	
17	Storage Withdrawal (Injection) Rate ($/GJ)	$2.614	$2.614	$2.614	$2.614	$2.614	$2.614	$2.614	$2.632	$2.632	$2.632	$2.632	$2.632		
18	Internal Usage	(88)	(59)	(36)	(24)	(21)	(29)	(25)	(52)	(93)	(85)	(127)	(112)	(751)	

[467] Schedule 1.0 of the 2018 Commodity and Delivery Service Rate Application.

15.0 GAS COST VARIANCE ACCOUNT (GCVA)

15.1 GCVA METHODOLOGY

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.[468]

15.2 GCVA BALANCE

The Original Application GCVA balance was calculated based on a forecast heat value of 38.5 MJ/m^3. The Mid-Application Update indicates that after reviewing the forecast 2019/20 heat value, it was determined that a higher heat value was expected for the 2019/20 test year. Consequently, the Mid-Application Update increased the forecast heat value to 38.75 MJ/m^3.[469]

SaskEnergy is not proposing to change the rates requested in the Original Application; and the proposed commodity rate of 10.20 cents/m^3 remains unchanged. However, the higher forecast heat value will result in a slight decrease in GJ in the commodity reference rate, from $2.65/GJ to $2.63/GJ.[470] The higher heat value will also result in lower revenues which will also impact the GCVA account balance.

The following is noted regarding the impact of the Mid-Application Update:[471]

- The interim commodity rate change effective November 1, 2018 results in a GCVA balance of $11.123 million owing to customers by end of March 31, 2019 [compared to $11.854 million in the Original Application].
- With the proposed final commodity rate of 10.20 cents/m^3 ($2.63/GJ) effective April 1, 2019, the GCVA balance by end of March 31, 2020 would be $3.351 million owing to customers [compared to $5.104 million owing to customers in the Original Application].

The analysis that follows is prepared based on the Mid-Application Update [which impacts GCVA calculations from November 1, 2018 through March 31, 2020].

The commodity rate was last adjusted effective November 1, 2016. Table 15-1 sets out the calculation of the GCVA for the period from November 1, 2017 through March 31, 2019. Figure 15-1 shows that during the ten month period, from February 1, 2018 to October 31, 2018, the GCVA balance changed significantly

[468] Summarized from page 9 of the 2018 Commodity and Delivery Service Rate Application.
[469] See Section 10 of this report of details of the historical trend for heat value.
[470] November 26, 2018 Mid-Application update, page 2.
[471] Based on Revised Schedule 3.0 as provided by SaskEnergy on December 3, 2018 for Mid-Application update.

from $0.716 million **owing from customers** to $16.106 million **owing to customers**. This is a net change of $16.822 million [about $1.6 million per month on average].

SaskEnergy notes that without an interim rate change, the GCVA balance would increase to $40.2 million owing to customers by March 31, 2019.[472] With the proposed interim rate effective November 1, 2018, the GCVA balance is forecast to be $11.123 million owing to customers by March 31, 2019.

SaskEnergy indicates that maintaining a modest GCVA balance owing to customers at the end of the current application period will contribute to price stability if gas prices increase, and is proposing final rates that would result in a balance owing to customers remaining in the GCVA at the end of the application period, March 31, 2020. Based on the Original Application the balance remaining in the GCVA at the end of the test period was $5.104 million; with the Mid-Application Update the balancing remaining in the GCVA at the end of the test period was reduced to $3.351 million.[473]

[472] 2018 Commodity and Delivery Service Rate Application, page 9.
[473] Schedule 3.0, 2018 Commodity and Delivery Service Rate Application and 1st Round Information Request 4 (b) as Revised on December 3, 2018 for Mid-Application Update.

Table 15-1: Calculation of GCVA Balance for November 2017 to March 2019[474]

Line	Description	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
1	Opening Balance Under/(Over) Recovery	$10,465	$7,218	$3,316	$716	-$1,055	-$2,950	-$6,963	-$8,402	-$9,260	-$10,070	-$11,363	-$12,789	-$16,106	-$14,861	-$13,932	-$13,129	-$12,341
2	Purchases - Alberta	$10,700	$11,761	$9,615	$8,414	$8,379	$7,227	$7,449	$7,207	$7,444	$7,442	$7,183	$7,423	$7,292	$7,535	$7,535	$6,806	$7,535
3	Purchases - Saskatchewan	$5,059	$4,919	$4,652	$4,098	$4,236	$3,587	$2,694	$2,344	$3,511	$3,067	$2,720	$2,811	$4,699	$4,855	$4,855	$4,385	$4,855
4	Less Purchase of Other Gas Sales	$0	$0	$0	$0	$0	-$336	-$305	-$298	-$347	-$324	-$316	-$380	$0	$0	$0	$0	$0
5	Financial Risk Management (Inflows)/Outflows	$683	$1,166	$1,040	$1,012	$1,228	$607	$1,483	$1,456	$645	$918	$1,088	$1,125	$1,237	$1,278	$1,278	$1,154	$1,278
6	Transportation	$1,331	$1,352	$1,344	$1,608	$1,605	$1,586	$1,598	$1,597	$1,589	$1,905	$1,606	$1,661	$1,938	$2,003	$2,003	$1,809	$2,003
7	Cost of purchase Gas	**$17,773**	**$19,197**	**$16,651**	**$15,132**	**$15,447**	**$12,671**	**$12,919**	**$12,306**	**$12,842**	**$13,009**	**$12,281**	**$12,639**	**$15,165**	**$15,671**	**$15,671**	**$14,154**	**$15,671**
8	Storage Withdrawal (Injection)	$5,776	$9,156	$15,742	$17,368	$9,458	$1,744	-$8,837	-$9,405	-$10,038	-$8,922	-$7,631	-$2,287	$5,591	$11,987	$13,793	$10,899	$5,632
9	Gas in Storage Interest Expense	$31	$31	$31	$31	$31	$31	$31	$31	$31	$31	$31	$31	$37	$37	$37	$37	$37
10	Gas Supply O&M & Admin Expense	$110	$110	$110	$110	$110	$110	$110	$110	$110	$110	$110	$110	$109	$109	$109	$109	$109
11	Gas Supply Related Bad Debt Expense	$54	$65	$70	$68	$53	$37	$11	$8	$7	$11	$12	$27	$109	$149	$160	$134	$111
12	Less Gas Supply Late Payment Charges	-$26	-$42	-$92	-$88	-$111	-$157	-$176	-$85	-$74	-$51	-$26	-$25	-$44	-$56	-$83	-$108	-$109
13	Less Cost of Internal Usage	-$69	-$127	-$127	-$199	-$172	-$121	-$101	-$55	-$38	-$35	-$82	-$70	-$162	-$281	-$257	-$383	-$349
14	Cost of Gas Sold	**$23,650**	**$28,391**	**$32,384**	**$32,423**	**$24,817**	**$14,315**	**$3,958**	**$2,910**	**$2,841**	**$4,153**	**$4,696**	**$10,425**	**$20,805**	**$27,615**	**$29,429**	**$24,842**	**$21,102**
15	Commodity Sales Revenue	$26,904	$32,297	$34,987	$34,193	$26,710	$18,293	$5,424	$3,795	$3,607	$5,397	$6,107	$13,723	$19,543	$26,670	$28,608	$24,039	$19,869
16	Gain (loss) on other gas sales	$0	$0	$0	$0	$0	$30	-$35	-$36	$34	$35	$0	$0	$0	$0	$0	$0	$0
17	Period GCVA Balance	**-$3,255**	**-$3,906**	**-$2,602**	**-$1,770**	**-$1,893**	**-$4,008**	**-$1,431**	**-$849**	**-$800**	**-$1,279**	**-$1,412**	**-$3,298**	**$1,262**	**$944**	**$822**	**$803**	**$1,233**
18	Period GCVA Interest	$7	$4	$2	$0	-$2	-$5	-$8	-$9	-$11	-$14	-$15	-$19	-$17	-$17	-$18	-$15	-$15
19	Closing Cumulative GCVA Balance	**$7,218**	**$3,316**	**$716**	**-$1,055**	**-$2,950**	**-$6,963**	**-$8,402**	**-$9,260**	**-$10,070**	**-$11,363**	**-$12,789**	**-$16,106**	**-$14,861**	**-$13,932**	**-$13,129**	**-$12,341**	**-$11,123**
20	Customer Sales (000s GJs)	7,633	9,197	9,893	9,660	7,535	5,109	1,531	1,076	1,018	1,512	1,673	3,760	6,665	9,096	9,757	8,199	6,776
21	Purchases (less Fuel Gas & Line Loss)	5,993	6,602	5,400	4,719	4,865	4,651	4,969	4,650	4,725	4,853	4,496	4,621	4,694	4,850	4,850	4,381	4,850
22	Cost of Purchase Gas ($/GJ)	$2.966	$2.908	$3.083	$3.207	$3.175	$2.725	$2.600	$2.646	$2.718	$2.681	$2.731	$2.735	$3.231	$3.231	$3.231	$3.231	$3.231
23	Storage Withdrawal (Injection)	1,663	2,636	4,532	5,000	2,723	640	(3,399)	(3,554)	(3,694)	(3,328)	(2,794)	(836)	2,024	4,339	4,992	3,945	2,039
24	Storage Withdrawal (Injection) Rate ($/GJ)	$3.474	$3.474	$3.474	$3.474	$3.474	$2.725	$2.600	$2.646	$2.718	$2.681	$2.731	$2.735	$2.763	$2.763	$2.763	$2.763	$2.763
25	Internal Usage (000s GJs)	(22)	(41)	(39)	(59)	(52)	(181)	(39)	(20)	(14)	(13)	(29)	(25)	(52)	(92)	(85)	(127)	(112)

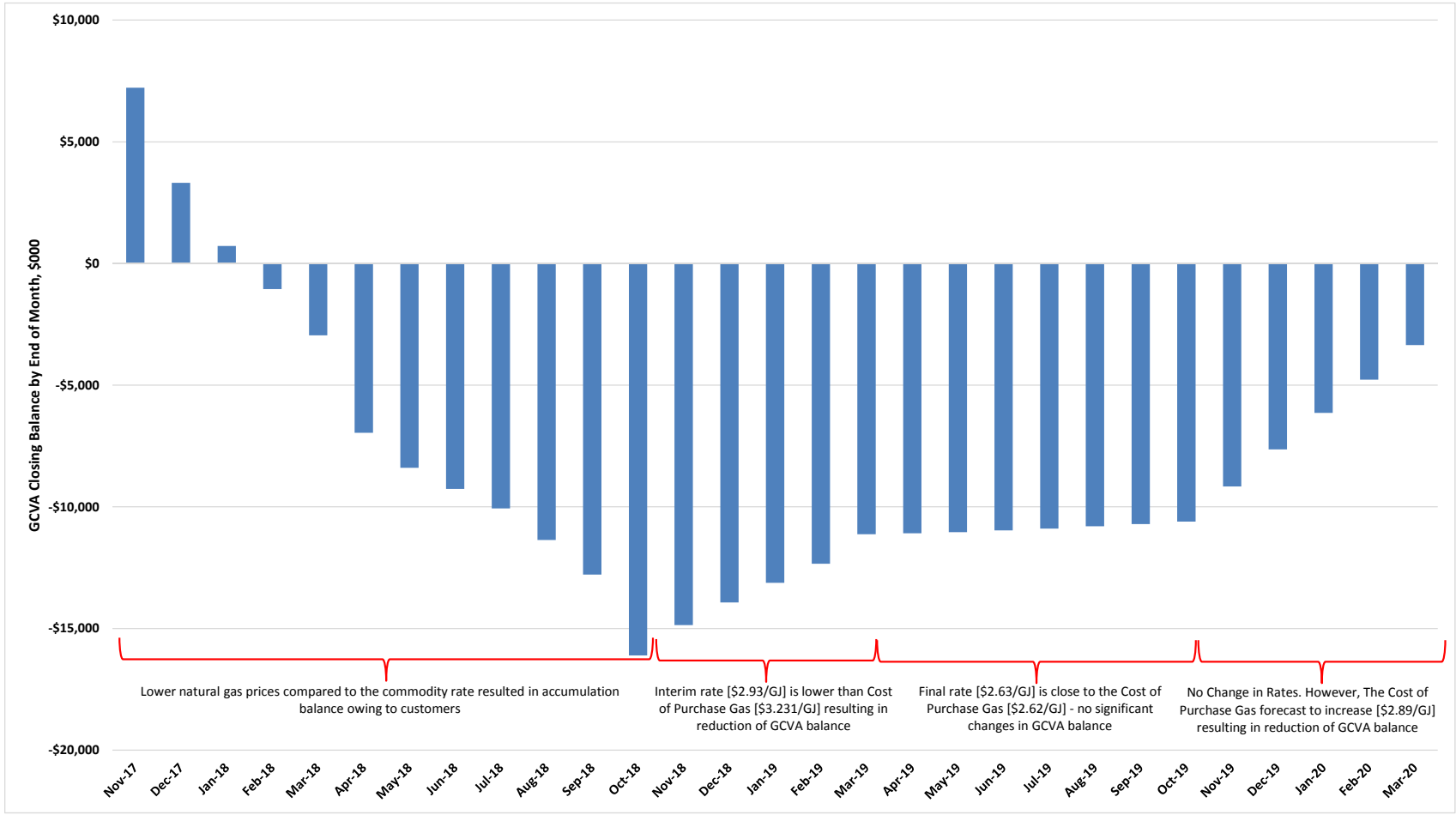
[474] Schedule 2.0 Revised December 3, 2018 for Mid-Application Update.

Table 15-2: Calculation of GCVA Balance for April 2019 to March 2020[475]

Line	Description	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20
1	Opening Balance Under/(Over) Recovery	-$11,123	-$11,089	-$11,039	-$10,972	-$10,890	-$10,800	-$10,705	-$10,611	-$9,162	-$7,645	-$6,139	-$4,774
2	Purchases - Alberta	$6,726	$6,950	$6,726	$6,950	$6,950	$6,726	$6,950	$7,374	$7,620	$7,620	$7,128	$7,620
3	Purchases - Saskatchewan	$3,239	$3,347	$3,239	$3,347	$3,347	$3,239	$3,348	$4,074	$4,210	$4,210	$3,938	$4,210
4	Less Purchase of Other Gas Sales	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Financial Risk Management (Inflows)/Outflows	$0	$0	$0	$0	$0	$0	$0	$224	$231	$231	$216	$231
6	Transportation	$1,938	$2,003	$1,938	$2,003	$2,003	$1,938	$2,003	$2,052	$2,120	$2,120	$1,984	$2,120
7	Cost of purchase Gas	**$11,903**	**$12,299**	**$11,903**	**$12,300**	**$12,299**	**$11,903**	**$12,301**	**$13,724**	**$14,181**	**$14,181**	**$13,266**	**$14,181**
8	Storage Withdrawal (Injection)	-$1,681	-$6,895	-$8,582	-$9,289	-$9,238	-$7,366	-$2,270	$5,350	$11,495	$13,231	$10,028	$5,382
9	Gas in Storage Interest Expense	$37	$37	$37	$37	$37	$37	$37	$43	$43	$43	$43	$43
10	Gas Supply O&M & Admin Expense	$119	$119	$119	$119	$119	$119	$119	$119	$119	$119	$119	$119
11	Gas Supply Related Bad Debt Expense	$65	$34	$21	$19	$20	$29	$65	$114	$155	$166	$140	$115
12	Less Gas Supply Late Payment Charges	-$99	-$84	-$67	-$54	-$46	-$41	-$40	-$45	-$58	-$85	-$110	-$111
13	Less Cost of Internal Usage	-$234	-$157	-$97	-$64	-$58	-$79	-$68	-$148	-$259	-$237	-$354	-$319
14	Cost of Gas Sold	**$10,111**	**$5,354**	**$3,333**	**$3,069**	**$3,133**	**$4,602**	**$10,144**	**$19,157**	**$25,676**	**$27,418**	**$23,132**	**$19,410**
15	Commodity Sales Revenue	$10,061	$5,287	$3,249	$2,970	$3,027	$4,492	$10,034	$17,693	$24,146	$25,903	$21,758	$17,982
16	Gain (loss) on other gas sales	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
17	Period GCVA Balance	**$50**	**$67**	**$84**	**$99**	**$106**	**$110**	**$110**	**$1,463**	**$1,529**	**$1,516**	**$1,373**	**$1,428**
18	Period GCVA Interest	-$16	-$17	-$16	-$16	-$16	-$15	-$16	-$14	-$12	-$10	-$7	-$6
19	Closing Cumulative GCVA Balance	**-$11,089**	**-$11,039**	**-$10,972**	**-$10,890**	**-$10,800**	**-$10,705**	**-$10,611**	**-$9,162**	**-$7,645**	**-$6,139**	**-$4,774**	**-$3,351**
20	Customer Sales (000s GJs)	3,822	2,009	1,234	1,128	1,150	1,707	3,812	6,722	9,174	9,841	8,267	6,832
21	Purchases (less Fuel Gas & Line Loss)	4,554	4,705	4,554	4,705	4,705	4,554	4,706	4,742	4,900	4,900	4,583	4,900
22	Cost of Purchase Gas ($/GJ)	$2.614	$2.614	$2.614	$2.614	$2.614	$2.614	$2.614	$2.894	$2.894	$2.894	$2.894	$2.894
23	Storage Withdrawal (Injection)	(643)	(2,638)	(3,283)	(3,554)	(3,534)	(2,818)	(868)	2,033	4,367	5,027	3,810	2,045
24	Storage Withdrawal (Injection) Rate ($/GJ)	$2.614	$2.614	$2.614	$2.614	$2.614	$2.614	$2.614	$2.632	$2.632	$2.632	$2.632	$2.632
25	Internal Usage (000s GJs)	(88)	(59)	(36)	(24)	(21)	(29)	(25)	(52)	(93)	(85)	(127)	(112)

[475] 1st Round Information Request 4 (b) [Commodity] as revised on December 3, 2018 for Mid-Application update.

Figure 15-1: Closing Cumulative GCVA Balance: November 2017 to March 2020[476]



[476] Prepared based on Schedule 2.0.2 and Schedule 2.0.3 and Revised 1st Round Information Request 4 (b) [Commodity], 2018 Commodity and Delivery Service Rate Application.

Observations

GCVA Balance

Figure 15-1 shows four periods impacting the GCVA balance since November 2017:[477]

- **November 1, 2017 to October 31, 2018**: The actual cost of purchased gas [ranging between $2.6/GJ and $3.2/GJ] was lower than the commodity rate of $3.65/GJ. This resulted in a sharp decline in the GCVA balance (changing from $10.465 million owing from customers to $16.106 million owing to customers). This was a net change of $26.571 million over this period.
- **November 1, 2018 to March 31, 2019**: The interim rate decreases to $2.93/GJ effective November 1, 2018.[478] The interim rate reflects lower natural gas prices and provides relief to customers over the 2018/19 winter heating season. For this period, the GCVA balance is forecast to change from $16.106 million owing to customers to $11.123 million owing to customers. This is a net change of $4.983 million refunded to customers.
- **April 1, 2019 to October 31, 2019**: The proposed final rate of $2.63/GJ effective April 1, 2019 is based on a Commodity Rate of 10.2 cents/m^3, and a heat value of 38.75 MJ/m^3. This is forecast to be close to the Cost of Purchase Gas for the period from April to October of 2019 [at about $2.62/GJ], resulting in no significant change in the GCVA balance over this period. By the end of October 2019, the GCVA balance is forecast to be $10.611 million owing to customers compared to $11.123 million owing to customers by end of March 31, 2019 (or net change of only $0.512 million over a seven month period).
- **November 1, 2019 to March 31, 2020**: The Cost of Purchase Gas is forecast to increase to about $2.89/GJ compared to the proposed final commodity rate of $2.63/GJ effective April 1, 2019. This results in a reduction to the GCVA balance. By end of March 2020, the GCVA balance is forecast to be $3.351 million owing to customers compared to $10.611 million owing to customers by end of October 31, 2019. This is a net change of $7.260 million refunded to customers.

SaskEnergy's proposed commodity rate of $2.63/GJ results in a GCVA balance of $3.351 million owing to customers at the end of the application period [March 31, 2020].

As illustrated in Table 16-1 in Section 16, a rate of $2.57/GJ effective April 1, 2019 would clear the balance remaining in the GCVA account by March 31, 2020.

SaskEnergy noted that assuming the proposed Commodity rate of $2.65/GJ (from Original Application) remained in effect for the period from April 2020 through March 2021, a GCVA balance of approximately $5 million owing to customers would remain at end of March 2021 [i.e., no change from March 31, 2020 balance of about $5 million estimated in the Original Application].[479] This appears to indicate that

[477] The last change in commodity rate was effective November 1, 2016. Schedule 2.0.1 of the Application shows than the opening balance of GCVA on November 1, 2016 was $8.444 million customers owing to SaskEnergy. By end of October 2017 the GCVA was at $10.465 million customers owing to SaskEnergy or increase of $2.021 million over a 12-month period.
[478] The Original Application interim rate was $2.95/GJ based on a heat value of 38.5 MJ/m3, however, in the Mid-Application Update SaskEnergy revised the forecast heat value to 38.75 MJ/m3 effectively reducing this to $2.93/GJ.
[479] 1st Round Information Request 4 (d) [Commodity], 2018 Commodity and Delivery Service Rate Application.

SaskEnergy is not currently expecting a significant variance between the cost of gas and commodity rates over this period.

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 m^3 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.

The following is noted regarding the impact of heat value to the GCVA balance:

- In the **Original Application**, SaskEnergy estimated that with a final rate of 10.2 cents/m^3 [or $2.65/GJ assuming a heat value of 38.5 MJ/m^3], the GCVA balance would be $5.104 million owing to customers by end of March 31, 2020.
- In the **Mid-Application Update** SaskEnergy notes that the proposed higher heat value of 38.75 MJ/m^3 is reasonable for the test year, and will result in a commodity rate of 10.2 cents/m^3 ($2.63/GJ). The higher heat value results in lower sales volumes in m^3, and will result in lower revenues to offset the cost of purchase gas. SaskEnergy estimates that with 38.75 MJ/m^3 heat value the GCVA balance would be $3.351 million owing to customers by end of March 31, 2020.

The above indicates that the change in heat value from 38.5 MJ/m^3 to 38.75 MJ/m^3 (or change of 0.25 MJ/m^3) results in about $1.7 million change in the GCVA balance over a 17-month period [from November 1, 2018 to March 31, 2020].

A higher than forecast heat value will result in under-recovery from customers, or vise-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 it typically reviews and adjusts its commodity rate once or twice per year, but that if the GCVA is projected to grow to $20 million or more (surplus or deficit) before the semi-annual review process, it may bring forward a commodity rate recommendation to its Board of Directors prior to the next scheduled commodity rate adjustment. The following was noted by SaskEnergy regarding the $20 million GCVA balance threshold:

- **The +/-$20 Million Quantum is used by SaskEnergy as a "Forecasted Metric":** The +/-$20 million GCVA threshold for triggering a commodity application was recommended by the Panel approximately 18 years ago; [480] and since that time SaskEnergy has treated the +/-$20 million quantum as a "forecasted metric", i.e., rather than wait for the GCVA to reach $20 million before bringing forward an application, the impact that future natural gas prices could have on the GCVA are monitored and if the forecasted GCVA balance is projected to exceed the threshold before

[480] 2nd Round Information Request 1 (a) [Commodity], 2018 Commodity and Delivery Service Rate Application.

April 1 or November 1, an application process will be triggered. This typically allows sufficient time to complete the governance process and Panel review process before the GCVA exceeds the $20 million threshold.[481]

- **Historically, no specific rationale was provided for the identified +/-$20 Million Quantum:** At the time the threshold was recommended by the Panel, no specific justification for the $20 million quantum was provided, however, the quantum has an impact of approximately $0.30/GJ to $0.40/GJ on commodity rates over a 12 month period, depending on customer load (currently $0.36/GJ). SaskEnergy noted that this impact appears reasonable. However, it is also noted that at the time the threshold was established the commodity rate was in the range of $4-$6/GJ (higher than current rates).[482]
- **SaskEnergy Adjusts its Commodity Rate less frequently than other Peer Utilities:** SaskEnergy notes that most other peer utilities have automatic rate adjustments that occur monthly (Edmonton, Calgary and Montreal) or quarterly (Vancouver, Winnipeg, Hamilton and Toronto).[483] While SaskEnergy notes that it typically would review and adjust is commodity rate once or twice per year, experience since 2012 indicates a pattern of less frequent actual rate adjustments. Table 15-3 summarizes commodity rate adjustments since 2012 – and indicates an average of 20 months between applications [consideration July 1, 2014 to November 1, 2018]. While this approach promotes rate stability (which is valued by SaskEnergy's customers), it also raises concerns regarding intergenerational equity.

Table 15-3: Commodity Rate Adjustments Since 2012

Date of Commodity Rate Change	Commodity Rate		GCVA Balance	Period Between Rate Adjustments
	$/m³	$/GJ		Months
April 1, 2012	0.1453	3.82	($6.4 Million)	
July 1, 2014	0.1863	4.84	$34 Million	27 months
January 1, 2016	0.1596	4.30	$5.3 Million	18 months
November 1, 2016	0.1387	3.65	$2.4 Million	11 months
November 1, 2018*	0.1136	2.93	$16.1 Million	24 months

*** Interim Rate Effective November 1, 2018**

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

[481] Commodity 2nd Round Information Request 1(a). SaskEnergy notes that on occasion the balance has exceeded $20 million – however, this is typically due to unforeseen delays in the governance process.
[482] Commodity 2nd Round Information Request 1(a).
[483] Commodity 2nd Round Information Request 2 (d).

concerns related to high GCVA balances. SaskEnergy notes that "although it is difficult to forecast where natural gas prices will be in the future, it has fixed the price on a large portion of its forecasted natural gas purchases for the next five years that will support the proposed commodity rate of $2.65/GJ," and "if natural gas prices remain near current levels, SaskEnergy anticipates fewer commodity rate changes over this period. If natural gas prices change materially, a commodity rate application will be initiated."[484]

Recommendations

High GCVA balances may put further upward pressure on rates during periods of commodity price increases. SaskEnergy provides frequent updates on the balances of the GCVA to the Panel – however these updates do not trigger a commodity rate application.

The Consultant notes that there is merit to developing a formalized policy that includes a framework for more regular, automatic adjustments to commodity rates to ensure that large balances do not accumulate and to mitigate concerns related to intergenerational equity. As part of the development of the formal policy, it may be appropriate to review the basis for the $20 million quantum used as the forecasted metric for the GCVA to determine if it remains appropriate.

[484] 2nd Round Information Request 1 (d) [Commodity], 2018 Commodity and Delivery Service Rate Application.

16.0 DETERMINATION OF COMMODITY RATE

The last commodity rate adjustment occurred November 1, 2016. At that time the commodity rate was decreased to reflect lower natural gas prices. Since then, natural gas prices have declined further.

In the Original Application, SaskEnergy proposed the following commodity rate changes based on a 38.5 MJ/m^3 heating value.

- SaskEnergy requested an **interim commodity rate** change effective November 1, 2018. The interim rate of 11.36 cents/m^3 is based on $2.95/GJ and a 38.5 MJ/$m^3$ heating value and would be in effect until March 31, 2019. The interim rate reduces the rate of 13.87 cents/m^3 ($3.65/GJ) in effect until October 31, 2018 to 11.36 cents/ m^3 ($2.95/GJ). This would result in a GCVA balance of $11.854 million owing to customers from SaskEnergy at the end of March 2019.
- SaskEnergy's is also proposing **a final commodity rate** of 10.20 cents/kW.h ($2.65/GJ) effective April 1, 2019. This is 26.5% lower than the existing rate. Approval of the proposed rate change effective April 1, 2019 would result in a GCVA balance of $5.104 million owing to customers at the end of the application period (March 31, 2020). SaskEnergy indicates that this approach to setting the final commodity rate would contribute to price stability in the event that gas prices increase.

Mid-Application Update

The Mid-Application Update proposes a heat value of 38.75 MJ/m^3 for the 2019/20 test period (as opposed to the forecast 38.5 m^3/MJ included in the Original Application). As SaskEnergy prepares its load forecast in GJ and then converts it into m^3 using a heat value forecast, the increase in heat value results in a lower load forecast (in m^3).[485] The higher heat value forecast used in the Mid-Application Update results in a slight reduction in the commodity reference rate in GJ (changes from $2.65/GJ to $2.63/GJ). The proposed commodity rate of 10.20 cents/m^3 remains unchanged.[486] SaskEnergy has indicated that it is not proposing to change the commodity or delivery rates requested in the Original Application.

The following is noted based on the Mid-Application Update:[487]

- The interim commodity rate change effective November 1, 2018 will result in a GCVA balance of $11.123 million owing to customers from SaskEnergy [compared to $11.854 million in the Original Application].
- With the proposed final commodity rate effective April 1, 2019 of 10.20 cents/kW.h ($2.63/GJ), the GCVA balance by end of March 31, 2020 would be $3.351 million owing to customers [compared to $5.104 million in the Original Application].

Table 16-1 provides the calculation of the proposed commodity rate.

[485] The commodity and delivery variable rates are in m^3.
[486] November 26, 2018 Mid-Application update, page 2.
[487] Based on Revised Schedule 3.0 as provided by SaskEnergy on December 3, 2018 for Mid-Application update.

Table 16-1: Calculation of GCVA Balance for 2019/20[488]

	Original Application	Mid-Application Update
Balance of GCVA at March 31, 2019 ($ 000s)	-$11,854	-$11,123
April 2019 to March 2020 Gas Cost Forecast ($000s)	$154,536	$154,536
Total Forecast Costs to Recover ($000s)	**$142,681**	**$143,412**
April 2019 to March 2020 Forecast Sales (GJ - 000s)	55,700	55,700
Weighted Cost per Unit Sales	$2.562	$2.575
Applied for Commodity Rate	$2.65	$2.63
Customer Commodity Rate Equivalent (cents/m^3)	10.20	10.20
Estimated Balance of GCVA at March 31, 2020 ($ 000s)	-$5,104	-$3,351
Heating Value used	38.5 MJ/m3	38.75 MJ/m3

The proposed commodity rate of $2.63/GJ based on the Mid-Application Update would recover about $146.763 million from April 1, 2019 to March 31, 2020, compared to $143.412 million required to be recovered. This results in the GCVA balance owing to customers of $3.351 million by the end of March 31, 2020 as illustrated in Table 16-1. Of the $146.763 million forecast to be recovered over the 12 month period, $154.536 relates to the forecast cost of gas during the test year period, offset by a $7.772 million partial refund of the GCVA balance owing to customers.[489]

Observations

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

However, SaskEnergy has in its current application proposed two measures related to the determination of the quantum of the proposed commodity rate that are relatively unique when compared to recent prior applications and merit careful review and consideration:

- Proposal for a Two Part Commodity Rate Proposal with an interim rate implemented effective November 1, 2018 and a final rate implemented effective April 1, 2019.
- Proposal to set a commodity rate effective April 1, 2019 that does not fully clear the balance in the GCVA at the end of the test period, and intentionally maintains a substantial balance in the GCVA at the end of the test period.

[488] Revised Schedule 3.0 as provided by SaskEnergy on December 3, 2018 for Mid-Application update.

[489] $7.772 million is the difference between $11.123 million GCVA balance at the beginning of the 2019/20 test year and $3.351 million by end of the 2019/20 test year as shown in Table 16-1.

Each of these proposals are commented on below.

Two Part Commodity Rate Proposal

SaskEnergy proposed an interim commodity rate decrease effective November 1, 2018 followed by an additional final commodity rate decrease effective April 1, 2019. SaskEnergy has provided the following rationale for this two-part approach and basis for the interim commodity rate (effective November 1, 2018):[490]

- The rationale for the quantum of the interim commodity rate was qualitative in nature – "SaskEnergy was seeking a commodity rate decrease that would provide customers a decrease large enough to be impactful during winter months, while at the same time leaving enough of a decrease for April 1, 2018 to offset the Delivery Service Rate increase, while also allowing the Panel room to adjudicate the commodity rate".
- The approach would "allow customers to benefit from a lower commodity rate during the winter period, when customers use the most natural gas, while allowing the Panel adequate time to review the commodity information," and this "allows customers to experience two bill decreases, rather than one large decrease on November 1, 2018, followed by a modest increase in April 1, 2019" (with implementation of the Delivery Rate increase).
- The timing of the interim rate (November 2018) and final rate (April 2019) reduces potential customer confusion surrounding impacts related to two separate applications.

Absent a commodity rate reduction in November 2018, the current GCVA balance was forecast to materially exceed the +/-$20 million threshold by March 31, 2019. As such, the consultant agrees with the requirement for, and timing of the effective date for, the commodity rate reduction of November 1, 2018 in order to provide some relief prior to the winter heating season. The consultant also recognizes the quantum of the interim and final rates provides a measure of rate stability for customers [as they will not be faced with a material bill reduction followed by a bill increase related to the delivery rate increase within a 4 month period].

Concern is noted regarding the short period provided for the review of the interim commodity rate prior to its ultimate implementation, as timing for implementation did not effectively allow for an information request process to be completed. Providing for such a short review period prior to implementation of rates may undermine the legitimacy of the rate review process and the role of the Panel in reviewing and making recommendations regarding rate applications prior to their approval.

These concerns are mitigated somewhat by the interim nature of the commodity rate and the understanding that the final rate may be subject to adjustment based on the outcomes of the review process when rates are finalized in April 2019.

[490] 1st Round Information Request 1(a). [Commodity]

Quantum of Commodity Rate and Impact on GCVA Balance

SaskEnergy proposes to set a commodity rate effective April 1, 2019 that does not fully clear the balance in the GCVA at the end of the test period and intends to maintain a substantial balance in the GCVA at the end of the test period. SaskEnergy notes that it is "deviating from normal practice due to the current low price environment, and the increased probability of natural gas prices rising compared to declining further", and "leaving a modest balance in the GCVA is expected to help mitigate a higher commodity rate in the future." SaskEnergy also notes "if there is opportunity for a commodity rate decrease to offset a delivery rate increase, this strategy will be used in order to provide customers with overall bill stability".[491]

In the consultant's view there appears to be little basis for this approach given the following:

- The purpose of the GCVA is to provide SaskEnergy the opportunity to recover the costs of gas sold to customers without mark-up. Rate design principles target a GCVA balance of zero to minimize impact of intergenerational equity/ fairness. 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).[492] As such, the proposed approach has no prior precedent and would be a fundament change to how the fund has operated historically.
- SaskEnergy notes that this would be a one-time request, with future commodity rate applications expected to target a GCVA balance of zero.[493] Setting rates that deviate from normal regulatory practice and past precedents should normally be justified by exceptional circumstances – however, SaskEnergy has provided no clear basis for this "one-time" request. The following is specifically noted in this regard:
    - SaskEnergy reviews the commodity rate each spring and fall, and as a matter of course expects to adjust its commodity rate once or twice per year.
    - SaskEnergy has been able to maintain the same commodity rate for the past two years without the GCVA growing beyond $20 million (owing to or from customers).
    - SaskEnergy has fixed the price on a large portion of its forecasted natural gas purchase for the next five years. If natural gas prices remain near current levels fewer commodity rate changes are anticipated over this period (assuming the proposed commodity rate of $2.65/GJ).
- SaskEnergy has a +/- $20 million forecast metric for triggering a commodity rate change. The quantum for the metric was set when commodity rates were in the range of $4 to $6/GJ (much higher than current rates). SaskEnergy has indicated that a commodity rate of $2.575/GJ effective April 1, 2019 would clear the GCVA balance at the end of the 2019/20 test period [total forecast cost to recover divided by forecast sales as shown in Table 16-1]. SaskEnergy has provided a forecast for the GCVA for the period from April 2020 to March 31, 2021 [assuming a rate of $2.575/GJ] which indicates that given SaskEnergy's current assumptions a balance that would

[491] 1st Round Information Request 1(d) and (e)[Commodity].
[492] 1st Round Information Request 1(d) [Commodity].
[493] 1st Round Information Request 1(e) [Commodity].

trigger a commodity rate change is not expected to accumulate in the GCVA over the period (the GCVA balance would be in range of $4.819 million).[494]

The GCVA is a mechanism that tracks variances between actual commodity sales revenue and actual natural gas costs. Balances are accumulated to an established +/- threshold and cleared as part of commodity rate adjustments. Using the GCVA balance as a tool to mitigate potential future commodity or delivery rate impacts would appear to alter the core purpose and function of the account.

The consultant recognizes that there is risk that assumptions regarding gas prices and quantum of gas required to be purchased over the winter heating season may be different than forecast and there is potential for material changes in the balance in circumstances where there is an extremely cold or warm winter.[495] However, based on current assumptions, and assuming a commodity rate that clears the GCVA balance, a GCVA balance that would trigger the +/- $20 million forecast metric is not expected to accumulate over the period extending from April 1, 2019 to March 31, 2021.[496]

Recommendations

The final commodity rate effective April 1, 2019 should be set to clear the full balance of the GCVA by March 31, 2020.

[494] Revised Response to 2nd Round Information Request 4(a). [Commodity]
[495] SaskEnergy notes that the percentage of forecasted purchases hedged during the application period is 73% (approximately 40 PJs), with the remaining 27% forecast purchase (16 PJs) exposed to market prices. This exposure increases if SaskEnergy experiences colder-than-normal weather, with up to 8 PJs of additional gas purchases forecast to be required during an extremely cold winter. Under this scenario price protection would represent only 62.5% of total gas purchases.
[496] 1st Round Information Request 4 (d) [Commodity], 2018 Commodity and Delivery Service Rate Application.

17.0 CUSTOMER IMPACTS

Customer bills include variable or volumetric rates [Commodity Rate and Delivery Rate] and a fixed charge [Basic Monthly Charge]. Bill impacts will vary depending on customer class and usage levels. SaskEnergy is proposing the following rate changes that will impact customer bills:

- Reduction in Commodity Rate from 13.87 cents/m^3 [$3.65/GJ] to 10.20 cents/$m^3$ [$2.65/GJ] effective April 1, 2019 [the rate was reduced to $2.95/GJ on an interim basis effective November 1, 2018].[497]
- An increase to the volumetric Delivery Charge [rate increase ranging from 0.5% to 3.9% as reviewed in Section 9 of this Report].

17.1 SUMMARY OF CUSTOMER BILL IMPACTS: COMMODITY & DELIVERY

Table 17-1 summarizes the bill impacts for average customers in each customer class. At average consumption levels, customers in all rate classes are expected to experience overall bill decreases due to reduced commodity rates.

Table 17-1: Customer Bill Impacts from Proposed Rate Changes[498]

	Commodity Rate Decrease		Delivery Service Rate Increase		Total Bill Impact	
	$/Month	Annual Bill % Change	$/Month	Annual Bill % Change	$/Month	Annual Bill % Change
Residential	-$8.50	-11.1%	$1.76	2.3%	-$6.74	-8.8%
Commercial Small	-$39.99	-14.6%	$4.47	1.6%	-$35.52	-13.0%
Commercial Large	-$520.0	-17.0%	$16.0	0.5%	-$504.75	-16.5%
Small Industrial	-$2,435.0	-20.2%	$13.0	0.1%	-$2,422.00	-20.1%
Average		-12.7%		1.9%		-10.8%

SaskEnergy provided information on the distribution of customer bill impacts at different consumption levels for each customer class. Table 17-2 illustrates distribution of bill impacts for the Residential, Commercial Small and Commercial Large customer classes, and average bill impacts for the Small Industrial customer class. Table 17-2 shows as follows:

- **Residential Customers**:
    - 68% of residential customers use less than 3,000 m^3/year of natural gas. These customers would see a $77 (or 10%) annual bill reduction from the commodity rate decrease effective

[497] Page 15, 2018 Commodity and Delivery Service Rate Application.
[498] Page 1, 2018 Commodity and Delivery Service Rate Application.

April 1, 2019. The proposed delivery service rate increase would increase annual bills by $16 (or 2%). The total net impact is a $61 (or 8%) annual bill reduction.

- 30% of residential customers use between 3,000 m^3/year and 7,000 m^3/year of natural gas. These customers would see a $144 (or 12%) annual bill reduction from the commodity rate decrease effective April 1, 2019. The proposed delivery service rate increase would increase annual bills by $30 (or 3%). The total net impact is a $114 (or 10%) annual bill reduction.
- 2% of residential customers use more than 7,000 m^3/year of natural gas. These customers would see a $349 (or 14%) annual bill reduction from the commodity rate decrease effective April 1, 2019. The proposed delivery service rate increase would increase annual bills by $72 (or 3%). The total net impact is a $277 (or 11%) annual bill reduction.

- **Commercial Small Customers**:
  - 64% of Commercial Small customers use less than 10,000 m^3/year of natural gas. These customers would see a $161 (or 11%) annual bill reduction from the commodity rate decrease effective April 1, 2019. The proposed delivery service rate increase would increase annual bills by $18 (or 1%). The total net impact is a $143 (or 10%) annual bill reduction.
  - 32% of Commercial Small customers use between 10,000 m^3/year and 50,000 m^3/year of natural gas. These customers would see a $783 (or 15%) annual bill reduction from the commodity rate decrease effective April 1, 2019. The proposed delivery service rate increase would increase annual bills by $88 (or 2%). The total net impact is a $696 (or 14%) annual bill reduction.
  - 4% of Commercial Small customers use more than 50,000 m^3/year of natural gas. These customers would see a $2,477 (or 16%) annual bill reduction from the commodity rate decrease effective April 1, 2019. The proposed delivery service rate increase would increase annual bills by $277 (or 2%). The total net impact is a $2,200 (or 15%) annual bill reduction.
- **Commercial Large Customers**:
  - 71% of Commercial Large customers use less than 200,000 m^3/year of natural gas. These customers would see a $3,977 (or 17%) annual bill reduction from the commodity rate decrease effective April 1, 2019. The proposed delivery service rate increase would increase annual bills by $119 (or 0.5%). The total net impact is a $3,858 (or 16%) annual bill reduction.
  - 23% of Commercial Large customers use between 200,000 m^3/year and 400,000 m^3/year of natural gas. These customers would see a $9,877 (or 17%) annual bill reduction from the commodity rate decrease effective April 1, 2019. The proposed delivery service rate increase would increase annual bills by $296 (or 1%). The total net impact is a $9,581 (or 17%) annual bill reduction.

- 6% of Commercial Large customers use more than 400,000 m^3/year of natural gas. These customers would see a $19,446 (or 18%) annual bill reduction from the commodity rate decrease effective April 1, 2019. The proposed delivery service rate increase would increase annual bills by $583 (or 1%). The total net impact is an $18,863 (or 17%) annual bill reduction.

- Average **Industrial Small** customers would see a $29,223 (or 20%) annual bill reduction from the commodity rate decrease effective April 1, 2019. The proposed delivery service rate increase would increase annual bills by $159 (or 0.1%). The total net impact is a $29,064 (or 20%) annual bill reduction.

Table 17-2: Monthly Bill Impact by Customer Consumption (Based on 2017/18 Customer Numbers and Use)[499]

	Percentage of Customers within Class	Annual Usage Interval (m^3)	Average Annual Use (m3)	Current Average Annula Bill, $/year	Average Bill with Proposed Commodity Rate Change		Average Bill with Proposed Delivery Rate Change		Total Average Bill Change		
					change, $/year	change, %	change, $/year	change, %	$/year	change, $/year	change, %
	A	B	C	D	E	F=E/D	G	H=G/D	I=D+E+G	J=I-D	K=J/D
Residential	68%	0-3000	2,091	$762	-$77	-10%	$16	2%	$701	-$61	-8%
	30%	3,001-7,000	3,925	$1,185	-$144	-12%	$30	3%	$1,071	-$114	-10%
	2%	Over 7,000	9,516	$2,478	-$349	-14%	$72	3%	$2,201	-$277	-11%
Commercial Small	64%	0-10,000	4,398	$1,411	-$161	-11%	$18	1%	$1,267	-$143	-10%
	32%	10,001-50,000	21,345	$5,066	-$783	-15%	$88	2%	$4,370	-$696	-14%
	4%	Over 50,000	67,493	$15,020	-$2,477	-16%	$277	2%	$12,820	-$2,200	-15%
Commercial Large	71%	0-200,000	108,367	$23,972	-$3,977	-17%	$119	0%	$20,115	-$3,858	-16%
	23%	200,001-400,000	269,136	$57,091	-$9,877	-17%	$296	1%	$47,510	-$9,581	-17%
	6%	Over 400,000	529,866	$110,801	-$19,446	-18%	$583	1%	$91,938	-$18,863	-17%
Small Industrial			796,276	$146,142	-$29,223	-20%	$159	0%	$117,079	-$29,064	-20%

The following figures show bill impacts for commodity and delivery rate changes for Residential, Commercial Small and Commercial Large customers:

- Figures 17-1 to 17-3 illustrate the range of potential annual bill impacts based on usage from commodity rate changes for the Residential, Commercial Small and Commercial Large Classes.
- Figure 17- to 17-6 illustrates the range of potential annual bill impacts based on usage from delivery rate changes.
- Figure 17-7 to 7-9 illustrate the range of potential annual bill impacts based on usage from both commodity and delivery rate change.

[499] Tab 21 of 2018 Commodity and Delivery Service Rate Application. Small Industrial bill impact is calculated using the average consumption of 796,278 m^3/year [based on 23,092,000 m3 total consumption divided by 29 number of customers included in Schedule 5.2 of the original filing].

Figure 17-1: Range of Potential Annual Bill Impacts for Residential: Commodity[500]

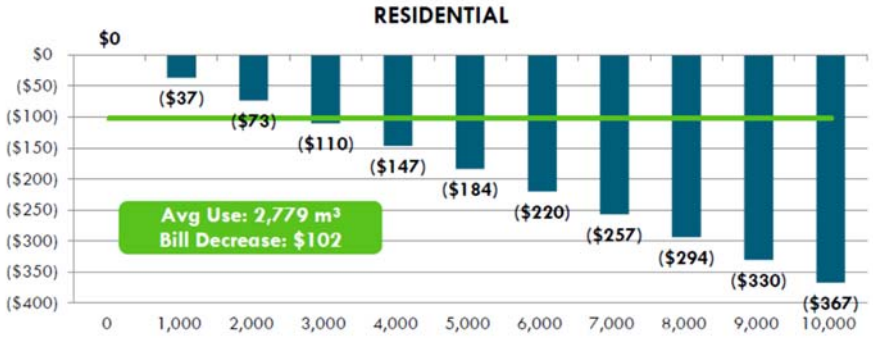


Figure 17-2: Range of Potential Annual Bill Impacts for Commercial Small: Commodity[501]

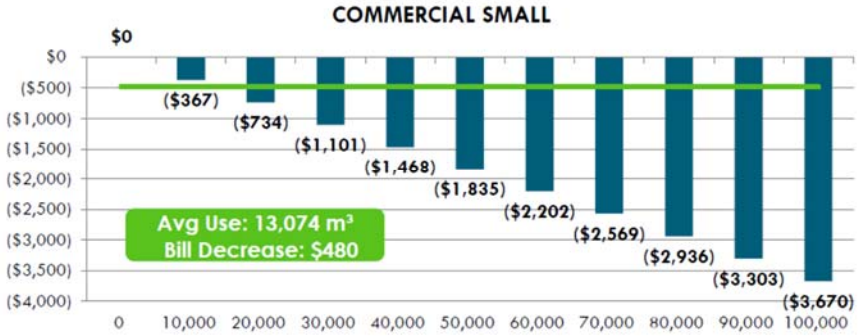
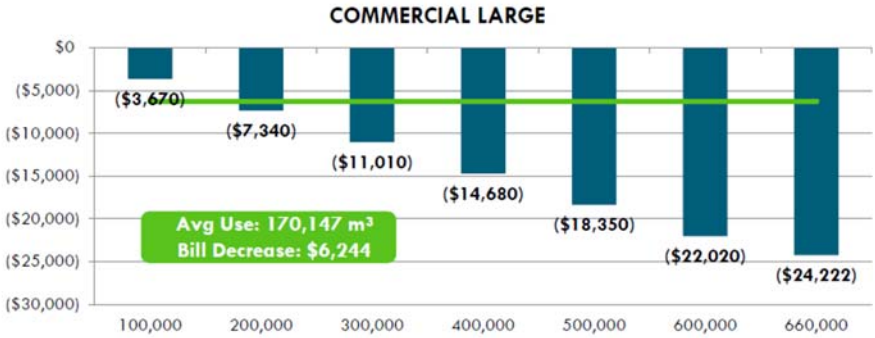


Figure 17-3: Range of Potential Annual Bill Impacts for Commercial Large: Commodity[502]



[500] 1st Round Information Request 21 (b), 2018 Commodity and Delivery Service Rate Application.
[501] 1st Round Information Request 21 (b), 2018 Commodity and Delivery Service Rate Application.
[502] 1st Round Information Request 21 (b), 2018 Commodity and Delivery Service Rate Application.

Figure 17-4: Range of Potential Annual Bill Impacts for Residential: Delivery[503]

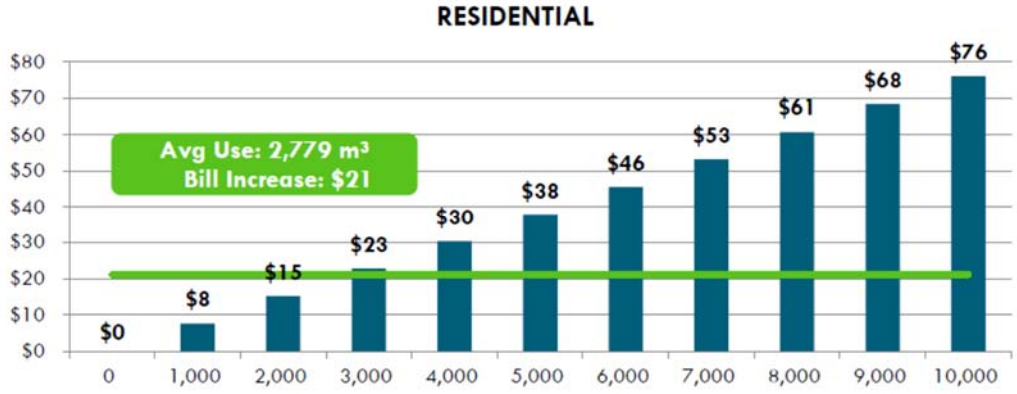


Figure 17-5: Range of Potential Annual Bill Impacts for Commercial Small: Delivery[504]

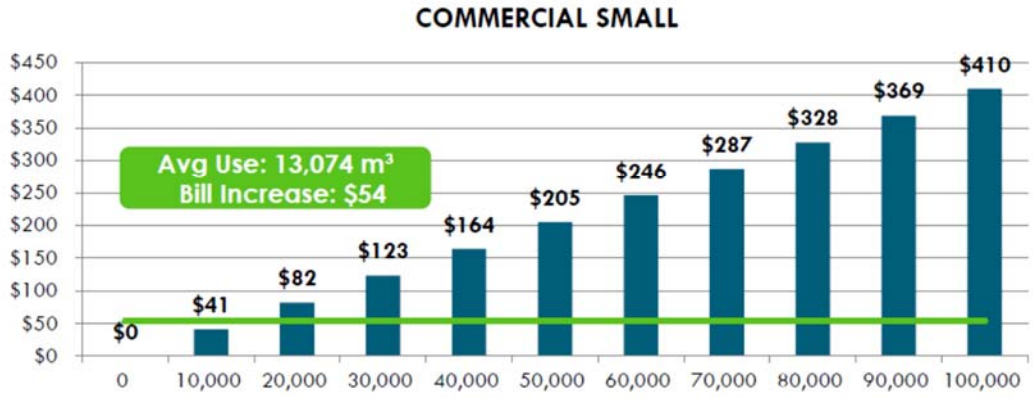


Figure 17-6: Range of Potential Annual Bill Impacts for Commercial Large: Delivery[505]

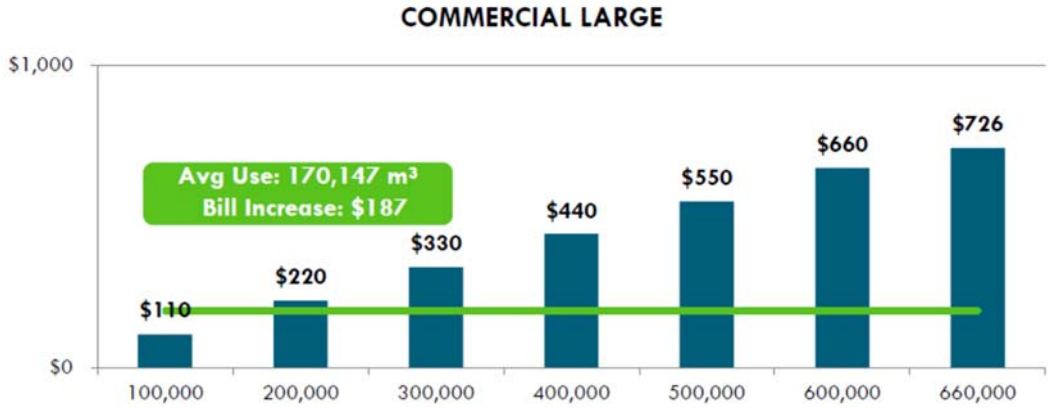


Figure 17-7: Range of Potential Annual Bill Impacts for Residential: Delivery & Commodity[506]

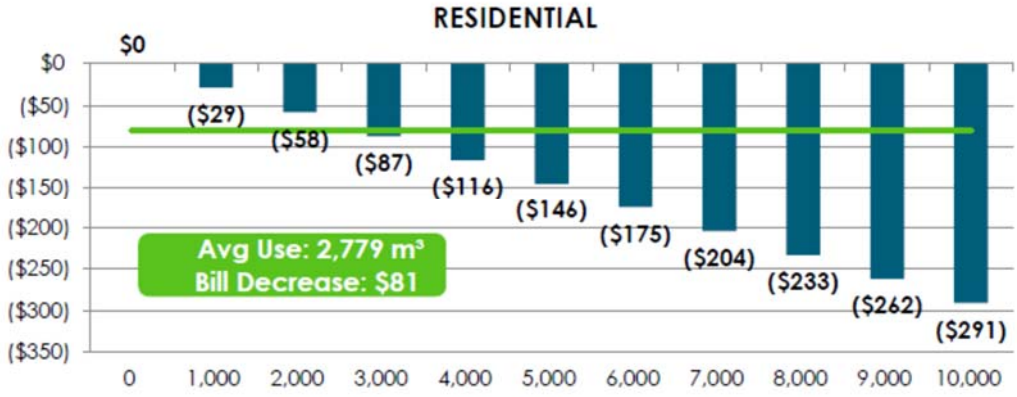


Figure 17-8: Range of Potential Annual Bill Impacts for Commercial Small: Delivery & Commodity[507]

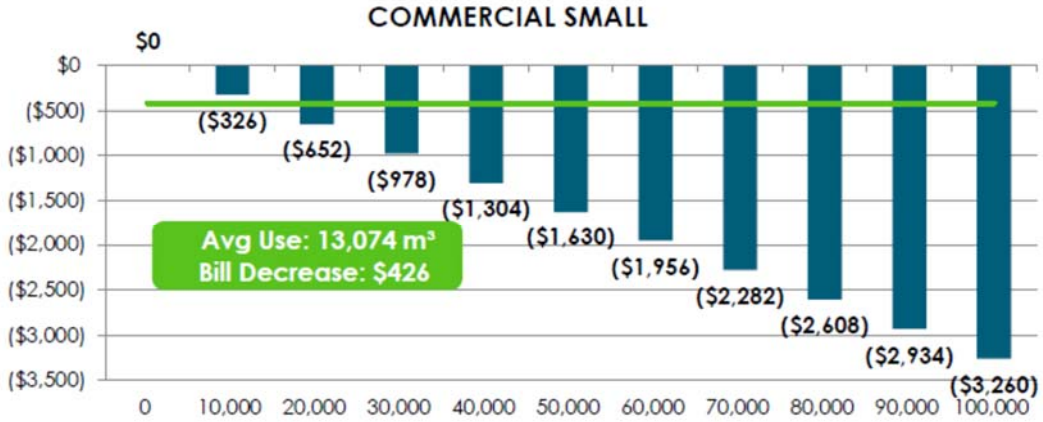
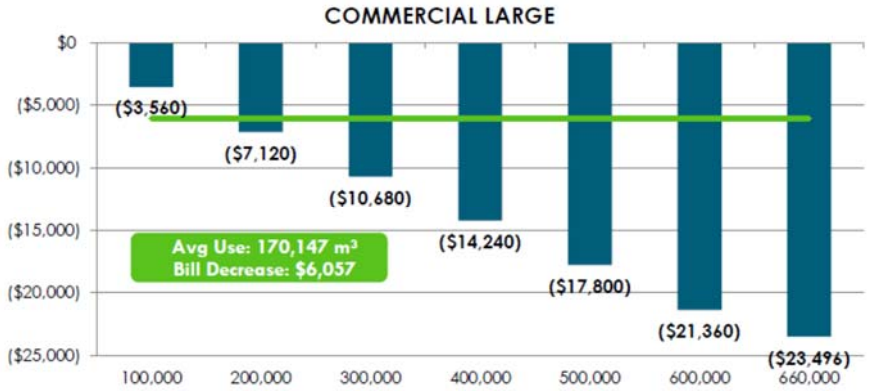


Figure 17-9: Range of Potential Annual Bill Impacts for Commercial Small: Delivery & Commodity[508]



17.2 IMPACT OF CARBON TAX ON CUSTOMER BILLS

SaskEnergy notes that the federal carbon tax is set to begin on April 1, 2019 at $20/tonne, increase to $30/tonne on January 1, 2020, and then increase annually by $10/tonne to $50/tonne by 2023. SaskEnergy estimates that with a $20/tonne carbon tax, customers will see a charge of $0.0391/m³ for natural gas.[509]

The Saskatchewan government has asked the provincial Court of Appeal to rule on whether the federal carbon tax plan is constitutional, however, SaskEnergy is preparing to collect a carbon tax should a carbon tax be required to be collected starting April 1, 2019.[510] SaskEnergy also notes that the carbon tax will be shown as a separate line item on customer bills and will indicate the volume, rate and total cost.[511]

Table 17-3 illustrates the monthly bill impacts for residential and commercial customers from carbon tax at $20/tonne, $30/tonne and $50/tonne. The table shows that residential customers would see a 13% bill increase in 2019 if a $20/tonne carbon tax is implemented, commercial small customers would see an 18% bill increase and commercial large customers would see a 22% bill increase.[512]

Table 17-3: Monthly Bill Impact from Carbon Tax for Average Usage by Customer Class[513]

Monthly Bill Impact

	Average Annual Consumption, m³	Monthly Bill at Proposed Rates $/Month	2019 with $20/tonne		2020 with $30/tonne		2023 with $50/tonne	
			$/Month	Monthly Bill % Change	$/Month	Monthly Bill % Change	$/Month	Monthly Bill % Change
Residential	2,779	$70.0	$9.1	13.0%	$13.6	19.4%	$22.8	32.5%
Commercial Small	13,074	$238.0	$42.6	17.9%	$63.9	26.9%	$106.7	44.8%
Commercial Large	170,147	$2,553.5	$554.4	21.7%	$832.3	32.6%	$1,388.1	54.4%

Annual Bill Impact

	Average Annual Consumption, m³	Annual Bill at Proposed Rates $/Year	2019 with $20/tonne		2020 with $30/tonne		2023 with $50/tonne	
			$/Year	Annual Bill % Change	$/Year	Annual Bill % Change	$/Year	Annual Bill % Change
Residential	2,779	$840.0	$109.0	13.0%	$163.0	19.4%	$273.0	32.5%
Commercial Small	13,074	$2,856.0	$511.0	17.9%	$767.0	26.9%	$1,280.0	44.8%
Commercial Large	170,147	$30,642.0	$6,653.0	21.7%	$9,988.0	32.6%	$16,657.0	54.4%

Observations

The proposed lower commodity rates effective April 1, 2019 will result in notable bill decreases for each customer class. Average usage Residential customers will see an approximate 11.1% bill decrease,

[509] 1st Round Information Request 21 (d), 2018 Commodity and Delivery Service Rate Application.
[510] 1st Round Information Request 21 (d), 2018 Commodity and Delivery Service Rate Application.
[511] 2nd Round Information Request 18 (c), 2018 Commodity and Delivery Service Rate Application.
[512] The information available from the Environment and Climate Change Canada notes that "the federal government has committed to return all direct revenues from the federal carbon pollution pricing system to the jurisdiction of origin" and "governments use carbon pricing revenues for various purposes, including reducing business or individual taxes, helping businesses and households invest in energy efficiency, building transit and other infrastructure, and offsetting costs incurred by low-income households or other vulnerable groups." [https://www.canada.ca/content/dam/eccc/documents/pdf/reports/estimated-impacts-federal-system/federal-carbon-pollution-pricing-system_en.pdf, accessed on December 12, 2018].
[513] Prepared base on 1st Round Information Request 21 (d), 2nd Round Information Request 18 (b), 2018 Commodity and Delivery Service Rate Application.

Commercial Small customers will see a 14.6% bill decrease, Commercial Large customers will see a 17.0% bill decrease, and Small Industrial customers will see a 20.2% bill decrease.

These bill decreases are offset by proposed delivery rate increases effective April 1, 2019.

- Average usage Residential customers will see an approximate 2.3% bill increase due to the delivery rate change. This will result in an overall 8.8% bill decrease [cumulative impact of both commodity and delivery rate changes].
- Commercial Small customers will see a 1.6% bill increase due to the delivery rate change. This will result in an overall 13.0% bill decrease.
- Commercial Large customers will see 0.5% bill increase due to the delivery rate change. This will result in an overall 16.5% bill decrease.
- Small Industrial customers will see 0.1% bill increase due to the delivery rate change. This will result in an overall 20.1% bill decrease.

Separate from the current SaskEnergy application, customer bills will also be impacted by the carbon tax to the extent it is applicable commencing April 1, 2019.

As discussed in Section 9, SaskEnergy is proposing to apply the delivery rate increase to only the volumetric rate component of delivery rates. This will provide a stronger price signal related to increased consumption compared to an increase in both the fixed and variable rates. However, the increase will be more weather dependent and may result in increased income variability for SaskEnergy:

- Colder than normal weather that results higher consumption will lead to slightly higher bill impacts and higher revenues for SaskEnergy; and
- Warmer than normal weather that results lower consumption will lead to slightly lower bill impacts provide lower revenues for SaskEnergy.

18.0 COMPETITIVENESS

The terms of reference for the Panel's review request an opinion of the fairness and reasonableness of SaskEnergy's proposed commodity and delivery rate change having consideration for the effect of the proposed rates on the competitiveness of the Crown Corporation compared to utilities in other jurisdictions. Consistent with previous reviews, the Consultant undertook a review of the competitiveness of SaskEnergy's proposed rate changes from a customer bill perspective and from a return on equity and capital structure perspective.

Section 3.6.2 reviews SaskEnergy's capital structure and common equity ratio and provides comment on its competitiveness relative to peer utilities.

18.1 BILL COMPARISONS TO OTHER JURISDICTIONS

SaskEnergy provided information on the effect of its proposed rate changes on customer bills relative to other jurisdictions. This section provides a comparison of Residential and Commercial customer bills to other jurisdictions. An assessment of competitiveness for Small Industrial customers is not provided since these customers tend to have unique operating requirements that make comparisons across jurisdictions difficult.[514]

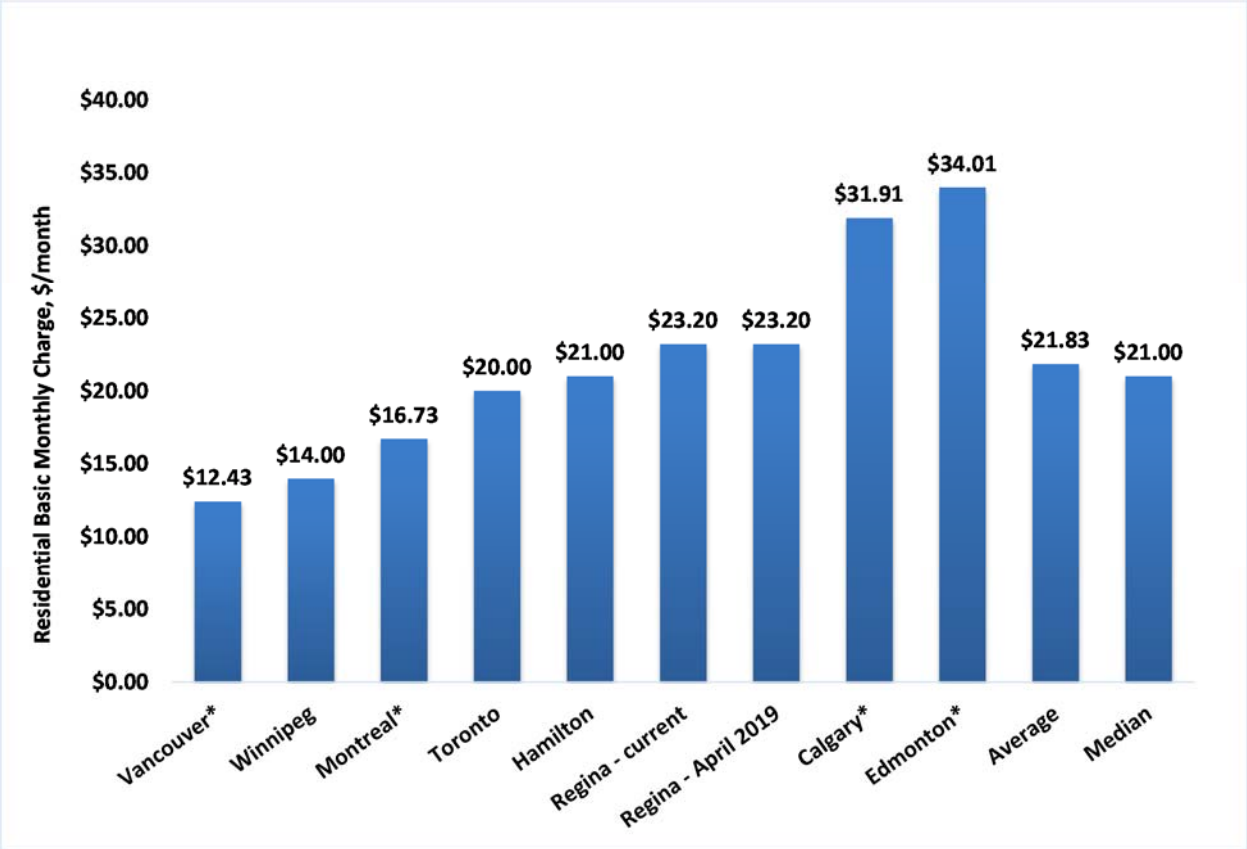
18.1.1 Residential Customer Bill Comparison

Residential bills include a Basic Monthly Charge, a volumetric Delivery charge, and the Commodity charge.

- Figure 18-1 compares the Basic Monthly Charges for residential customers. This indicates that the Basic Monthly Charge for SaskEnergy residential customers is higher compared to the five major Canadian centres, but lower compared to Edmonton and Calgary.
- Figure 18-2 shows the actual annual residential delivery and commodity costs for October 2017 through September 2018. Of the jurisdictions surveyed, SaskEnergy had the third highest bills for residential customers at the assumed average consumption level and based on October 2017 to September 2018 rates.
- Figure 18-3 compares bills at most recent rates, including rates proposed by SaskEnergy effective April 1, 2019. This shows that SaskEnergy would have the third lowest bills with proposed April 1, 2019 rates, due to reduced commodity rates.

[514] During the review of the 2013 Delivery Service Rate Application the response to 1st Round Information Request 24 (c) noted that the bill comparisons provided by SaskEnergy for that review were before applicable taxes and surcharges. Based on this, it is assumed that the bill comparisons provided in the current review do not reflect impacts of carbon taxes/ charges that may exist in other jurisdictions. For example, the sample bill for Fortis BC shows carbon tax separately from rates under other charges and taxes. Available at: https://www.fortisbc.com/NaturalGas/Homes/Rates/Mainland/Pages/Sample-bill-for-Mainland-customers.aspx.

Figure 18-1: Residential Basic Monthly Charge Comparison ($/Month)[515]



Notes: * where indicated, rates were converted from daily to monthly charge. SaskEnergy is proposing no change in Basic Monthly Charge, therefore, current and April 2019 for Regina shows the same charge.

[515] Regina proposed rate from Schedule 5 of 2018 Commodity and Delivery Service Rate Application. Vancouver charge from FortisBC, as of January 1, 2019: http://www.fortisbc.com/NaturalGas/Homes/Rates/Mainland/Pages/default.aspx, fixed charges for Calgary and Edmonton are from ATCO Gas for South and North, as of December 1, 2018: http://www.atcogas.com/Rates/Current_Rates/ plus a Direct Energy Regulated customer charge, current rates available at: https://www.directenergyregulatedservices.com/images/docs/181126-DERS-Dec-2018-Interim-South-DRT-Rate-Schedules.pdf and https://www.directenergyregulatedservices.com/images/docs/181126-DERS-Dec-2018-Interim-North-DRT-Rate-Schedules.pdf, Winnipeg charge from Centra Gas, current rates as of November 1, 2018: https://www.hydro.mb.ca/regulatory_affairs/energy_rates/natural_gas/current_rates.shtml, Toronto charge from Enbridge gas, current rate as of April 1, 2018: https://www.enbridgegas.com/Understanding-gas-rates, Hamilton charge from Union Gas, Southwestern Ontario, rates as of October 1, 2018: https://www.uniongas.com/residential/rates/current-rates/rate-m1, Montreal rate from Energir, rate as of December 1, 2018: https://www.energir.com/~/media/Files/Affaires/Tarif/conditionsservicetarif_an.pdf?la=en [all web sites are accessed on December 10, 2018].

Figure 18-2: Annual Average Residential Delivery and Commodity Costs October 2017 – September 2018 (based on average consumption of 2,800 m3/year)[516]

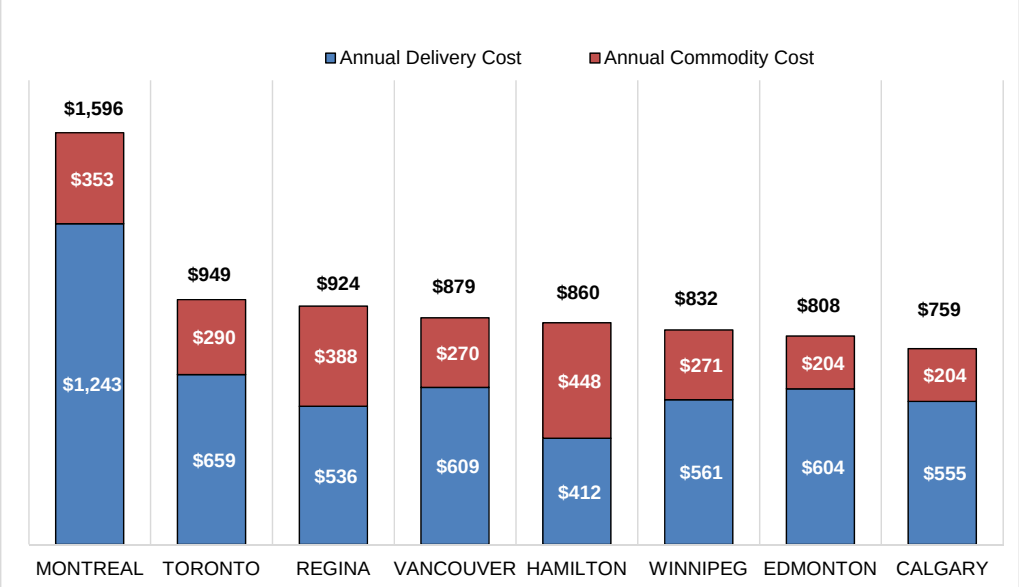
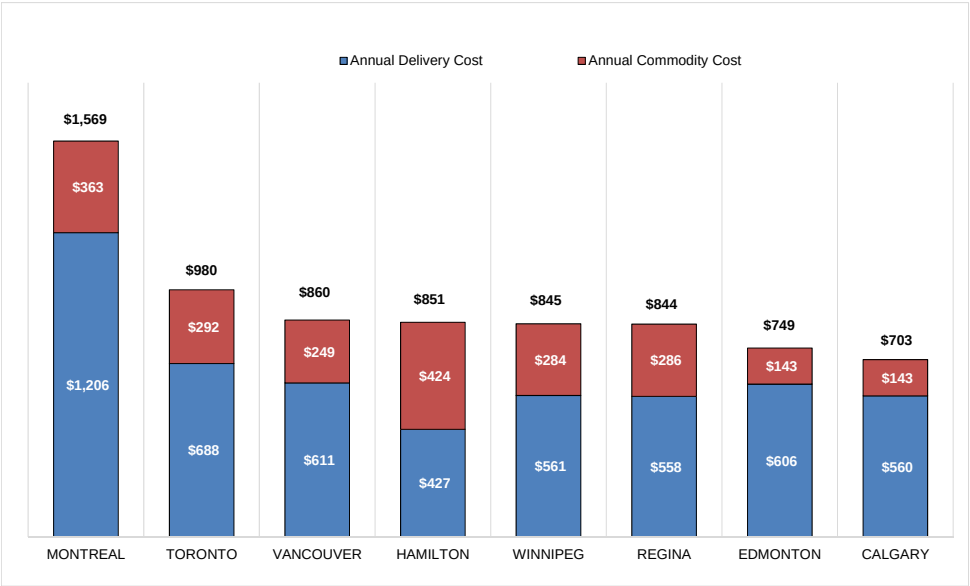


Figure 18-3: Annual Average Residential Delivery and Commodity Costs based on Most Recent Rates (based on average consumption of 2,800 m³/year)[517]



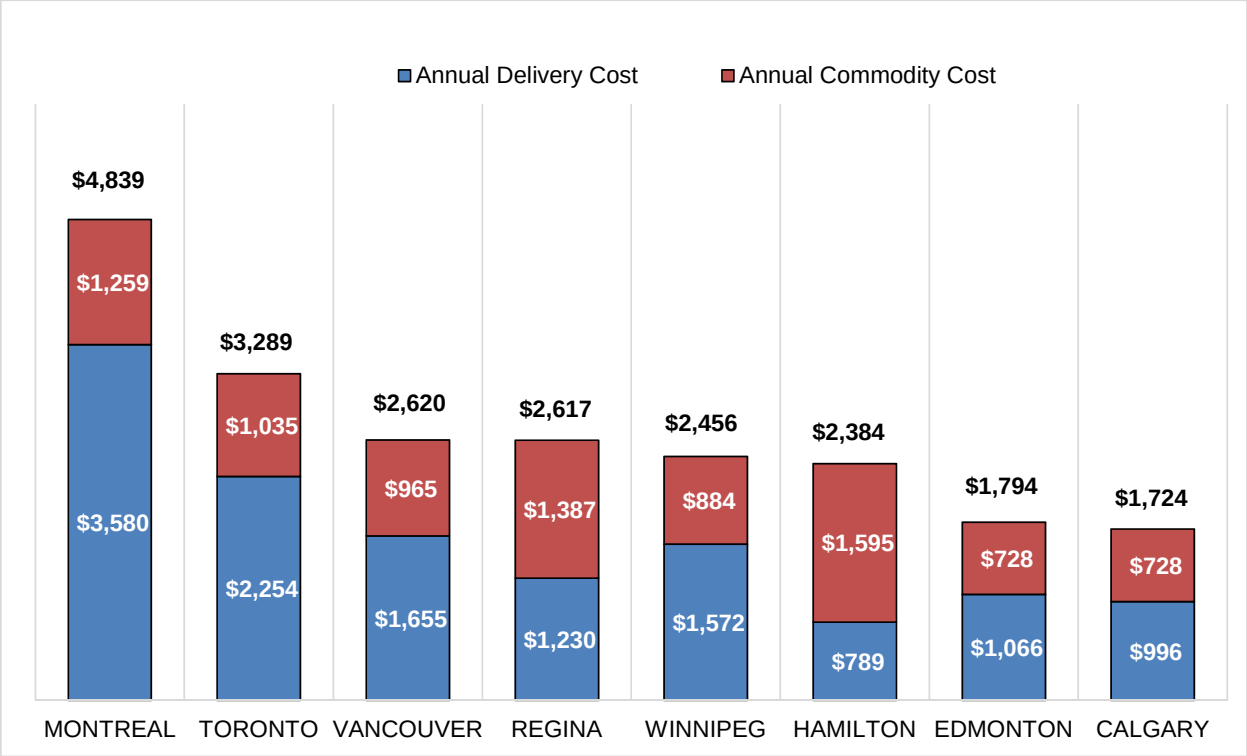
[516] Tab 22, page 7. 2018 Commodity and Delivery Service Rate Application.
[517] 1st Round Information Request 22 (b), 2018 Commodity and Delivery Service Rate Application. SaskEnergy notes that the figure reflects proposed SaskEnergy rate effective April 1, 2019; all other jurisdictions are based on the latest available information and are as of October 2018 with the exception of Edmonton and Calgary [ATCO Gas proposed delivery rates effective January 1, 2019 and Rider Z effective Feb 1, 2019 for Edmonton/Calgary].

18.1.2 Commercial Small Bill Comparison

Figure 18-4 provides a comparison of average annual bills for Commercial Small customers for rates from October 2017 to September 2018.

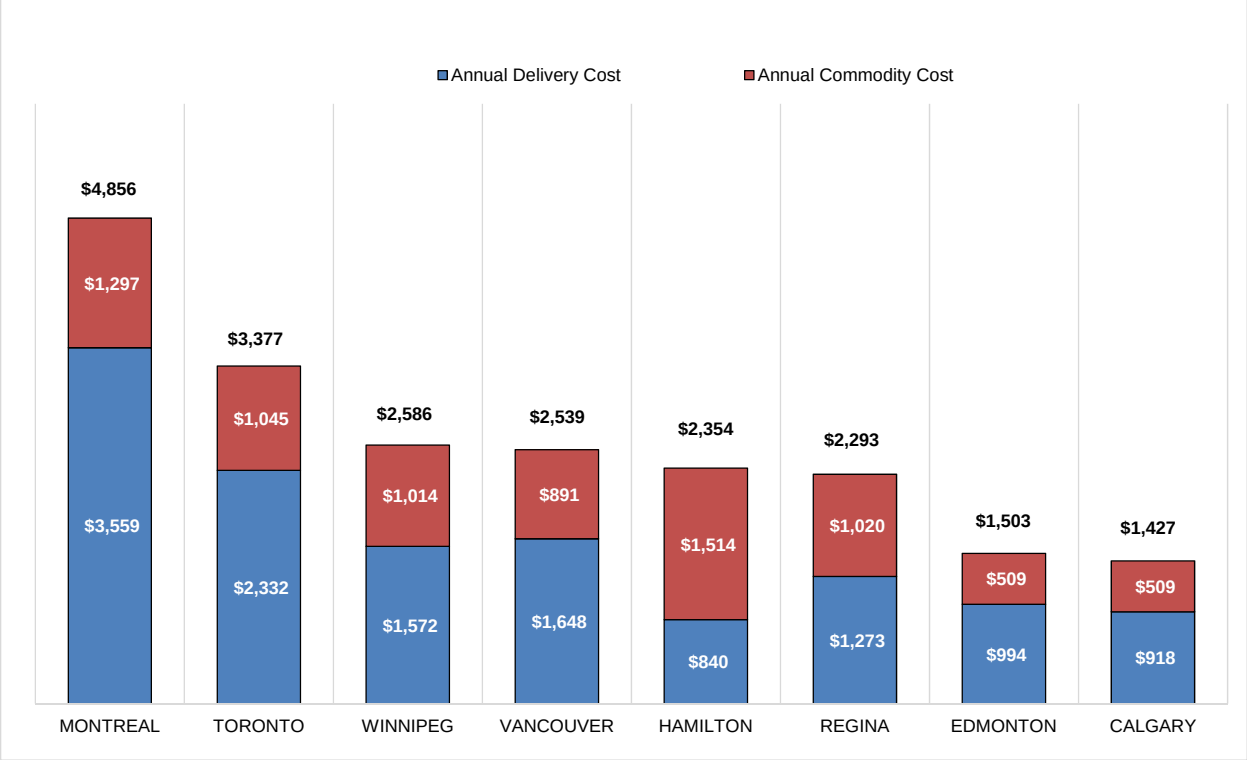
Figure 18-5 provides a comparison of Commercial Small bills for the most current rates which includes proposed bills for SaskEnergy. This shows that Commercial Small bills in Regina are expected to be the third lowest of the eight jurisdictions surveyed under the proposed rates due to reduction in commodity rates.

Figure 18-4: Commercial Small Delivery and Commodity Costs October 2017 – September 2018 (based on consumption of 10,000 m3/year[518]



[518] Tab 22, page 7. 2018 Commodity and Delivery Service Rate Application.

Figure 18-5: Commercial Small Delivery and Commodity Costs for Most Current Rates (based on consumption of 10,000 m3/year[519]



18.1.3 Commercial Large Bill Comparison

Figure 18-6 provides a comparison of average annual bills for Commercial Large customers for rates from October 2017 to September 2018.

Figure 18-7 provides a comparison of Commercial Large bills for the most current rates and includes proposed bills for SaskEnergy. This shows that Commercial Large bills in Regina are expected to be the third lowest of the eight jurisdictions surveyed under the proposed rates due to reduction in commodity rates.

[519] 1st Round Information Request 22 (b), 2018 Commodity and Delivery Service Rate Application. SaskEnergy notes that the figure reflects proposed SaskEnergy rate effective April 1, 2019; all other jurisdictions are based on the latest available information and are as of October 2018 with the exception of Edmonton and Calgary [ATCO Gas proposed delivery rates effective January 1, 2019 and Rider Z effective Feb 1, 2019 for Edmonton/Calgary].

Figure 18-6: Commercial Large Delivery and Commodity Costs for October 2017 – September 2018 (based on consumption of 100,000 m3/year)[520]

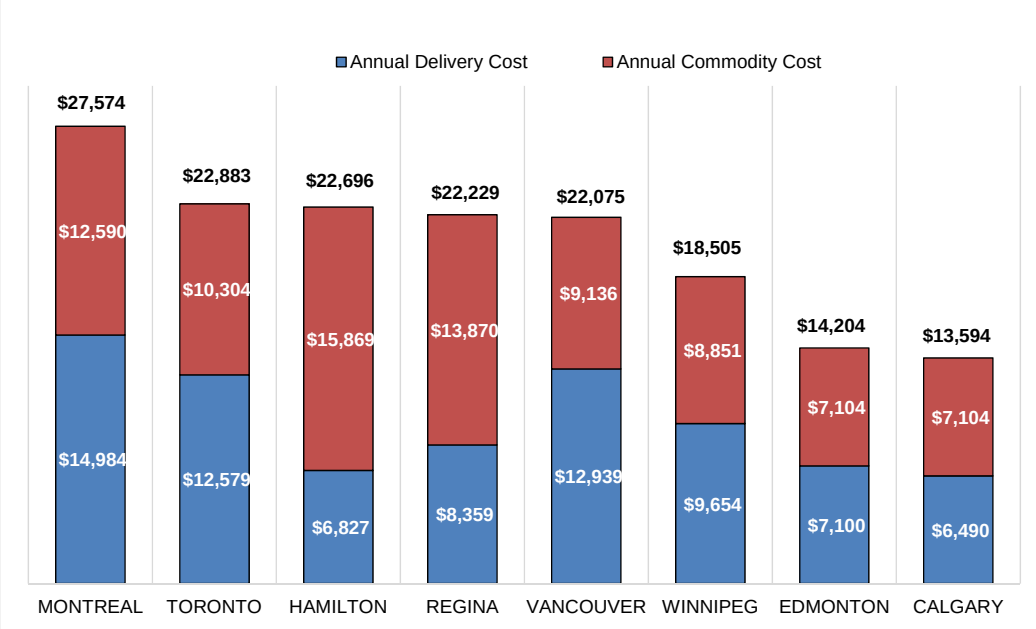
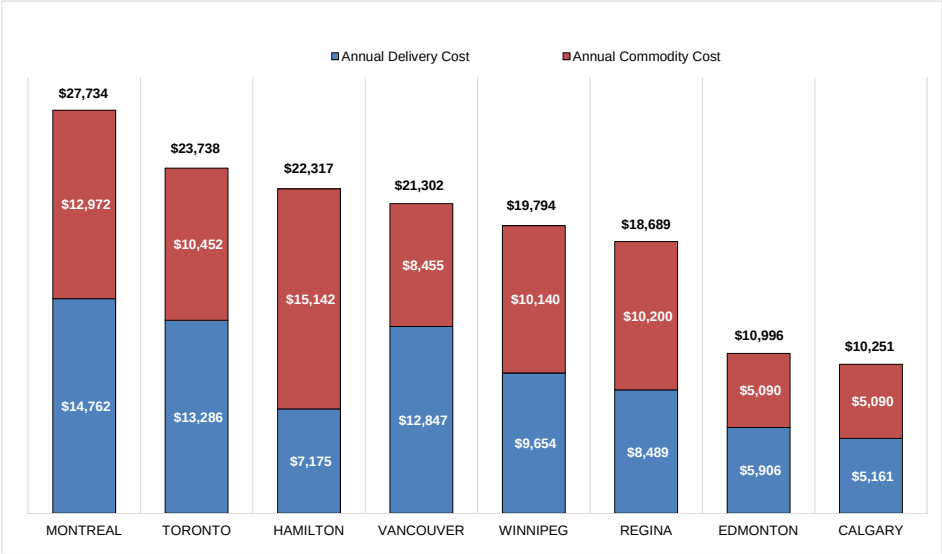


Figure 18-7: Commercial Large Delivery and Commodity Costs for Most Current Rates (based on consumption of 100,000 m³/year)[521]



[520] Tab 22, page 7. 2018 Commodity and Delivery Service Rate Application.
[521] 1st Round Information Request 22 (b), 2018 Commodity and Delivery Service Rate Application. SaskEnergy notes that the figure reflects proposed SaskEnergy rate effective April 1, 2019; all other jurisdictions are based on the latest available information and are as of October 2018 with the exception of Edmonton and Calgary [ATCO Gas proposed delivery rates effective January 1, 2019 and Rider Z effective Feb 1, 2019 for Edmonton/Calgary].

Observations

The Consultant notes that with the implementation of proposed rate changes SaskEnergy's delivery service rates are expected to remain lower than the average for major centres for all customer classes. The commodity portion of the bills will be in the mid-point of surveyed major centres. Based on these observations, the Consultant concludes that SaskEnergy's rates will remain competitive with other jurisdictions if the requested rate changes are implemented.

Section 3.6.2 reviews SaskEnergy's capital structure and common equity ratio and provides comment on its competitiveness relative to peer utilities.

19.0 PUBLIC COMMENTS

The following materials were received from the public as part of the review of the Application and made available to the Consultant:

- **Video of the Public Meeting held on October 17, 2018:**[522] The Panel hosted a public meeting in Regina on October 17, 2018, where SaskEnergy was invited to make a presentation. The purpose of the meeting was to inform the public of the 2018 Commodity and Delivery Service Rate Application and to receive public feedback regarding the Application. The meeting was also streamed live to enable the public to follow the proceedings online, and to submit questions and comments during the meeting.
- **Text of Written Submissions including Electronic Messages received from Individuals:**[523] Public comments were received over a period from September 28, 2018 to December 7, 2018. Comments received indicate as follows:
    - Strong views that the Delivery Rate increase should be denied. Consumers noted concerns related to affordability for persons with limited or low income such as pensioners, and that "seniors can't afford the high cost of heating our homes" and it "seems the government doesn't help seniors." Consumers noted the impact of having their bill raised by $30.00 per month and that "a lot of us have a hard time paying our bills now let alone if it goes higher".
    - It was noted that SaskEnergy "should be finding ways of keeping costs down by more effectively managing our resources and costs without the constant increases to our services", while it was understood inflation rates do occur, "better compromises can be made to reduce or at least keep costs from rising so regularly", and that SaskEnergy should "find efficiencies elsewhere".
    - It was recommended that "a small portion of each bill should go into an 'infrastructure fund' for future required upgrades to the system".
    - Concern was raised regarding the basic monthly charge – "why should we be charged a basic monthly charge of $23.20 for the privilege of doing business [with SaskEnergy]. One of my last bills was $17.57 for the supply of natural gas and the delivery charge was $37.38 which is ridiculous to be charged more for delivery for a product than the product itself."

Observations

All of the above matters were considered in the preparation of the Consultant's report and the recommendations.

[522] Available on the Panel website at the following link: http://www.saskratereview.ca/secuap.php?apn=jul_11_17_se [accessed August 21, 2017].
[523] See submissions summarized on Saskatchewan Rate Review Panel website at the following link: http://www.saskratereview.ca/srr_energy.php?sdate=1499327497&edate=1598729599.

20.0 PAST PANEL RECOMMENDATIONS

The Panel provided the following recommendations in its report to the Minister regarding SaskEnergy's 2017 Delivery Service Rate Application (dated October 4, 2017):[524]

- **Recommendation #1:** That the proposed system average 3.6% increase to the Delivery Service Rate be reduced to 2.95%.
- **Recommendation #2**: That the proposed increase to the Basic Monthly Charge (BMC) for the Residential customer class be reduced from $1.65 monthly increase to a $0.75 increase to the BMC, and that the balance of the Residential cost of service revenue requirement be recovered through the volumetric Delivery Charge.
- **Recommendation #3:** That the Panel's recommended rate increases apply to the volumetric Delivery Charge for the Commercial Small, Commercial Large, and Small Industrial customer classes.

Recommendation #1 would have reduced the Delivery Service Rate to 2.95%, however, this was not implemented. SaskEnergy notes that "the proposed system average 3.6% increase to the Delivery Service Rate was implemented as per Cabinet's instructions to ensure SaskEnergy meets its target for investing in safety and infrastructure". Recommendation #2 and Recommendation #3 were implemented, however, the "Panel's recommended rate increases were adjusted to reflect the initial 3.6% application increase as per the Cabinet's directive".

The Panel also made further specific recommendations to SaskEnergy, and additional responses were provided by SaskEnergy in Tab 24 of the 2018 Application. The recommendations along with SaskEnergy's responses are summarized below:

- **Recommendation #1:**[525] As highlighted in the Panel's report of September 14, 2016, the Panel continues to urge SaskEnergy to pursue the measures required to shift to billing in energy as soon as possible.
- **Recommendation #2:** The consultant's report noted a number of issues that would make future applications more transparent, more efficient, and less time-consuming for all parties. The Panel identified that areas of the application where it would like SaskEnergy to provide more detailed explanations included: intercompany allocations, transportation and storage rates, depreciation expense, corporate capital tax calculations, decommissioning of assets, other revenue forecasts and productivity and efficiency measures. The Panel noted that it intends to work with SaskEnergy

[524] See Tab 24 of the Application.
[525] Tab24 identifies as Recommendation #2: "That SaskEnergy consider a mechanism to reconcile the heating value variations in gas with the amounts billed to customers." On review of the Panel's Recommendations to SaskEnergy related to the 2017 Delivery Rate Application, this does not appear to be a recommendation specific to the 2017 Delivery Rate Application but a summary of prior recommendations, i.e., the passage states "the Panel has made several recommendations to SaskEnergy in previous reports that it consider a mechanism to reconcile the heating value variations in gas with the amounts billed to customers."

to pursue those issues, and increase opportunities for efficiencies for both parties prior to the next application.

With regard to Recommendation #1, SaskEnergy notes that it "continues to evaluate transitioning to billing in energy", "is in the process of a major technical upgrade to its customer information system" which is expected to be complete in late 2019, and "upon completion, a project to evaluate and transition to billing in energy will be initiated." Further, "SaskEnergy continues to monitor its heat value around the province."

With regard to Recommendation #2, SaskEnergy indicates that it "continues to work with the Panel to ensure that information provided is satisfactory."

21.0 SUMMARY OF CONSULTANT'S OBSERVATIONS

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

Overview

1. While the focus of this review is on the test year (2019/20), the current Application should be considered in light of prior applications and with consideration of potential future applications and rate increases. Delivery rates have increased each year since 2013 and continued delivery rate increases are expected to be required to support SaskEnergy's ongoing integrity and growth requirements. The bill impact analysis for the period from 2006 to 2019/20 (forecast) indicates that while the commodity rate is currently significantly lower than in prior years, delivery rates have been steadily increasing over this period.
2. Overall, a number of factors that materially impact the revenue requirement are either outside the scope of the Panel's review (e.g., capital expenditures, return on equity, and transportation and storage rates), or are flow through items (e.g., gas cost). Many of these items have a material impact on the current test year revenue requirement or have the potential to be material rate drivers going forward. In this context there are limited measures available to reduce or mitigate adverse impacts on ratepayers (outside of continuing to focus on productivity and efficiency measures to reduce operation and maintenance costs and other expenditures).
3. SaskEnergy was directed by its shareholder to reduce budgeted expenditures in order to meet specified targets between 2015/16 and 2017/18. This has led to materially lower actual results compared to test year forecasts. Given past patterns, concern is noted regarding the potential for further direction to be provided relative to the 2019/20 test year subsequent to the Panel's review. Significant O&M or other budget reductions that occur after test year forecasts have been approved create profound fairness issues for ratepayers who do not effectively share in the cost savings. Implementation of further restraint measures after the Panel has filed their report challenges the reasonableness of rates as rates are set but benefits from further restraint measures do not accrue to ratepayers.

Delivery Service Revenue Requirement

4. The net revenue requirement for the 2019/20 test year forecast increases by 6.5% over the 2017/18 test year forecast. The following is specifically noted regarding the main drivers underlying the overall revenue requirement:
    a. The increase in O&M expense makes up about 44% of the overall net delivery revenue requirement increase in the 2019/20 test year over the 2017/18 test year. O&M expense is forecast to increase by about $10.316 million (or 8.2%) over the 2017/18 test year.
    b. The increase in interest expense represents about 20% of the total increase in the 2019/20 test year over the 2017/18 test year. Interest expense is forecast to increase by about $4.568 million (or 17%) over the 2017/18 test year.

c. The increase in net earnings is about 13% of the overall net delivery revenue requirement increase in the 2019/20 test year over the 2017/18 test year. Net Earnings expense is forecast to increase by about $3.024 million (or 9.9%) over the 2017/18 test year. This forecast increase reflects an increase in rate base.

d. These expense categories represent between 6% and 9% of the total change in the 2019/20 test year over the 2017/18 test year.

e. Other Revenues are forecast to increase by $6.188 million (or 25%) over the 2017/18 test year. This partially offsets increases in other cost categories.

5. Between 2015/16 and 2017/18, SaskEnergy included levels of spending materially above actual requirements in its test year forecasts. In each of these years, SaskEnergy achieved material cost reductions compared to forecast. Ratepayers have not benefited from these cost reductions and have continued to pay rates that reflect materially higher costs. This raises concerns regarding the financial health of the utility and its ability to continue to provide safe and reliable service to its customers, as well as profound concerns regarding transparency and fairness in rate setting.

Operating and Maintenance Expense

6. Forecast total O&M expense for the 2019/20 test year is about 8.2% higher than the 2017/18 test year forecast. The information provided shows that 2017/18 test year actuals are expected to be much lower than forecast. Lower 2017/18 actual results exacerbate the increase in the O&M expense forecast for the 2019/20 test year compared to the actuals. Specifically, the 2019/20 test year forecast is about $23.5 million (or 21%) higher than 2017/18 fiscal year actuals.

7. Lower 2017/18 actual results are due in part to the implementation of restraint measures. Certain forecast expenses also appear to be overstated when compared to historical trends.

Labour

8. Labour costs represent the largest portion of SaskEnergy's O&M expense [about 68% of total O&M expense for the 2019/20 test year]. Net labour costs in the 2019/20 test year forecast are about $5.4 million (or 6.3%) higher than the 2017/18 test year forecast. Higher forecast expenses in the 2019/20 test year compared to 2017/18 mostly relate to higher base labour costs (which are partially offset by lower overtime costs) and increase in number of FTEs.

9. For the 2018/19 fiscal year, SaskEnergy is forecasting an increase in FTE levels to 794 (50 FTEs higher than 2017/18 fiscal year actuals). SaskEnergy is forecasting a further increase to 805 FTEs for the 2019/20 test year. SaskEnergy has noted that lower FTEs for 2017/18 reflect vacancy management to meet short term net income targets. Most new FTEs relate to contractor conversion. SaskEnergy notes that the cost per contractor is about $199,134 compared to about $105,820 for an FTE, and consequently contractor conversions result in approximate savings of $93,000 per FTE conversion (or about $1.5 million savings) "reflected in the contract services category of operating and maintenance expense". However, the External Services category of O&M expense is also forecast to increase.

10. The data shows that for vacancy rate adjustments SaskEnergy used $90,000/FTE [$4.050 million divided by 45 vacant FTEs], while the average base labour cost per FTE is forecast to be $100,677. This results in about $0.480 million underestimation of the vacancy rate adjustment.

Communications, Public Relations, Fees, Dues and Community Contributions

11. The increase in Communication, Public Relations, Fees, Dues and Community Contributions related costs in the 2018/19 and 2019/20 fiscal years, relates to implementation of restraint measures in 2016/17 and 2017/18 fiscal years which reduced expenditures in certain cost areas.

12. The actual average safety and awareness cost per customer was $2.03/customer and $2.01/customer for 2016/17 and 2017/18 (fiscal) – and is forecast to increase to $2.90/customer by 2019/20 (fiscal). SaskEnergy notes that there is "an increased focus on regulatory compliance which results in additional costs to safety and awareness policies/programs", however, no specific examples were provided.

Intercompany Allocations

13. Intercompany allocations, included as an offset to the operating and maintenance costs, increase from $10.785 million for the 2017/18 test year forecast to $15.785 million for the 2019/20 test year forecast. The intercompany allocations for 2019/20 test year are also higher compared to 2017/18 fiscal year actuals [$15.785 million forecast in 2019/20 compared to $10.796 million in 2017/18 fiscal year].

14. The changes to cost allocations reflect the "One Company, One Team" strategic mandate which includes consolidating and/or reallocating resources to lead, communicate, and collaborate to make the best business decisions for the consolidated entity.

External Services

15. The 18% [$6.217 million] increase in External Services in 2018/19 over 2017/18 (actuals); and 9.3% [$3.736 million] increase in 2019/20 over 2018/19 (forecast) results in a 29% or ($10 million) increase over a two-year period. This is a significant increase [equal to the incremental revenue SaskEnergy is seeking from the 3.7% rate increase in delivery rates]. SaskEnergy notes that in the 2017/18 fiscal year the forecast External Services expenses were at $40.106 million, while the actuals came at $34.156 million, or $5.951 million (or 15%) lower than forecast.

16. The increase in External Services relate to Hosting Services [$4.9 million], Management of Change Initiative [$0.7 million], Line Locating and Hydro Vac [$0.8 million] and Distribution Information Systems - Contractors for Change Management [$0.4 million]. SaskEnergy states that the primary benefits of hosting services are reliability, security and maintenance of software solutions that can be leveraged to make good business decisions and provide an appropriate level of customer service. The information provided by SaskEnergy indicates that hosting costs will be $5 million higher in 2019/20. However, the reductions in internal costs that would offset the increase in hosting services are not specified or apparent in the 2019/20 test year.

Transportation and Storage Expense

17. Total transportation and storage costs for the 2019/20 test year are forecast to increase by about 5.1% over the 2017/18 test year forecast, including the impact of the Mid-Application Update. The forecast for the 2019/20 test year is also about $4.355 million (or 8.7%) higher than the most recent actuals for the 2017/18 fiscal year, reflecting TransGas transportation and storage rate increases at 5.9% effective May 1, 2018, and a 5.5% forecast increase effective April 1, 2019. This forecast increase in transportation and storage rates increases the transportation and storage expense by about $2.9 million for the 2019/20 test year.

18. SaskEnergy indicates that there was an underestimation in the calculation of transportation expense for the 2019/20 test year which is estimated to approximate $1.7 million. It is understood that the overall rate increase being sought is not being adjusted to take this underestimation into consideration. It is estimated that over half of the impact from the assumed transportation and storage rate increase will be offset by the impact of the underestimation in the calculation of 2019/20 test year transportation and storage expense, i.e., $1.7 million (or about 58%) of total increase of $2.9 million.

Depreciation Expense

19. Depreciation expense is forecast to increase by 8% annually (or $3.0 million/year on average). The increase in depreciation expense in the 2019/20 test year over the 2017/18 test year is about 9% of the total increase in revenue requirement in 2019/20 over the 2017/18 test year.

20. The increase in depreciation expense experienced since the last depreciation study in 2013 puts pressure on customer rates in the near term and potentially over the longer term. New improvements and infrastructure may have longer service lives compared to existing assets that are being replaced. In this regard, extending service lives through ongoing system integrity programs may reduce annual depreciation expense related to new capital investments; and ensuring depreciation rates match the useful lives of new or improved assets in service may help to mitigate related rate impacts. The new depreciation study being undertaking by an external consultant was not available to inform this Application, and is expected to be completed before March 31, 2019.

Tax Expense

21. For the 2018/19 fiscal year, SaskEnergy forecast a $1.020 million (or 18.6%) increase in tax expenses over 2017/18 actuals, and a further $0.861 million (or 13%) increase in 2019/20 over the 2018/19 forecast. The forecast increases in 2018/19 and 2019/20 are much higher compared to the historical trend.

22. The 2019-20 fiscal year corporate capital tax includes expenses beyond those attributable only for the Distribution Division, i.e., includes SaskEnergy Incorporated (consolidated entity) total debt and Holdings division equity and equity advances. Based on information provided, corporate tax calculated excluding debt related to the subsidiaries other than Distribution Division would be $5.807 million compared to the $6.987 million total corporate tax, or a reduction of $1.180 million.

23. Under IFRS, SaskEnergy recognises customer contributions as revenues in the year received [recognized as income], while for regulatory purposes customer contributions are included as an offset to plant in-service [with relevant adjustments to the plant in-service, accumulated depreciation and depreciation expense]. By using an approach that does not recognize customer contributions in corporate tax calculations, SaskEnergy's paid-up capital for corporate capital tax calculation purposes includes a portion of investment already recovered from customers. Information available from SaskEnergy indicates that corporate tax calculated excluding customer contributions would be $6.427 million compared to the $6.987 million total corporate tax [or a reduction of $0.560 million].

Interest Expense

24. The calculation of short-term interest expense appears reasonable compared to the forecasts available from the major banks.

25. The average long-term interest rates for the 2019/20 forecast is 0.34% lower than the 2017/18 test year forecast of 4.74%. Lower average interest rates are due to two factors: (1) new borrowings with lower than the average interest rates in recent years; and (2) the impact of increased sinking fund earnings on the calculation of the average interest rate.

26. SaskEnergy is forecasting $100 million in new borrowing for 2019 at a forecast interest rate of 3.89%. This forecast interest rate appears to be reasonable considering the actual interest rate for new borrowing in 2018, the expected increase in interest rates, and available information from other utilities.

Net Earnings

27. The provision to earn a fair ROE allows a utility to attract capital on reasonable terms and to maintain its financial integrity. If the ROE target is too low, a very mild winter or an unexpected expense could cause the corporation to incur a net operating loss. The proposed ROE is comparable to peer utilities and should support a financially sustainable natural gas delivery system.

28. On an actual basis, the weather normalized ROE for the distribution utility for the last five years averaged 9.90% and the average for the last ten years was at 8.70%. In each case this is higher than the target ROE of 8.3%. Net income was much higher than forecast in 2017/18 – and the actual weather normalized ROE was 18.6% (much higher than the 8.30% target). The higher than forecast net income and ROE in 2017/18 were partially due to cost savings achieved by SaskEnergy that were not included in the 2017 Delivery Rate Application as well as higher revenues from Asset Optimization.

Rate Base

29. SaskEnergy used 82.90 lag days for determination of cash working capital allowances for the Distribution Tolls. The information provided by SaskEnergy shows that the average lag days for the Distribution Toll revenues for the last five years ranged between 63 and 71 days, and "the terms within the contract state that the revenues will be invoiced on the 20th day of the month following a payment term within 10 days." As such, there appears to be no basis for using 82.90 lag days.

Using 45.6 days [consistent with transportation and storage expense lag days] would result in an approximate $2.1 million reduction in the cash working capital allowance. This would reduce the revenue requirement by about $0.124 million.

Capital Structure and ROE

30. The Consultant observes that SaskEnergy's deemed common equity ratio is within the range of its peer utilities in Canada. The common equity ratio proposed by SaskEnergy is reasonable for ratemaking purposes.

31. Since 2013, SaskEnergy has been collecting funds from customers for future decommissioning as part of rates. The review shows that utilities in the other jurisdictions include a credit in rate base to reflect customer provided capital for future cost of removal. However, no credit was applied by SaskEnergy to recognize use of capital provided capital at no cost.

Other Revenue

32. Other Revenue sources are within a reasonable range compared to the most recent actuals, except for revenues from Asset Optimization.

33. It is understood that revenues from Asset Optimization are difficult to forecast and could be highly variable from year to year. However, experience in recent years shows that the forecasts have been underestimated. There is concern that the asset optimization revenue forecast for the 2019/20 test year may be overly conservative.

Revenue Deficiency

34. SaskEnergy's projected revenue deficiency is consistent with the forecast revenue requirement and revenue at existing rates. The revenue deficiency is consistent with the average rate increase sought by SaskEnergy in the current application. Actual revenue will vary from forecast, particularly due to weather. The revenue deficiency would be subject to any adjustments to the revenue requirement and revenues at existing rates as provided in this report.

Productivity and Efficiency

35. The Consultant notes that capital spending and infrastructure renewal requirements are likely to continue to put upward pressure on delivery service rates for the foreseeable future. This highlights the need for SaskEnergy to continue to intensify its efforts to identify and implement productivity and efficiency improvements wherever possible.

36. Recent Applications have described both restraint measures and productivity and efficiency measures. SaskEnergy has noted that restraint measures are "undertaken or quantified in response to requests from the Province for incremental earnings and are generally short term in nature." In contrast, productivity and efficiency measures are "initiatives that are planned in advance in the categories of leveraging technology, Crown collaboration, or business processes changes that result in operating efficiencies and reduced costs." SaskEnergy has confirmed that all initiatives planned to be implemented in 2018/19 fiscal year involve planned permanent spending reductions.

Capital Expenditures

37. It is understood that the capital program is outside the purview of the Panel; however, capital expenditures impact other areas of the revenue requirement, and review of SaskEnergy's capital program is necessary in order to understand cost drivers behind the proposed revenue requirement and delivery service rates, and provides some context for future rates. Concern is noted regarding the sustained capital spending requirements that will continue to drive revenue requirement increases related to depreciation expense, capital tax and interest expense. SaskEnergy's net capital expenditures are forecast to average $133.1 million annually over the period between 2017/18 and 2022/23. SaskEnergy has continued to note that annual investment in safety and infrastructure is expected to continue for some time, and the five year forecast shows continued elevated spending levels in these areas. Ongoing and sustained capital spending requirements will continue to place upward pressure on delivery service rates for the foreseeable future.

38. Of particular note are increases in spending on Information Systems – which doubled from $10.5 million in 2017/18 (actual) to $21.9 million in 2018/19 (forecast) and are expected to remain at 2018/19 levels until 2021/22 and then return to 2017/18 levels.

Safety and Reliability

39. SaskEnergy notes that over the last 10 years it has moved from "just in time" intervals to a risk-based program. Under the former program, all areas were treated equally using five-year intervals (except for identified higher risk areas in Regina). The risk-based approach being used likely increases leak findings significantly in higher risk areas.

40. SaskEnergy notes areas where there has been continuous improvement of safety and reliability. SaskEnergy has provided information that indicates that measures implemented to reduce leaks in targeted categories in Regina and other areas of the province have resulted in continuous improvement over the last several years. Total leaks in 2017 (445) were higher than the 5-year average for total leaks (408 leaks); however, total leaks have tended to change materially year over year.

Load Forecast

41. The load forecast for the 2019/20 test year appears to be reasonable compared to historical trends. The Mid-Application Update filing shows that although there is no change in the energy [GJ] based load forecast, the heat value change has a notable impact on the load forecast in volume [m^3], as well as to the revenue forecasts as SaskEnergy rates are based on m^3 usage and not on energy. This highlights continued concerns that relate to heat value.

Cost of Service

42. SaskEnergy's objective of keeping RCC ratios for all customer classes within a range of 95% to 105% is consistent with normal utility practice in Canada. The cost of service study establishes the revenue to be collected from each customer class, has relevance to rates charged to each class, and is an important tool for understanding and evaluating the utility's rate proposal.

43. The cost allocation for Service Line Customer Functional Classification, where the Residential class shares a majority of costs [77.28%], was about 18.6% of total costs in the 2019/20 cost of service study compared to 15.5% in the 2017/18 cost of service study. SaskEnergy notes that costs allocated to the Service Line Customer Functional Classification have increased due to "increased integrity spending associated with service lines (i.e. Saskatoon service upgrade due to curb valve issue)." Key elements of increase in costs for Residential class include: "the infrastructure renewal costs associated with municipal growth plans and the associated long term growth capital to meet multiple objectives. These objectives include safe and reliable service, increased capacity, and improved asset life. Risk management programs also increase costs and include the service upgrade program, mains replacement program, station upgrades to meet regulatory requirements and asset life extensions. Public safety and damage prevention activities are also supported."

Delivery Service Rate Design

44. Utility rate design requires careful consideration of a number of competing objectives. Regulatory principles require that the utility demonstrate that its proposed rate design reflect an appropriate balance between these rate principles. There are advantages and disadvantages to SaskEnergy's rate proposal, including the following:

    a) Applying the rate increase to the volumetric portion of the rate provides a stronger price signal to customers and can make it easier for customers to recognize the advantages of energy efficiency.

    b) The proposed rates are based on normal weather conditions. With the proposed increase to the volumetric charge, incremental revenues would be weather dependent.

    c) Applying the rate increase only to the volumetric charge will move further from SaskEnergy's objective of recovering 75% of customer related costs through the fixed Basic Monthly Charge.

    d) SaskEnergy's residential BMC is the sixth largest out of eight peer utilities reviewed, and is only lower than Edmonton and Calgary [it is noted that the customer charge for these cities is also impacted by an added charge for a retailer].

Heating Values

45. Variations in heat value result in some customers paying more than others to achieve the same heating energy, depending on geographic location. This has resulted in ongoing fairness concerns for ratepayers and other stakeholders. Billing in energy would eliminate the need for forecasting heat value and the associated risks related to heat value variance and variances in customer bills.

46. In recent years the impacts of billing in volume versus billing in energy have been mitigated due to factors such as the operation of the straddle plant in southeast Saskatchewan. However, the extent to which these factors will continue to operate to reduce heat value variation in Saskatchewan is uncertain. SaskEnergy had outlined a number of external factors that impact heat value and that make it difficult to accurately forecast. However, SaskEnergy is capable of making changes to its billing system that would mitigate these concerns for both the Corporation and its customers.

47. SaskEnergy notes that it "continues to evaluate transitioning to billing in energy", "is in the process of a major technical upgrade to its customer information system" expected to be completed in 2019 and "upon completion a project to evaluate and transition to billing in energy will be initiated."

Natural Gas Market Update

48. SaskEnergy has provided sufficient information on the current and forecast as market to support its requested commodity rate.

Gas Supply Overview

49. SaskEnergy's supply portfolio is changing in response to decreasing availability of gas supply in Saskatchewan as well as lower AECO prices due to pipeline capacity restrictions. 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.

50. SaskEnergy plans to increase firm transportation from Alberta by 30,000 GJs/day to 180,000 J/day by the end of the Application period. This would allow SaskEnergy to source more Alberta gas at the "depressed" AECO price as the price differential is expected to be higher in Saskatchewan due to pipeline capacity restrictions. Although, this may reduce costs for ratepayers, the cost for added transportation contracts are also paid by ratepayers. It is assumed that increased firm transportation contracts from Alberta facilitate increased Asset Optimization revenues.

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

Price Risk Management Strategy and Policy

52. In the Consultant's view, the natural gas price management strategy appears to be being executed as approved. 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.

Forecast Cost of Gas Sold

53. SaskEnergy forecast $154.536 million total forecast cost of gas sold for the 2019/20 test year. The average cost of gas sold over this period is approximately $2.77/GJ, ranging monthly between $2.646/GJ and $2.849/GJ. This is lower than the period from April 2017 to March 2018 (with cost of gas sold ranging monthly between $3.089/GJ and $3.704/GJ); and for the period from April 2018 to March 2019 (with cost of gas sold ranging between $2.618/GJ and $3.121/GJ).

54. The cost of purchased gas appears to be properly calculated and consistent with previous practice. It is noted that SaskEnergy indicates that it intends to revisit the method for allocating bad debt in the next application. SaskEnergy also acknowledged the issue regarding consistency of interest rates used in the delivery and commodity applications.

55. The increase in firm transportation capacity enables SaskEnergy's purchase of more from Alberta during a period of lower Alberta prices and higher price differentials; however, it is noted that the incremental cost will be paid by customers through rates.

Gas Cost Variance Account

56. The proposed commodity rate of $2.63/GJ results in a GCVA balance of $3.351 million owing to customers at the end of the application period [March 31, 2020]. A rate of $2.57/GJ effective April 1, 2019 would clear the balance remaining in the GCVA account by March 31, 2020. SaskEnergy noted that assuming the proposed Commodity rate remained in effect for the period from April 2020 through March 2021, a GCVA balance of approximately $5 million owing to customers would remain at end of March 2021, and appears to indicate that SaskEnergy is not currently expecting a significant variance between the cost of gas and commodity rates over this period.

57. In the Mid-Application Update, SaskEnergy notes that the proposed higher heat value of 38.75 MJ/m^3 is reasonable for the test year, and will result in a commodity rate of 10.2 $cents/m^3$ ($2.63/GJ). The higher heat value results in lower sales volumes in m^3, and will result in lower revenues to offset the cost of purchase gas. SaskEnergy estimates that with 38.75 MJ/m^3 heat value the GCVA balance would be $3.351 million owing to customers by end of March 31, 2020. The above indicates that the change in heat value from 38.5 MJ/m^3 to 38.75 MJ/m^3 (or change of 0.25 MJ/m^3) results in about $1.7 million change in the GCVA balance over a 17-month period [from November 1, 2018 to March 31, 2020].

58. A higher than forecast heat value will result in under-recovery from customers, or vise-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.

59. A +/- $20 million GCVA threshold for triggering a commodity application was recommended by the Panel approximately 18 years ago; and since that time SaskEnergy has treated the +/-$20 million quantum as a "forecasted metric". This typically allows sufficient time to complete the governance process and Panel review process before the GCVA exceeds the $20 million threshold. While SaskEnergy notes that it typically would review and adjust is commodity rate once or twice per year, experience since 2012 indicates a pattern of less frequent actual rate adjustments. Most other peer utilities have automatic rate adjustments that occur monthly (Edmonton, Calgary and Montreal) or quarterly (Vancouver, Winnipeg, Hamilton and Toronto).

60. 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 has noted concerns related to high GCVA balances. SaskEnergy notes that "it has fixed the price on a large portion of its forecasted natural gas purchases for the next five years that will support the proposed commodity rate of $2.65/GJ," and if natural gas prices remain near current levels "anticipates fewer commodity rate changes over this period. If natural gas prices change materially, a commodity rate application will be initiated."

Determination of Commodity Rate

61. The Consultant reviewed the proposed commodity rate calculation and finds that it uses an approach consistent with previous applications. However, SaskEnergy has in its current application proposed the following measures related to the determination of the quantum of the proposed commodity rate that are relatively unique when compared to recent prior applications and merit careful review and consideration: (1) proposal for a Two Part Commodity Rate Proposal with an interim rate implemented effective November 1, 2018 and a final rate implemented effective April 1, 2019; and (2) proposal to set a commodity rate effective April 1, 2019 that does not fully clear the balance in the GCVA at the end of the test period, and intentionally maintains a substantial balance in the GCVA at the end of the test period.

62. Absent a commodity rate reduction in November 2018, the current GCVA balance was forecast to materially exceed the +/-$20 million threshold by March 31, 2019. As such, the consultant agrees with the requirement for, and timing of the effective date for, the commodity rate reduction of November 1, 2018 in order to provide some relief prior to the winter heating season. The consultant also recognizes the quantum of the interim and final rates provides a measure of rate stability for customers [as they will not be faced with a material bill reduction followed by a bill increase related to the delivery rate increase within a 4 month period].

63. SaskEnergy proposes to set a commodity rate effective April 1, 2019 that does not fully clear the balance in the GCVA at the end of the test period and intends to maintain a substantial balance in the GCVA at the end of the test period. There appears to be little basis for this approach considering that the purpose of the GCVA is to provide SaskEnergy the opportunity to recover the costs of gas sold to customers without mark-up; and rate design principles target a GCVA balance of zero to minimize impact of intergenerational equity/ fairness.

Customer Impacts

64. The proposed lower commodity rates effective April 1, 2019 will result in notable bill decreases for each customer class. Average usage Residential customers will see an approximate 11.1% bill decrease, Commercial Small customers will see a 14.6% bill decrease, Commercial Large customers will see a 17.0% bill decrease, and Small Industrial customers will see a 20.2% bill decrease. These bill decreases will be offset by proposed delivery rate increases effective April 1, 2019.

65. Separate from the current SaskEnergy application, customer bills will also be impacted by the carbon tax to the extent it is applicable commencing April 1, 2019.

66. SaskEnergy is proposing to apply the delivery rate increase to only the volumetric rate component of delivery rates. This will provide a stronger price signal related to increased consumption compared to an increase in both the fixed and variable rates. However, the increase will be more weather dependent and may result in increased income variability for SaskEnergy: colder than normal weather that results higher consumption will lead to slightly higher bill impacts and higher revenues for SaskEnergy; and warmer than normal weather that results lower consumption will lead to slightly lower bill impacts provide lower revenues for SaskEnergy.

Competitiveness

67. The Consultant notes that with the implementation of proposed rate changes SaskEnergy's delivery service rates are expected to remain lower than the average for major centres for all customer classes. The commodity portion of the bills will be in the mid-point of surveyed major centres. Based on these observations, the Consultant concludes that SaskEnergy's rates will remain competitive with other jurisdictions if the requested rate changes are implemented.

68. SaskEnergy's capital structure and common equity ratio and provides comment on its competitiveness relative to peer utilities.

Public Comments

69. All of the above matters were considered in the preparation of the Consultant's report and the recommendations.

22.0 SUMMARY OF CONSULTANT'S RECOMMENDATIONS

The Consultant recommends to the Panel that:

1. The vacancy rate adjustments should use the average base labour cost of $100,677 (or $4.530 million) for the 45 vacant FTEs for 2019/20. This would reduce the total labour cost for the 2019/20 test year by about $0.480 million [$4.530 million less $4.050 million]. The Consultant recommends that the labour cost for 2019/20 test year be reduced by $0.480 million to reflect a vacancy rate calculation using the average base labour cost.
2. In the consultant's view, SaskEnergy should be urged to provide further and better information regarding the transition of external contractor's to FTEs in its next application (i.e., the business case for these transitions and how this has reduced external services costs). Further and more detailed reporting on this will help to ensure transparency and provide the Panel and customers with better assurance that there are no adverse costs impacts to customers from contractor transition to FTEs.
3. In light of the environment of ongoing cost increases and rate pressures, it is recommended that SaskEnergy be advised to carefully review spending on safety and awareness as the cost per customer is forecast to continue to increase (from $2.01 in 2017/18 fiscal year actuals to $2.30 in 2018/19 forecast and further $2.90 in 2019/20 forecast).
4. Over the last several years, due to implementation of restraint measures, SaskEnergy was able to reduce costs related to professional memberships and dues as well as training and conferences. In light of the ongoing delivery rate increases related to ongoing safety and integrity spending requirements, SaskEnergy should be encouraged to carefully review its spending forecasts and to continue to find ways to avoid increases in areas of controllable costs such as professional memberships and dues and training and conferences (as well as discretionary areas of spending such as such as sponsorships and donations).
5. Intercompany allocations appear to be appropriate and reasonable. In the future, where there are material changes to the allocation percentages, or the methodology, where relevant, SaskEnergy should in its application review the details and rationale for the proposed change and any other alternatives considered. The consultant's report highlights other areas where potential cross-subsidization occurs between subsidiaries (e.g., Corporate Capital Tax Calculation discussed in Section 3.4).
6. As recommended in Section 3.1.1, and in order to provide greater clarity regarding the need and justification for these expenditures, it is recommended that SaskEnergy in future delivery rate applications provide greater disclosure regarding growth in expenditures related to Labour FTEs and expenditures in External Services. This disclosure should include details regarding the relationship between internal labour and external services cost forecasts, as well as any impacts related changes in operations (e.g., the transition to hosting services).

7. The Consultant recommends that the Panel take into consideration the miscalculation noted by SaskEnergy in the calculation of transportation expense as it considers the impact of other recommended changes to SaskEnergy's total revenue requirement.

8. It is understood that TransGas transportation and storage rates are subject to Provincial Cabinet approval, and transportation and storage rates are outside the scope of the Panel's Terms of Reference. However, the Consultant reiterates its comments from previous reports, i.e., in light of the environment of ongoing expected rate increases related to spending on safety and integrity, and in order for the Panel to be able to assess the reasonableness of all elements of the revenue requirement, there is a need to better understand these matters as they impact SaskEnergy's revenue requirement and rates. The Consultant urges that prior to the next Delivery Service Rate Application, the Panel and SaskEnergy coordinate to determine what information can be made available to ensure greater transparency and to provide the Panel, and the public, with better assurance that these costs are reasonable and prudently incurred.

9. In the Consultant's view, the depreciation expense for the test year appears to be reasonable. It is recommended that the new depreciation study, along with the corporation's response to the study, be filed with the Panel when completed and prior to the next delivery rate application.

10. The information provided by SaskEnergy indicates that the corporate capital tax expense calculation includes amounts related to subsidiaries other than the Distribution Division – which raises material fairness concerns for SaskEnergy customers.

11. Based on the information provided by SaskEnergy, removal of the portion of loans and advances related to subsidiaries other than the Distribution Division would result in an estimated reduction in the revenue requirement for the 2019/20 test year of $1.180 million. The Panel should take this into consideration in its deliberations regarding recommended rates for the 2019/20 test year. Should the Panel not consider a reduction in forecast 2019/20 corporate tax expense to be appropriate, the consultant recommends that the Panel direct SaskEnergy to provide further clarifications regarding the basis for including loans and advances related to subsidiaries other the Distribution Division in the corporate tax calculation in order to better understand the basis for SaskEnergy's approach and to ensure that the methods used by SaskEnergy are appropriate and fair for customers.

12. The Consultant also recommends that SaskEnergy review and report to the Provincial Government on the impact that the accounting treatment for customer contributions has on corporate capital tax calculations, about $0.560 million as estimated by SaskEnergy, and update the Panel in the next rate application.

13. Recommendations related to accretion expense are addressed in Section 3.6.2. Aside from addressing the concerns as noted in Section 3.6.2, the short term and long term interest rates appear reasonable.

14. The proposed net earnings for the 2019/20 test year appear to be reasonable subject to the adjustments and other considerations raised and recommended in this Report.

15. SaskEnergy should be encouraged to reflect some of the expected cost savings that accrue due to net income targets reset by its shareholder in the test year revenue requirement in order to reduce cost pressure for customers (as indicated in the Panel's 2017 Report to the Minister).

16. To ensure fairness with all internal transactions with its subsidiary it is recommended that the cash working capital allowance in rate base be reduced by $2.1 million to reflect revenue lag days from Distribution Tolls that use 45.6 days. This would reduce the revenue requirement by about $0.124 million.

17. Based on review of SaskEnergy's approach prior to 2013, and approaches used in other jurisdictions, the consultant has material concerns regarding the current treatment of customer provided capital for future decommissioning in rate base financing. The consultant recommends that SaskEnergy review how future asset removal costs [decommissioning cost, asset retirement obligations or negative salvage] are collected from customers and how pre-collected funds are reflected in utility rate base in other jurisdictions. It is recommended that customer provided capital for future decommissioning [accumulated balance of depreciation of decommissioning assets and accretion expenses, less used amount] be included in the financing of rate base as no cost capital.

18. In the consultant's view, revenues from asset optimization are conservatively forecast and are likely to be much higher than estimated for the test year. It is recommended that this be taken into consideration as the Panel considers the impact of other recommended changes to SaskEnergy's total revenue requirement.

19. SaskEnergy's proposed productivity and efficiency measures and costs appear to be reasonable. However, it is recommended that for future rate applications SaskEnergy provide in the descriptions for each productivity and efficiency program a statement indicating how the initiative results in a permanent spending reduction that also benefits ratepayers. Alternatively, if the initiative is undertaken in response to a request from the shareholder for incremental earnings that are generally short term in nature this should be specified. Any restraint programs that have been, or that will be undertaken, should be clearly identified and described.

20. In Consultant's view, the load forecast proposed in the Application is reasonable.

21. It is recommended that once AMI is fully implemented and sufficient data is available, that SaskEnergy review the reasonableness of its load forecast based on available monthly data.

22. The Mid-Application Update highlights continued concerns that relate to rates based on volumes as opposed to energy. This indicates the need to shift to billing in energy as soon as possible.

23. The Consultant recommends that SaskEnergy consider the potential implications of billing customers on the basis of energy instead of volume as part of future reviews regarding issues related to variation in heat value; and as part of future reviews of its cost allocation methods for future rate applications. This is consistent with Recommendation #4 of the Chymko Report.

24. The Consultant recommends that SaskEnergy consider highlighting the following for review by its external consultant for the next external review of SaskEnergy's cost of service study:

    a. Review the reasonableness of the demand and customer percentages in Schedule 3.3 [pager 1 of 5] of the cost of service study; and

b. Review the reasonableness of using weighted number of customers instead of actual number of customers for allocation of customer related costs.

25. Meeting or making progress towards long-term targets is an important consideration. SaskEnergy is currently setting rates that will result in movement away from its long-term target for the BMC, and indicates that in order to maintain the BMC at the 75% target all required rate increases would need to be shifted to the BMC rather than volumetric charge. This should be considered carefully by the Panel as it reviews SaskEnergy's rate proposal.

26. It is recommended that SaskEnergy review its long-term policy objective to recover 75% of costs through the BMC, to determine if it is still reasonable, considering the following:

    a. It is understood that the majority of the delivery service costs are fixed and SaskEnergy is entitled to recover those costs from its customers. BMC provides a more stable revenue stream for SaskEnergy compared to the volumetric charge, which is dependent on weather conditions [when it is colder than normal with higher consumption this results to higher than forecast revenues, however, when it is warmer than normal this could reduce the revenue].

    b. Customer acceptability – as SaskEnergy indicates that comments from customers and the public indicated a resistance to further increases in the BMC.

    c. Peer utility comparisons – as comparison of peer utilities regarding the portion of the revenues collected through fixed rates versus variable rates, as well as comparison monthly charges by customer class.

27. The Consultant recommends that the Panel continue to urge SaskEnergy to pursue measures required to shift to billing in energy as soon as possible.

28. High GCVA balances may put further upward pressure on rates during periods of commodity price increases. SaskEnergy provides frequent updates on the balances of the GCVA to the Panel – however these updates do not trigger a commodity rate application.

29. The Consultant notes that there is merit to developing a formalized policy that includes a framework for more regular, automatic adjustments to commodity rates to ensure that large balances do not accumulate and to mitigate concerns related to intergenerational equity. As part of the development of the formal policy, it may be appropriate to review the basis for the $20 million quantum used as the forecasted metric for the GCVA to determine if it remains appropriate.

30. The final commodity rate effective April 1, 2019 should be set to clear the full balance of the GCVA by March 31, 2020.

APPENDIX A
COMBINED SASKENERGY NATURAL GAS COMMODITY RATE CHANGE, NATURAL GAS DELIVERY RATE CHANGE AND INTERIM COMMODITY RATE ADJUSTMENT PROPOSAL TERMS OF REFERENCE

Government of Saskatchewan

Minister's Order

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

Terms of Reference

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

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

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

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

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

Minister of Crown Investments

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

Terms of Reference

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

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

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

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

COMMODITY RATE REVIEW

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

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

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

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

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

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

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

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

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

DELIVERY RATE REVIEW

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

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

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

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

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

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

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

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

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

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

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

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

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

CONFIDENTIALLY

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

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

CONDUCT OF THE REVIEW

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