REVIEW OF SASKENERGY'S PROPOSED NATURAL GAS DELIVERY RATES FOR TEST YEAR 2017/18

EFFECTIVE NOVEMBER 1, 2017

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Submitted to:

Saskatchewan Rate Review Panel

September 2017

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 2017/18 Delivery Service Rate Application (the Application). 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 proposes to increase its delivery rates by an average of 3.6% through an increase to the Basic Monthly Charge (BMC) for Residential customers, and through an increase to the volumetric Delivery Charge for Commercial Small, Commercial Large and Small Industrial Customers.

The proposed delivery rate increase is mostly being driven by capital expenditure requirements which have increased depreciation expense, as well as ROE, capital tax expense and interest expense. The main drivers for the overall revenue requirement are summarized in Figure E-1 below.

Figure E-1-1: Share of Revenue Requirement Change from 2016/17 Test Year to 2017/18 Test Year[1]

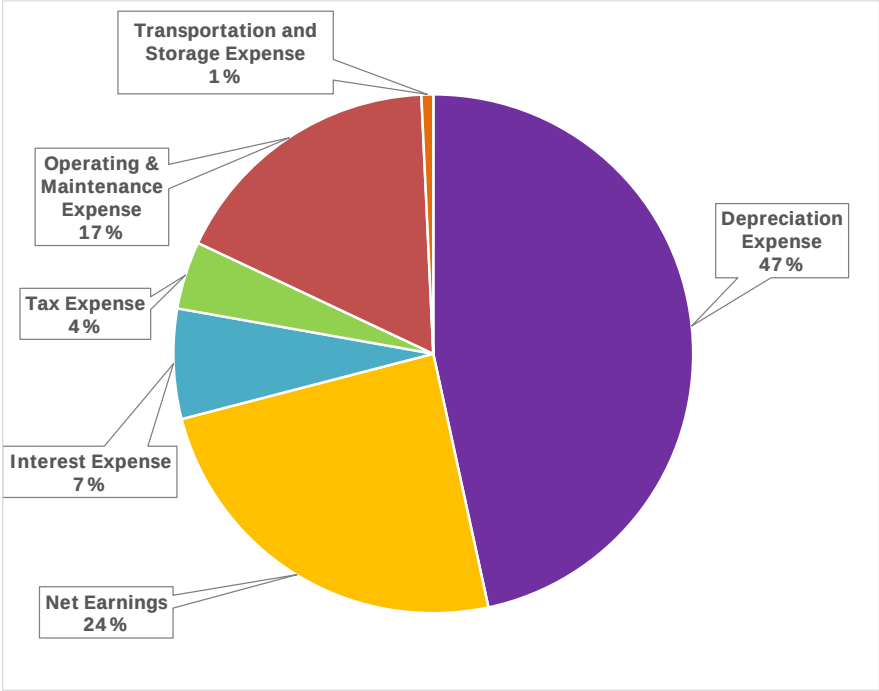

Figure E-1 notes that most of the test year revenue requirement increase is driven by increases related to depreciation expense ($4.077 of total change in revenue requirement) and net earnings ($2.133 million of

[1] Prepared based on Table 3-1.

change in revenue requirement). Operation and maintenance expense makes up $1.509 million of the change in revenue requirement in the test year. While overall O&M expense is forecast to increase by 1.2% in the 2017/18 test year over the 2016/17 test year, net labour costs are forecast to decrease by 2.6% (or $2.3 million) compared to the 2016/17 test year. Notwithstanding the overall increase in OM&A expense in the 2017/18 test year forecasts relative to the 2016/17 test year, OM&A per customer (taking into consideration new customer additions) is only forecast to increase from $318.80 to $319.10.

Overall, operation and maintenance spending for the test years appears to be reasonable compared to the 2016/17 test year forecasts, as well as actuals for the most recent years; however, specific expense areas have been identified for further review by the Panel. In light of continued rate pressure, it is suggested that the panel carefully review these items to determine whether adjustments to the forecast are required:

- **Interest Rate Forecast:** The Consultant notes that interest rates appear to be high compared to most recent actuals or to rates used by peer utilities. Further, SaskEnergy notes that interest rate forecasts used in the application were based on forecasts as of May 2016, and that if more up to date interest rates and borrowing amounts were used, there would be a $0.800 million reduction in interest expense for the test period.
- **Load Forecast:** The Consultant notes that Residential sales for the current test year may be underestimated due to an identified inconsistency in the trend analysis used to develop the forecast; with the trend analysis updated to address the inconsistency there would be an increase in revenues at existing rates in the range of $0.500 million to $0.550 million. This would reduce the forecast shortfall at existing rates by the same amount.

The Consultant has made a number of observations and recommendations regarding improvements that may be made to reporting by SaskEnergy as part of this review process, including providing more detailed information regarding transportation and storage expense, depreciation expense, tax expense, and accretion expense. However, based on a review of information provided by SaskEnergy in the Application, in response to information requests and through clarifications provided during follow up discussions with SaskEnergy, the Consultant finds that that these forecast items appears to be reasonable and should be accepted for the purpose of 2017/18 test year rate setting.

SaskEnergy has noted that ongoing investment in existing infrastructure renewal of approximately $50 million annually is expected to be sustained, is consistent with other gas utilities, and is necessary to meet increased regulatory requirements and industry practices. SaskEnergy's capital program is outside the ambit of this review, however, spending on the capital program will continue to impact other areas of the revenue requirement including depreciation expense, capital tax expense, and interest expense, and will consequently continue to place upward pressure on delivery service rates. As noted in Figure E-1, 47% of the increased revenue requirement for this rate application is driven by increased in depreciation expense. The continued upward pressure that spending on infrastructure renewal places on delivery service rates highlights the need for SaskEnergy to further intensify its efforts to identify and implement productivity and efficiency improvements to lessen this upward rate pressure.

A number of customer fairness concerns are also identified for the Panel's consideration.

- **Restraint Measures:** SaskEnergy has been directed by its shareholder to reduce budgeted expenditures in order to meet specified targets in both 2015/16 and in 2016/17. This has led to material lower actual results in certain cost areas compared to the approved test year forecasts. The timing of budget reductions creates fairness concerns for ratepayers, especially if the implementation of such measures becomes regularized and occurs outside of rate applications.
- **Heat Value Variance:** Prior reviews have raised concerns that variances in heat value can adversely impact SaskEnergy net delivery revenues and can also create fairness issues for customers that, depending on location, may pay more to achieve the same heating energy. Billing in energy would eliminate the need for forecasting heat value and the associated risks and customer fairness issues related to heat value variance. SaskEnergy notes that the current economic environment, and recent implementation of fiscal restraint measures at the direction of the government, have hindered proceeding with transitioning to billing in energy at this time.
- **Rate Design:** SaskEnergy has proposed to apply the rate increase to only the BMC for residential customers, such that all residential customers would see a $20/ year bill increase regardless of usage. This rate design, does not meet SaskEnergy's long-term objective of recovering 75% of customer related costs from the fixed BMC, would mute price signals for residential customers and raises concerns regarding intraclass fairness. As such, the consultant recommends that an alternative rate design that is consistent with SaskEnergy's long term objectives to recover 75% of costs through the BMC be considered by the Panel. The rate design for all other customer classes appears to be reasonable.

The Consultant notes that if the proposed delivery service increases are implemented, SaskEnergy will still have among the lowest delivery rates for natural gas utilities in Canada. However, when commodity rate charges are considered, bills for SaskEnergy residential customers would be the third largest in Canada. The Consultant notes that over the last few years, customer bill impacts related to delivery rate increases have been offset by decreases to the commodity rate [and as a result most customers have seen decreases in their average bills]. The current application does not include any commodity rate adjustments, meaning all customers will experience bill increases over the test year period.

Consultant notes challenges with the review process for this particular Application due to SaskEnergy's change from reporting on a calendar year basis to reporting on a fiscal year basis. This includes challenges related to the inability to directly compare forecast and actual results included in the 2017 Application against forecasts and actual results included in prior applications. Specifically, 2016/17 fiscal year results could not be directly compared to any forecast available during the 2016/17 Application.[2] There were also concerns regarding the ability to compare the test years [November 1 to October 31] against actual results for the fiscal year [April 1-March 31] due to differences between the two periods.

[2] The 2016/17 fiscal year "forecast" included in the 2017 application includes 11 months of actuals; the 2016 calendar year forecast included in the 2016 Application includes the first 3 months of 2016 [not included in the 2016/17 fiscal forecast] and excludes the first three months of 2017 [included in the 2016/17 fiscal forecast]. The 2016/17 test year forecast [from November 1 to October 31] includes the final two months of 2016 and the first 10 months of 2017.

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1.0 INTRODUCTION

1.1 CONSULTANT'S MANDATE

On July 11, 2017, SaskEnergy filed the 2017 Delivery Service Application (the Application) with the Saskatchewan Rate Review Panel (the Panel) to increase delivery service rates by an average of 3.6% effective November 1, 2017.

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 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 2017 natural gas delivery service rate application for the 2017/18 test year;
- Responses to two rounds of information requests (IRs) to SaskEnergy;
- Recordings from the August 15, 2017 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	July 11, 2017
The Consultant provided 1st Round IRs to SaskEnergy on behalf of the Panel.	July 14, 2017
SaskEnergy response to 1st Round Commodity & Delivery IRs.	July 21, 2017
Conference Call with Consultant and Panel to review 1st Round IR Responses.	July 25, 2017
Chair & Consultant met with SaskEnergy to review 1st Round IR Responses.	July 27, 2017
Consultant provided draft 2nd Round IRs to Panel for review.	August 4, 2017
The Consultant participated in a conference call with the Panel to discuss initial positions and review 2nd Round IR topics.	August 9, 2017
The Consultant provided 2nd Round IRs to SaskEnergy on behalf of the Panel.	August 10, 2017
SaskEnergy filed responses to 2nd Round IRs.	August 22, 2017
Consultant and Panel meet in Saskatoon.	August 24, 2017
Conference Call with SaskEnergy to clarify 2nd Round IR Responses	August 29, 2017
Revised 2nd Round IR Responses	August 30, 2017
The Consultant submitted a draft report to the Panel for review and comment.	September 6, 2017
The Consultant submitted an abridged draft report to SaskEnergy for review of factual accuracy, correct data interpretation and to ensure confidentiality of any proprietary information was preserved.	September 6, 2017
Comments on abridged draft report provided by SaskEnergy.	September 10, 2017
The Consultant participated in a meeting with the Panel to discuss the draft report.	September 11,2017
The Consultant submitted its final report to the Panel.	September 15, 2017
The Panel expects to deliver its report to the Minister.	October 4, 2017

2.0 APPLICATION OVERVIEW

SaskEnergy is applying to increase delivery service rates by an average of 3.6% effective November 1, 2017, in order to recover the increased cost of providing delivery service. The requested increase would result in the following changes to customer's delivery service portion of the bills:

- A 3.9% (or $1.65/month) increase to the Basic Monthly Charge (BMC) for Residential Customers;
- An increase to the volumetric Delivery Charge for Commercial Small (2.4% increase), Commercial Large (3.5% increase) and Small Industrial (2.4% increase) customers.

If approved, Residential customers would experience a $1.65 increase to their monthly bills. The average monthly increase for other customer classes will vary depending on customer usage.

SaskEnergy forecast net delivery revenue requirement (after other revenues) and forecast revenues at existing rates results in a projected shortfall of $9.1 million to achieve a forecast Return on Equity (ROE) of 8.3%. Test year rates are driven by the need to support capital investment relating to public safety, system integrity and infrastructure renewal of its distribution system, as well as ongoing customer growth.

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

- **Forecast Capital Spending:** The delivery service rate increase is driven in part by spending on growth and integrity which has increased from $7.4 million in 2010 to $51.3 million in 2017/18. Capital investment increases impact rates through increased annual expenses related to depreciation, capital taxes, interest and income. Depreciation expense makes up 47% of the overall increase in revenue requirement for the 2017/18 test year. Net earnings are also about 24% of the overall net delivery revenue requirement in the test year, reflecting an increase in rate base.[3]
- **O&M Expense:** O&M expense makes up about 17% of the overall increase in revenue requirement. Both the 2015/16 and 2016/17 fiscal years saw the implementation of extreme restraint measures following directives from the provincial government. This materially decreased actual spending in each fiscal year compared to the test year forecasts for 2015/16 and 2016/17. SaskEnergy notes that the 2017/18 test year forecast sees a return to "more normal" levels of spending for items such as travel, training, advertising, and, to a lesser extent, sponsorships.

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 $42.7 million in savings from 2009 to 2016/17 and are targeted to achieve a further $4.4 million in savings in the 2017/18 test year.

[3] 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%. For example, the increase in net book value increases the ROE by about $1.944 million; and the impact from the increase in gas in storage, inventory and cash working capital requirements is about $0.190 million. This results in a total impact of $2.133 million as illustrated in Table 3-1.

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 (2017/18) 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 below.

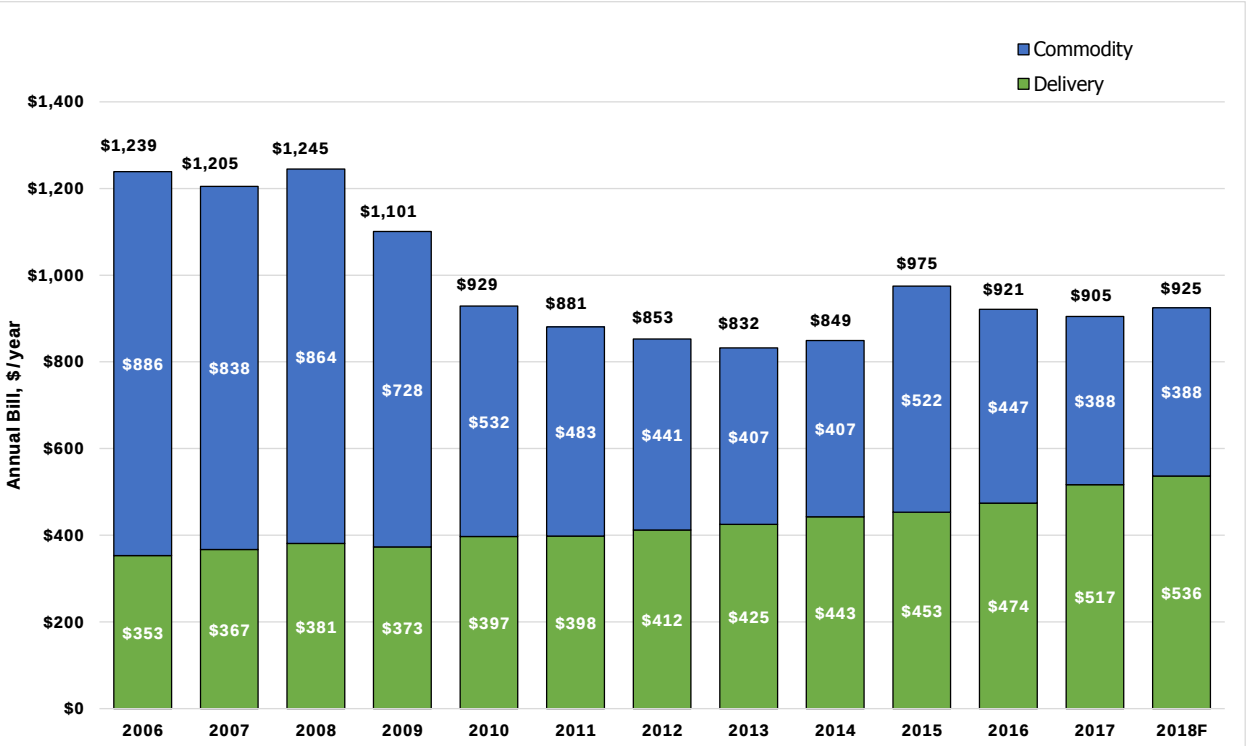
Table 2-1: Average Residential Delivery Service Bill Increases[4]

	Sept1, 2013	**Sept1, 2014**	**Nov 1, 2015**	**Nov 1, 2016**	**Nov 1, 2017 [**Proposed**]**
Average Monthly Delivery Service Bill ($/month)	$36.89	$37.77	$39.52	$43.05	$44.70
Change in bill ($/Month)	$1.47	$0.89	$1.75	$3.53	$1.65
Delivery Service Bill Impact (%)	4.2%	2.4%	4.6%	8.9%	3.8%

Figure 2-1 below illustrates total residential bill impacts over the period from 2015 to 2016/17 (actual) and 2017/18 (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.

[4] Bill increases are based on assumed average annual consumption of 2,800 M^3/year.

Figure 2-1: Typical Annual Residential Bills 2006 to 2016/17 Actual and 2017/18 Forecast[5]



Note: The annual bill is based on average consumption of 2,800 m3/year. The annual bills for 2013-2018F are as of January of respective year [for example, bill for 2016 reflects delivery rate change effective November 1, 2015 and commodity rate change effective January 1, 2016; bill for 2017 reflects delivery rate and commodity rate change effective November 1, 2016].

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 notes that ongoing investment of approximately $50 million annually in existing infrastructure renewal is expected to be required to meet regulatory and industry standards, and that this spending requirement is expected to continue for the foreseeable 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:** The negligible increase in transportation and storage expense in the 2017/18 test year, is largely due to the fact that the anticipated increase in TransGas rates included in the 2016/17 revenue requirement forecast did not occur. However,

[5] The annual bills for the period from 2006 to 2012 are based on information provided by SaskEnergy in 2nd Round Information Request 16(a) from 2016 Commodity and Delivery Service Rate Application. From review of the information the average consumption used to calculate the bills is not clear. The annual bills for the period from 2013 to 2018F are calculated based on delivery and commodity rates available from SaskEnergy's website using annual consumption of 2,800 m^3/year. The historical commodity and delivery rates are available at http://www.saskenergy.com/residential/resrates_hist.asp [accessed on September 15, 2017]. SaskEnergy uses annual consumption of 2,800 m^3/year when comparing residential bills to other jurisdictions.

as noted in Section 3.2 further increases in transportation and storage rates are anticipated that will drive future transportation and storage expense increases. Specifically, over the 2018/19 to 2020/21 period total transportation and storage expense is expected to increase by $1.6 to $2.7 million annually.

- **Future Natural Gas Price Increases:** SaskEnergy notes that under the current natural gas price environment, it could potentially file a commodity rate application in the summer or fall of 2018.[6] Further, it is expected that the GCVA would have $5 million owing to customers at the end of the test period,[7] which would serve to mitigate bill impacts due to ongoing delivery rate increases. However, 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 in both 2015/16 and in 2016/17, and as summarized in Table 3-3, 2016/17 test year actual results are expected to be approximately $5.8 million lower than the test year forecast for the same period. SaskEnergy notes that expense categories subject to restraint initiatives in 2015/16 and 2016/17 will see "moderate cost increases", or return to normal levels of spending, in 2017/18, and that the forecast level of expenditure in these areas is expected to be achieved in 2017/18.[8] Although SaskEnergy has indicated the expectation that forecast spending for 2017/18 will be achieved, concern is noted regarding the potential for direction to be provided subsequent to the Panel's review of 2017/18 test year forecasts. Significant O&M or other budget reductions that occur after test year forecasts have been approved create fairness issues for ratepayers who do not effectively share in the cost savings.

SaskEnergy notes that ongoing restraint has led to adverse impacts on customer service [e.g., dropped calls], but stresses that safety has not been compromised.

[6] 1st Round Information Request 27(d).
[7] 2nd Round Information Request 23(b).
[8] 2nd Round Information Request 1(g).

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 2017/18 test year net revenue requirement of $263.2 million is $8.6 million (3.4%) higher than the 2016/17 test year. The following is specifically noted regarding the main drivers underlying the overall revenue requirement:

- **Capital Expense –** The increase in capital expenditure requirements increases the revenue requirement through increasing depreciation expense (about $4.077 million, or 47%, of the overall increase in revenue requirement for the 2017/18 test year over the 2016/17 test year); the increase in rate base also results in an increase in ROE and interest expense.[9]
- **Net Earnings –** The increase in net earnings is about 24% of the overall net delivery revenue requirement increase in the 2017/18 test year over the 2016/17 test year. This increase reflects an increase in rate base.[10]
- **Operating and Maintenance Expense (O&M) –** The increase in O&M expense makes up about 17% of the overall net delivery revenue requirement increase in the 2017/18 test year over the 2016/17 test year [about $1.509 million, or 1.2%, of the increase].

Table 3-1: Revenue Requirement Comparison ($000s)[11]

Component	2016/17 Test Year Application [Nov 1 - Oct 31]	2017/18 Test Year Current Application [Nov 1 - Oct 31]	*Change*	*% Change*
Operating & Maintenance Expense	124,404	125,913	*1,509*	*1.21%*
Transportation and Storage Expense	51,964	52,028	*64*	*0.12%*
Depreciation Expense	42,130	46,207	*4,077*	*9.68%*
Tax Expense	5,578	5,948	*370*	*6.63%*
Interest Expense	26,284	26,882	*598*	*2.28%*
Net Earnings	28,302	30,435	*2,133*	*7.54%*
Total Delivery Revenue Requirement	**278,662**	**287,413**	***8,750***	***3.14%***
Other Revenue	(24,096)	(24,223)	*(127)*	*0.53%*
Net Delivery Revenue Requirement	**254,565**	**263,190**	***8,623***	***3.39%***

[9] For example, the net book value of capital assets for the 2017/18 test year is forecast to increase by about $63.303 million compared to the 2016/17 test year [$926.411 million for the 2017/18 test year as per Tab 17 of the 2017 Application compared to $863.108 million for the 2016/17 test year as per Tab 17 of the 2016 Application]. With 63% deemed debt portion of rate base and a 4.74% average cost of long-term debt the added interest expense would be $1.891 million; and with 37% deemed equity portion and 8.30% ROE the added return on equity would be $1.944 million. Overall, this provides a total of $3.835 million added to the revenue requirement due to the increase in capital expenditures.

[10] 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%. For example, the increase in net book value increases the ROE by about $1.944 million; and the impact from the increase in gas in storage, inventory and cash working capital requirements is about $0.190 million. This results in a total impact of $2.133 million as illustrated in Table 3-1.

[11] Summarized from Schedule 4 of the 2016 Commodity and Delivery Service Rate Application; and Schedule 1.0 of the 2017 Delivery Service Rate Application.

Figure 3-1: Share of Revenue Requirement Change from 2016/17 Test Year to 2017/18 Test Year[12]

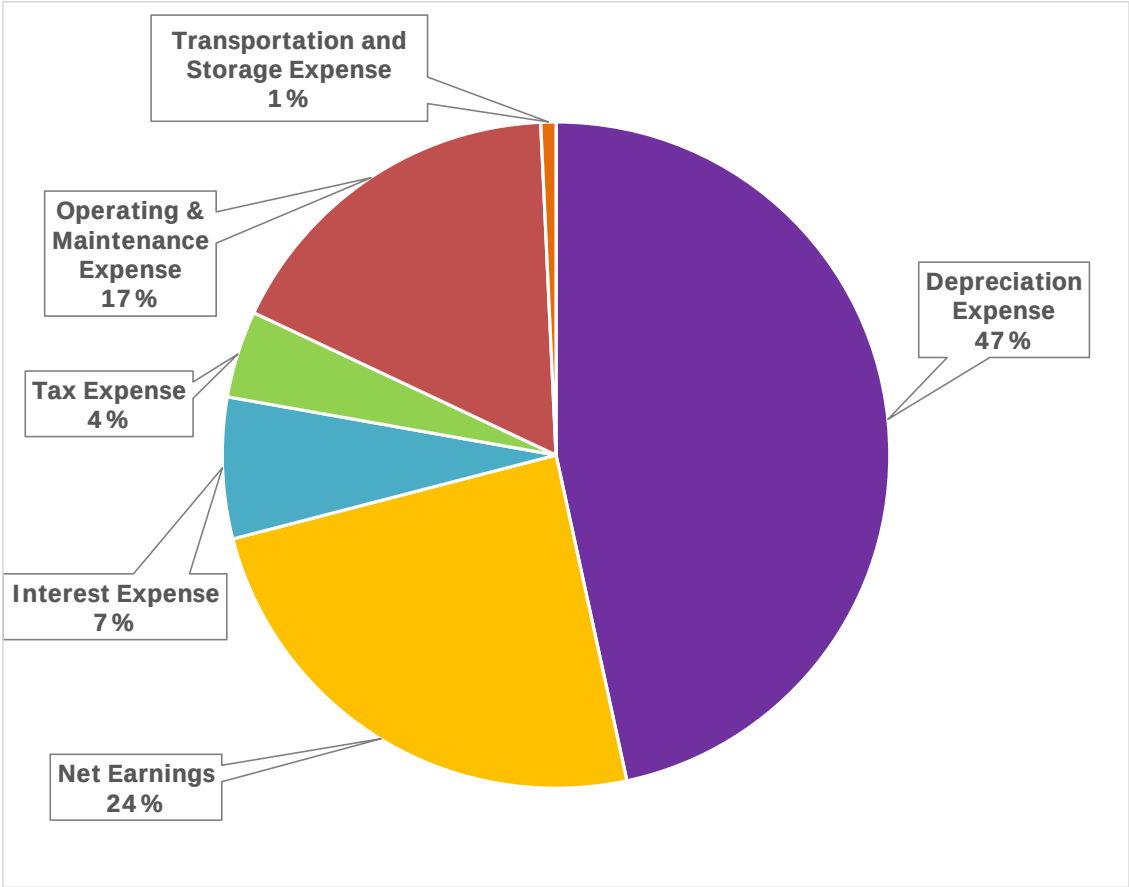


Table 3-2 provides a comparison of year-over-year increases for the 2015/16, 2016/17 and 2017/18 test years. This notes that the net delivery revenue requirement for the 2017/18 test year is about 13% higher than the net delivery revenue requirement for the 2015/16 test year; with an average annual increase of about 6.3% over the period between 2015/16 and 2017/18. Notably, the largest areas of increases for the 2017/18 test year forecast relate to net earnings[13], depreciation expense, tax expenses and interest expense.

[12] Prepared based on Table 3-1.
[13] The large increase in forecast net earnings is partly due to the lower ROE proposed by SaskEnergy in the 2015 Commodity and Delivery Service Rate Application [which was at 5.6% compared to 8.3% in 2016/17 and 2017/18 test years].

Table 3-2: Revenue Requirement Comparison 2015/16, 2016/17 and 2017/18 Test Years ($000s)[14]

Component	2015/16 Test Year [Nov 1 - Oct 31]	2016/17 Test Year [Nov 1 - Oct 31]	2017/18 Test Year [Nov 1 - Oct 31]	2017/18 over 2015/16 Change	2017/18 over 2015/16 % Change	2017/18 over 2015/16 Annual Average % Change	2017/18 over 2016/17 Change	2017/18 over 2016/17 % Change
	A	B	C	D=C-A	E=C/A-1	F=C/A^1/2-1	G=C-B	H=C/B-1
Operating & Maintenance Expense	119,967	124,404	125,913	*5,946*	*4.96%*	*2.45%*	*1,509*	*1.21%*
Transportation and Storage Expense	50,324	51,964	52,028	*1,704*	*3.39%*	*1.68%*	*64*	*0.12%*
Depreciation Expense	38,280	42,130	46,207	*7,927*	*20.71%*	*9.87%*	*4,077*	*9.68%*
Tax Expense	4,999	5,578	5,948	*949*	*18.98%*	*9.08%*	*370*	*6.63%*
Interest Expense	23,581	26,284	26,882	*3,301*	*14.00%*	*6.77%*	*598*	*2.28%*
Net Earnings	18,009	28,302	30,435	12,426	*69.00%*	*30.00%*	2,133	*7.54%*
Total Delivery Revenue Requirement	**255,161**	**278,662**	**287,413**	***32,251***	***12.64%***	***6.13%***	***8,750***	***3.14%***
Other Revenue	(22,177)	(24,096)	(24,223)	- *2,046*	*9.23%*	*4.51%*	- *127*	*0.53%*
Net Delivery Revenue Requirement	**232,983**	**254,565**	**263,190**	***30,205***	***12.97%***	***6.29%***	***8,623***	***3.39%***

2016/17 Test Year Actual Results

SaskEnergy provided a comparison of November 1, 2016 to June 30, 2017 actuals compared to the 2016/17 test year forecast for the same time period. Table 3-3 summarizes the actual results compared to the test year forecast for each revenue requirement component and highlights the material reduction in actual expense over the first eight months of the 2016/17 test year period. SaskEnergy has noted that no material changes are expected for the remaining months of the 2016/17 test year and that the difference between forecast and actual results for the entire test year, from November 1, 2016 to October 31, 2017, will be in the range of $5.8 million as shown in the Table 3-3.[15]

Table 3-3: Revenue Requirement Comparison: Forecast vs Actuals ($000s)[16]

Component	2016/17 Test Year [November 1 - June 30] Forecast	2016/17 November 1 - June 30 Actuals	*Diff.*	*Diff. %*
Operating & Maintenance Expense	83,685	78,592	*(5,093)*	*-6.09%*
Transportation and Storage Expense	34,022	33,367	*(655)*	*-1.93%*
Depreciation Expense	27,751	26,720	*(1,031)*	*-3.72%*
Tax Expense	3,335	3,161	*(173)*	*-5.19%*
Interest Expense	16,733	15,947	*(786)*	*-4.70%*
Net Earnings	43,615	44,435	*821*	*1.88%*
Total Delivery Revenue Requirement	**209,140**	**202,222**	***(6,917)***	***-3.31%***
Other Revenue	(16,104)	(14,971)	*1,134*	*-7.04%*
Net Delivery Revenue Requirement	**193,037**	**187,252**	***(5,785)***	***-3.00%***

[14] Prepared based Schedule 4.0 of 2015 Commodity and Delivery Service Rate Application, Schedule 4.0 of 2016 Commodity and Delivery Service Rate Application, and Schedule 1 of 2017 Delivery Service Rate Application.
[15] 2nd Round Information Request 1 (c).
[16] Prepared based on 1st Round Information Request 1 (g). In response to 1st Round Information Request 18 (b), SaskEnergy notes that higher actual net income for 2016/17 [from November 1, 2016 to April 1, 2017] is due to lower than forecast expenses.

The following is noted regarding the comparison of November 1, 2016 to June 30, 2017 test year forecast and actual results.

- **O&M Expenses:** Actual costs were $5.093 million (or 6%) **lower** than forecast. Reduced salaries, wages and benefits are attributable to overtime management as a result of business changes and efficiency initiatives; all other cost reductions in O&M expense relate to the implementation of restraint measures in 2016/17.[17] The $5.093 million difference in actual O&M expense compared to the 2016/17 test year forecast relates to the following key areas:[18]
    - About $3.1 million **lower** than forecast expense for salaries, wages and benefits.
    - About $1.5 million **lower** than forecast expense for contracting and consulting.
    - About $1.0 million **lower** than forecast expense for sustenance and transportation.
    - About $0.2 million **lower** than forecast expense for materials and supplies.
    - The above cost reductions were offset by an i**ncrease** of about $0.8 million in property costs.
- **Transportation and Storage Expense:** Actual costs were $0.655 million (or about 2%) **lower** than the test year forecast.
- **Depreciation Expense:** Overall depreciation expense was $1.031 million (or 3.7%) **lower** than the test year forecast.
- **Tax Expense:** Actual costs were $0.173 million (or 5.2%) **lower** than the test year forecast.
- **Interest Expense:** Actual interest expense was $0.786 million (or 4.7%) **lower** than the test year forecast.
- **Net Earnings:** Actual net earnings were $0.821 million (or 1.9%) **higher** than the test year forecast.[19]
- **Other Revenues:** Actual other revenues were $1.134 million (or 7.0%) **lower** than the test year forecast.

It is understood that the 2017/18 test year forecast includes more "normal" levels of spending for a number of cost categories impacted by restraint measures in 2015/16 and 2016/17.

Observations

The net revenue requirement for the 2017/18 test year forecast increases by 3.39% over the 2016/17 test year forecast. The main driver relates to increased capital expenditures which increase depreciation

[17] 2nd Round Information Request 1 (d) part (ii).
[18] 2nd Round Information Request 1 (d) part (i).
[19] A comparison of Table 3-1 and Table 3-3 highlights a material difference in Net Earnings when the full Test Year forecast for 2016/17 is compared to the 8 months of actual results for 2016/17. On Page 17 of 2017 Delivery Service Rate Application notes that revenues peak in winter months and decline in warmer months and this trend creates periods where SaskEnergy requires access to short-term financing in warmer months. Consequently, while the net income for the first 8 months appears higher than the full test year forecast, it is expected that this will be affected by lower revenues over the balance of the 2016/17 test period (reducing net earnings).

expense, as well as the cost of debt and return on equity. The increase in operating and maintenance costs in the 2017/18 test year forecast also impacts the increase in revenue requirement.

Ongoing Fiscal Restraint Measures

For 2015/16 and 2016/17 fiscal years, SaskEnergy was directed by its shareholder to reduce budgeted expenditures in order to meet specified financial targets. Due to the timing of the direction and its implementation, these restraint measures were not included in either the 2015/16 or 2016/17 test year forecasts. This led to material lower actual results for certain operating and maintenance cost areas compared to test year forecasts for both 2015/16 and 2016/17. These measures are summarized in Table 3-4 below.

Table 3-4: Summary of 2015/16 and 2016/17 Restraint Measures & Other Cost Reductions[20]

	2015/16	2016/17
Salaries and Benefits • Out of Scope Wage Freeze • Bid Lag • Reduced Vacation Liability • OT Management	$2,000,000	$3,000,000
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
Vehicle Fuel	$500,000	$400,000
Advertising	$255,000	$300,000
Miscellaneous Expense Reductions	$682,000	$200,000
Consulting/ Professional Services & Professional Fees	$190,000	$800,000
Depreciation[21]	$100,000	$500,000
Total	**$7,297,000**	**$7,000,000**

[20] 2nd Round Information Request 1(e).
[21] 2nd Round Information request 15(a) indicates that $17 million of capital spending was deferred/ not put into service in 2016/17, but that this did not relate to restraint. Key items deferred included Customer Connections ($6.0 million); and Information Systems ($7.4 million). The remaining $3.6 million in deferred spending related to: System Improvements, Meter Replacements, Tools and Equipment, Vehicles and Buildings.

The following concerns are noted regarding the application of restraint measures in 2015/16 and 2016/17 and their impacts on forecasts for future periods.

- The 2015 restraint measures were implemented by SaskEnergy on the understanding that such measures would be temporary in nature, with planned spending on certain activities or initiatives restored in 2016.[22] During the 2016 Application review, the consultant noted that "due to the short-term nature of many of the restraint measures and the return to normalized and sustainable spending levels in 2016/17 test years, most benefits due to the implementation of restraint measures do not accrue to ratepayers."
- The 2016/17 test year forecasts assumed that expenditures would return to "normal and sustainable" levels; however, as summarized in Table 3-3, 2016/17 test year actual results are expected to be approximately $5.8 million less than the test year forecast. SaskEnergy has confirmed that further restraint initiatives were implemented in 2016/17.
- SaskEnergy indicates that expense categories previously subject to restraint in 2015/16 and 2016/17 will see "moderate cost increases" or return to normal levels of spending in 2017/18. This includes travel, training, advertising and, to a lesser extent, sponsorships. SaskEnergy notes that 2017/18 budgeted amounts for these items were included in the distribution utility cost of service for the 2017/18 test year, and that the forecast level of expenditure is expected to be achieved in 2017/18.[23]

The 2016 Consultant's report noted concern that the timing of the 2015/16 budget reductions create "material fairness concerns for ratepayers; especially if the implementation of such measures become regularized and occurs outside of test year forecast."[24] Although SaskEnergy has indicated the expectation that forecast spending for 2017/18 will be achieved, concern is noted regarding the potential for additional shareholder direction to be provided subsequent to the Panel's review of 2017/18 test year forecasts.

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 3-5, 3-6 and 3-7 that follow. These tables provide a summary of actual O&M costs for the 2012-2015 calendar years, and the 2015/16 and 2016/17 fiscal years; as well as forecast costs for the 2017/18 and 2018/19 fiscal years and the 2016/17 and 2017/18 test years (November 1 to October 31). These tables also note changes between the 2016/17 and 2017/18 test year forecasts.

[22] 2016 Commodity and Delivery Rate Application 1st Round Information Request 3(b).
[23] 2nd Round Information Request 1(g).
[24] 2016 Consultant's Report, page 3-4.

Table 3-5 provides a summary of Distribution Division operation and maintenance expense and indicates as follows:

- The 2017/18 test year forecast (November 1 to October 31) for O&M expense is $1.5 million (or 1.2%) higher than the 2016/17 test year forecast.
- As noted in Table 3-2, 2016/17 test year (November 1 to October 31) actual results are expected to be materially lower than forecast (with a $5.093 million [or -6.1%] difference in O&M expense noted), indicating a material increase when the 2017/18 test year forecast is compared to 2016/17 test year actual results.
- A comparison of the fiscal year forecast for 2017/18 against the 2016/17 fiscal year actual results indicates a similar material year-over-year change. The 2017/18 fiscal year forecast is about $9.9 million (or 8.7%) higher than the 2016/17 fiscal year actuals, with a further increase of $3.1 million (or 2.5%) forecast for the 2018/19 fiscal year (over the 2017/18 fiscal year forecast).

Overall, there is a material step increase in total O&M expense in the forecast period when compared to actual results for the period from the 2014 calendar year through to the 2016/17 fiscal year; specifically, actual annual results over the period between the 2014 calendar year and 2016/17 fiscal year decline each year from $116.8 million in 2014 to $114.3 million in 2016/17 (an average of $115.2 million over the period). In contrast, average total O&M expense for the 2017/18 and 2018/19 fiscal year period is forecast to be $125.8 million/ year.

Table 3-5: SaskEnergy Distribution Division Operating and Maintenance Expense ($000s)[25]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
Category	**2012 Actual**	**2013 Actual**	**2014 Actual**	**2015 Actual**	**2015/2016 Actual**	**2016/17 Forecast***	**2017/18 Forecast**	**2018/19 Forecast**	**2016/17 Forecast from 2016 Application**	**2017/18 Forecast from Current Application**	***Change from 2016/17 Test Year***	***Percent Change***
Operations Costs Incurred	115,794	120,132	126,770	125,219	125,100	122,592	131,319	133,935	132,023	133,548	*1,525*	*1.2%*
Capitalized and Recovered	(14,791)	(9,462)	(11,472)	(11,754)	(11,913)	(9,580)	(10,156)	(10,421)	(10,402)	(10,301)	*101*	*-1.0%*
Subtotal Operations	101,003	110,670	115,298	113,465	113,187	113,012	121,163	123,514	121,621	123,246	*1,625*	*1.3%*
Engineering Costs Incurred	27,139	28,560	30,116	28,287	27,981	27,230	30,772	32,209	31,969	30,815	*(1,154)*	*-3.6%*
Capitalized and Recovered	(25,348)	(27,172)	(28,613)	(26,777)	(26,378)	(25,901)	(27,690)	(28,423)	(29,186)	(28,148)	*1,038*	*-3.6%*
Subtotal Engineering	1,791	1,388	1,503	1,510	1,603	1,329	3,082	3,786	2,783	2,667	*(116)*	*-4.2%*
Total	**102,794**	**112,058**	**116,801**	**114,975**	**114,790**	**114,341**	**124,245**	**127,300**	**124,404**	**125,913**	***1,509***	***1.2%***
Annual Change		9,264	4,743	(1,826)		(449)	9,904	3,055				
Annual Change, %		9.0%	4.2%	-1.6%		-0.4%	8.7%	2.5%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

[25] Summarized from Schedule 4.2 of the 2016 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, 2016/17 and 2017/18 test years from November 1 to October 31 of the next year. These reporting periods apply for all tables throughout the document. Also, in response to 1st Round Information Request 1 (c), SaskEnergy notes that "2016/17 Forecast" column in all schedules and tables in the application reflects 11 months of actual results from April 1, 2016 to February 28, 2017 plus the forecast results for March 31, 2017, and that final 2016/17 audited actual results were not materially different from the 2016-17 Forecast. Therefore, in this report the numbers in the "2016/17 Forecast" column are also referred to as actuals for the 2016/17 fiscal year.

Changes to O&M expense on an average per customer basis are summarized in Table 3-6.

- There is a $4.1 (or 1.3%) reduction in average O&M costs per customer in the 2017/18 test year forecast compared to the 2016/17 test year forecast.
- In contrast, there is a $22 (or 7.4%) increase in O&M per customer in the 2017/18 fiscal year forecast compared to the 2016/17 fiscal year actuals, followed by a further $4 (or 1.3%) increase in 2018/19 fiscal year forecast compared to the 2017/18 forecast.

Table 3-6: Operating & Maintenance Cost per Average Number of Customer[26]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Test Year	2017/18 Test Year	*Change from 2016/17*	*% Change*
O&M Expense ($000s)	102,794	112,058	116,801	114,975	114,790	114,341	124,245	127,300	124,404	125,913	*1,509*	*1.2%*
Avg. Number of Customers	360,610	366,882	377,102	382,666	386,886	391,587	396,310	400,863	390,195	394,548	*4,353*	*1.1%*
O&M per Customer ($/Customer)	285.1	305.4	309.7	300.5	296.7	292.0	313.5	317.6	318.8	319.1	*0.3*	*0.1%*
Annual Change		20	4	(9)		(5)	22	4				
Annual Change, %		7.1%	1.4%	-3.0%		-1.6%	7.4%	1.3%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

Table 3-7 summarizes O&M costs by category and outlines the major variances between the 2016/17 and 2017/18 test years. Table 3-8 that follows compares the 2017/18 fiscal year forecasts to the 2015/16 and 2016/17 fiscal year actuals.

The following key variances are noted in Table 3-7 when the 2017/18 test year forecast is compared to the 2016/17 test year forecast:

- A $1.7 million (or 1.8%) decrease in forecast **Labour Costs** in the 2017/18 test year compared to the 2016/17 test year forecast (more details are provided in Section 3.1.1).
- A $2.9 million (or 7.4%) increase in **External Services**[27] in the 2017/18 test year compared to the 2016/17 test year.
- Both **External Recoveries**[28] and **Internal Recoveries** are forecast to be lower in the 2017/18 test year compared to the 2016/17 test year [17.9% lower and 7.8% lower respectively].
- Changes in **Intercompany Allocations** result in increased 2017/18 test year costs compared to the 2017/18 test year. Intercompany Allocations are discussed in further detail in Section 3.1.3.
- Changes in **Charges to Capital** also increase 2017/18 test year costs compared to the 2016/17 test year. This is discussed in further detail in Section 3.1.4.

[26] Summarized from page 3 of Tab 9 from the 2016 Commodity and Delivery Service Rate Application, and page 3 of Tab 9 from the 2017 Delivery Service Rate Application.
[27] SaskEnergy notes that there is no direct correlation between external services and external recoveries and that external services is comprised primarily of contracts and consulting costs.
[28] SaskEnergy notes that external recoverable work is a small slice of work performed where SaskEnergy incurs operating costs to complete the work but those costs are charged to an external party to recover the costs that were incurred (i.e., line hits).

Table 3-7: Operating & Maintenance Costs by Category[29]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31] 2017/18			
Category	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/2016 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Forecast from 2016 Application	Forecast from Current Application	*Change from 2016/17 Test Year*	*Percent Change*
Labour	82,280	86,912	91,439	89,856	88,882	88,583	92,414	94,750	95,459	93,748	*(1,711)*	*-1.8%*
Pension Costs	607	357	460	221	216	305	275	275	326	275	*(51)*	*-15.6%*
Charges to Capital	(26,813)	(27,705)	(29,695)	(30,079)	(29,407)	(29,274)	(29,444)	(30,274)	(29,894)	(29,961)	*(67)*	*0.2%*
External Services	30,172	28,906	35,078	34,408	34,466	34,211	40,106	42,998	38,896	41,788	*2,892*	*7.4%*
External Recoveries	(6,316)	(3,599)	(4,642)	(3,122)	(2,999)	(3,565)	(3,627)	(3,700)	(4,467)	(3,666)	*801*	*-17.9%*
Internal Recoveries	(7,011)	(5,330)	(5,749)	(5,329)	(5,885)	(2,641)	(4,775)	(4,871)	(5,227)	(4,821)	*406*	*-7.8%*
Materials and Supplies	7,293	7,722	7,940	7,232	7,093	7,580	7,441	7,766	7,341	7,658	*317*	*4.3%*
Energy Costs	534	569	617	641	640	649	621	651	620	637	*17*	*2.7%*
Vehicles	8,069	7,988	8,375	7,728	7,544	6,975	6,945	7,068	8,502	7,015	*(1,487)*	*-17.5%*
Property	4,900	4,428	4,832	5,075	4,809	5,181	5,025	3,820	3,727	4,242	*515*	*13.8%*
Computer Costs	3,551	4,539	3,875	3,874	3,985	4,391	5,285	5,526	4,389	5,452	*1,063*	*24.2%*
Sustenance and Transportation	3,753	3,696	3,760	3,251	3,194	2,966	3,787	3,788	4,037	3,787	*(250)*	*-6.2%*
Communication	2,164	2,224	2,509	2,189	2,149	2,450	2,447	2,516	2,562	2,487	*(75)*	*-2.9%*
Public Relations	2,539	3,692	2,594	2,041	1,990	1,685	3,041	3,041	2,938	3,041	*103*	*3.5%*
Fees, Dues and Com. Contr.	2,898	2,838	2,974	1,849	1,786	1,602	1,974	1,975	2,495	1,974	*(521)*	*-20.9%*
Misc Corporate Charges	2,279	3,099	1,643	4,072	5,536	3,007	3,157	3,014	2,624	3,043	*419*	*16.0%*
Intercompany Allocations	(8,107)	(8,278)	(9,208)	(8,928)	(9,208)	(9,765)	(10,427)	(11,042)	(9,925)	(10,785)	*(860)*	*8.7%*
Total	**102,794**	**112,058**	**116,801**	**114,974**	**114,790**	**114,341**	**124,245**	**127,300**	**124,404**	**125,913**	***1,511***	***1.2%***

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

[29] Summarized from page 1 of Tab 9 from the 2016 Commodity and Delivery Service Rate Application, and page 1 of Tab 9 from the 2017 Delivery Service Rate Application.

Table 3-8: Comparison of 2017/18 Fiscal Year Forecast Operating & Maintenance Cost by Category to 2015/16 and 2016/17 Fiscal Year Actuals[30]

	Fiscal Year [Apr 1 to March 31]						
				2017/18 over 2015/16		2017/18 over 2016/17	
Category	2015/2016 Actual	2016/17 Forecast*	2017/18 Forecast	*Change*	*Percent Change*	*Change*	*Percent Change*
Labour	88,882	88,583	92,414	*3,532*	*4.0%*	*3,831*	*4.3%*
Pension Costs	216	305	275	*59*	*27.3%*	*(30)*	*-9.8%*
Charges to Capital	(29,407)	(29,274)	(29,444)	*(37)*	*0.1%*	*(170)*	*0.6%*
External Services	34,466	34,211	40,106	*5,640*	*16.4%*	*5,895*	*17.2%*
External Recoveries	(2,999)	(3,565)	(3,627)	*(628)*	*20.9%*	*(62)*	*1.7%*
Internal Recoveries	(5,885)	(2,641)	(4,775)	*1,110*	*-18.9%*	*(2,134)*	*80.8%*
Materials and Supplies	7,093	7,580	7,441	*348*	*4.9%*	*(139)*	*-1.8%*
Energy Costs	640	649	621	*(19)*	*-3.0%*	*(28)*	*-4.3%*
Vehicles	7,544	6,975	6,945	*(599)*	*-7.9%*	*(30)*	*-0.4%*
Property	4,809	5,181	5,025	*216*	*4.5%*	*(156)*	*-3.0%*
Computer Costs	3,985	4,391	5,285	*1,300*	*32.6%*	*894*	*20.4%*
Sustenance and Transportation	3,194	2,966	3,787	*593*	*18.6%*	*821*	*27.7%*
Communication	2,149	2,450	2,447	*298*	*13.9%*	*(3)*	*-0.1%*
Public Relations	1,990	1,685	3,041	*1,051*	*52.8%*	*1,356*	*80.5%*
Fees, Dues and Com. Contr.	1,786	1,602	1,974	*188*	*10.5%*	*372*	*23.2%*
Misc Corporate Charges	5,536	3,007	3,157	*(2,379)*	*-43.0%*	*150*	*5.0%*
Intercompany Allocations	(9,208)	(9,765)	(10,427)	*(1,219)*	*13.2%*	*(662)*	*6.8%*
Total	**114,790**	**114,341**	**124,245**	***9,454***	***8.2%***	***9,905***	***8.7%***

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

The following variances are noted in Table 3-8 when the 2017/18 and 2018/19 fiscal year forecasts are compared to prior years:

- There is a material increase in **Labour** expense in the 2017/18 fiscal year forecast compared to 2016/17 fiscal year actuals. The 2016/17 actual results remained at the 2015/16 actual level due primiarly to the restraint measure impacts described in Section 3.1. It is understood that for a number of cost categories the 2017/18 test year forecast is moving towards more "normal" levels of spending.
- **External Services** increases from $34.211 million in 2016/17 fiscal year to $40.106 million for the 2017/18 fiscal year forecast [an approximate $5.895 million (or 17%) increase]. The 2017/18 fiscal year forecast for External Services is also about $5.6 million (or 16.4%) higher than 2015/16 fiscal year actuals. SaskEnergy notes that use of External Services has also been "a key part of the SaskEnergy resourcing strategy for several years as the corporate FTE level has remained relatively stable despite periods of significant growth." SaskEnergy also notes that its ongoing commitment is to ensure "the right resource at the right place at the right time." SaskEnergy notes that it works

[30] Summarized from page 1 of Tab 9 from the 2016 Commodity and Delivery Service Rate Application, and page 1 of Tab 9 from the 2017 Delivery Service Rate Application.

with external service providers "to manage escalating costs for external services as third party contracts are renewed and as the range of services provided by third parties continues to grow".[31] SaskEnergy also notes that third party hosting costs for information technology solutions such as Distribution Work Management (new in 2017-18), the Customer Information System and the Records Information Management (RIM)[32] are increasing each year.[33]

- The 2017/18 fiscal year forecast for **External Recoveries** is in the same range as 2016/17 fiscal year actuals. **Internal Recoveries** relate to work performed for other SaskEnergy subsidiaries by distribution utility staff. Tables 3-7 and 3-8 show a material year over year change in Internal Recoveries for the 2015/16 and 2016/17 (fiscal year actuals), and 2017/18 (fiscal year forecast). Specifically, a $3.2 million reduction in 2016/17 compared to 2015/16 [from $5.8 million to $2.6 million]; and a $2.1 million increase in 2017/18 fiscal year forecast compared to the 2016/17 fiscal year [$4.7 million forecast for the 2017/18 fiscal year]. These year over year changes relate to an accounting change that commenced in 2016/17 that was not reflected in the 2017/18 and 2018/19 forecasts[34]. SaskEnergy notes that 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."[35]
- A $1.4 million (or 80.5%) increase in **Public Relations** expense in the 2017/18 fiscal year compared to the 2016/17 fiscal year actuals relates to SaskEnergy's plan to return to a more normal level of expenditure in this area following fiscal restraint (discussed in Section 3.1.2). 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.

Observations

Forecast total O&M expense for the 2017/18 test year is about 1.2% higher than the 2016/17 test year forecast. However, the 2017/18 test year O&M expense forecast is about 10.1% higher than the 2016/17 fiscal year actual results. This is due in part to the implementation of restraint measures in the 2016/17 fiscal year. SaskEnergy notes that while fiscal restraint was a priority for 2015/16 and 2016/17, it expects to return to more normal levels of expenditure in 2017/18.[36]

Other specific observations are provided in the sections that follow.

[31] 1st Round Information Request 7(a).
[32] 1st Round Information Request 6 (a) from 2016 Commodity and Delivery Service Rate Application. SaskEnergy has noted that RIM compliance is mandatory and its implementation is required through the Saskatchewan Archives Act. This item adds about $1.9 million incremental hosting cost starting in 2016.
[33] 1st Round Information Request 7 (a).
[34] 2nd Round information Request 5(b). 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" previously these costs "were charged and reported within contract services and recovered in internal cost recoveries". The administrative decision was not finalized until after forecasts were completed.
[35] 2nd Round Information Request 5 (b).
[36] 1st Round Information Request 2 (e). SaskEnergy notes that OM&A savings achieved in 2016/17 were based on temporary measures and that "the corporation always intended to return to a more "normal" approach to operations that would see customer service levels return to historic targets when the restraint directives had been met."

3.1.1 Labour Costs

Labour costs represent the largest portion of SaskEnergy's O&M costs. In the 2015/16 fiscal year, the Distribution Utility had 775 full-time equivalent (FTE) positions, and this was increased to 780 FTEs in the 2016/17 fiscal year. For the 2017/18 and 2018/19 fiscal years and the 2017/18 test year SaskEnergy is forecasting that FTE levels remain at 779.[37]

Approximately 74% of SaskEnergy's workforce are in-scope employees and members of Unifor Local 649.[38] A collective agreement between SaskEnergy and Unifor was ratified in 2013 covering the period from February 2013 through January 31, 2017. Wage schedules in the overall collective agreement 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] SaskEnergy notes that the collective agreement is currently being renegotiated.[40] Merit and economic increases for out-of-scope employees are in accordance with Crown Investments Corporation (CIC) guidelines applicable to all Crown sector management employees.

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 3-9 summarizes total and net labour costs for the actual 2012 to 2015 calendar years, 2015/16 and 2016/17 fiscal years, 2017/18 and 2018/19 fiscal year forecasts, and forecasts for the 2016/17 and 2017/18 test years. The following is noted regarding the material changes between Labour expense test year forecasts, fiscal year forecasts and actual results as noted in Table 3.9:

- **Comparison of 2016/17 and 2017/18 Test Year Forecasts** - Net labour costs in the 2017/18 test year forecast are about $2.3 million (or 2.6%) **lower** than the 2016/17 test year forecast. The lower forecast expenses in 2017/18 are mostly due to lower overtime costs - forecast to be about $1.4 million (or 15%) lower in the 2017/18 test year compared to the 2016/17 test year.
- **Comparison of 2015/16 and 2016/17 Fiscal Year Actual Results -** Net labour costs for the 2016/17 fiscal year were 0.3% (or $0.251 million) **lower** than 2015/16 fiscal year actual net labour costs due mainly to reductions in overtime [about $1.3 million reductions]. SaskEnergy notes that "aggressive OM&A cost management" was achieved through a reduction in non-emergency call out and overtime, as well as vacancy management.[41]
- **Comparison of 2016/17 Actual Results and 2017/18 Fiscal Forecast –** There is a forecast 3.1% (or $2.544 million) year-over-year increase in net labour costs in 2017/18 (fiscal) compared to 2016/17 (fiscal) due to forecast cost increases in the following areas:
    - A 1.6% (or $1.144 million) increase in base labour costs;
    - A 18.3% (or $1.161 million) increase in overtime; and

[37] Page 3 of Tab 9, 2017 Delivery Service Rate Application. Full Time Equivalents reflect employees assigned to the Distribution Company, net of Inter-company and Intra-company (including Commodity Cost of Gas) allocations.
[38] Page 8, 2017 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 August 21, 2017].
[40] Page 8, 2017 Delivery Service Rate Application.
[41] 1st Round Information Request 2 (e).

- A 9.7% (or $0.107 million) increase in holiday extra item/vacation pay.

- **Comparison of 2018/19 Fiscal Forecast to 2017/18 Fiscal Forecast** - There is a further 2.4% year-over-year forecast **increase** in 2018/19 fiscal year labour costs over 2017/18 fiscal year labour costs. The increase is forecast across all labour cost categories.

Table 3-9: Net Labour Costs ($000s)[42]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actuals	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Test Year	2017/18 Test Year	*Change from 2016/17*	*% Change*
Gross LDC Labour	82,280	86,912	91,439	89,856	88,882	88,583	92,414	94,750	95,459	93,748	*1,711*	*-1.8%*
less: Allocations to Non-Delivery Bu	(4,871)	(5,588)	(5,592)	(5,923)	(5,570)	(5,522)	(6,809)	(7,086)	(6,385)	(6,965)	*580*	*9.1%*
Net Labour Costs	**77,409**	**81,324**	**85,847**	**83,933**	**83,312**	**83,061**	**85,605**	**87,664**	**89,074**	**86,783**	***-2,291***	***-2.6%***
Base Labour Costs	65,168	67,720	71,293	71,815	71,553	72,711	73,855	75,686	75,399	74,896	*503*	*-0.7%*
Overtime	8,103	9,468	9,605	7,982	7,601	6,332	7,493	7,636	8,961	7,590	*1,371*	*-15.3%*
Substitution	311	404	350	284	268	270	315	321	379	318	*61*	*-16.1%*
Holiday Extra Item/Vacation Pay	1,440	1,094	1,876	1,172	1,141	1,106	1,213	1,230	1,471	1,212	*259*	*-17.6%*
Premiums	97	117	107	91	79	83	87	89	122	88	*34*	*-27.9%*
Standby	1,870	1,983	2,062	2,055	2,059	2,060	2,069	2,108	2,136	2,092	*44*	*-2.1%*
Inconvenience Pay/Shift Differential	421	538	554	532	611	499	573	595	606	586	*20*	*-3.3%*
Total Net Labour Costs	**77,409**	**81,323**	**85,847**	**83,931**	**83,312**	**83,061**	**85,605**	**87,664**	**89,074**	**86,783**	***-2,291***	***-2.6%***
Annual Change		3,914	4,524	(1,916)		(251)	2,544	2,059				
Annual Change, %		5.1%	5.6%	-2.2%		-0.3%	3.1%	2.4%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

[42] 1st Round Information Request 3 (a).

Overtime expense is the second largest component of net labour costs (after base labour costs). The main driver for overtime expense relates to emergency response which includes responding to issues related to the system, and also extends to responding to inside the house issues such as inside odour and CO calls. Scheduled (non-emergency) overtime is used to complete critical or time sensitive tasks that may be related to compliance, risk avoidance or customer service activities.[43] Planned overtime is within management's discretion, however, unplanned overtime such as emergency response is not.[44] Planned vacancies do not affect overtime, while unplanned vacancies account for less than 10% of overtime costs.[45]

The following is specifically noted regarding changes in overtime expense:

- Overtime expense is approximately 10% of net labour costs in the 2016/17 test year forecast, and makes up approximately 8.7% of forecast net labour costs in the 2017/18 test year. SaskEnergy indicates that "overtime management efforts are on-going and the revenue requirement for the 2017-18 test year includes the associated operating savings of approximately $0.5 million.[46]"
- Actual overtime expense for the 2016/17 fiscal year (at $6.332 million) was at its lowest level since 2009 (actual).[47] SaskEnergy attributes operating savings of $1.29 million in 2016/17 (compared with budget) to "very strict overtime management".[48] SaskEnergy also notes that overtime amounts for 2016/17 were well below the prior years' actual results and lower than the forecast period due to a warmer than normal winter and fewer emergency response requirements during the year (i.e., in 2016/17 there were no large scale emergencies such as flooding, northern fires or severe winter weather compared to prior years).[49]
- Forecast overtime requirements in the 2017/18 and 2018/19 fiscal years are primarily driven by efficiency, risk avoidance and emergency response initiatives focused on customer growth, customer safety and/or distribution system integrity.[50] SaskEnergy notes that increased overtime in 2017/18 (compared to 2016/17 actual results) relates to potential emergency response requirements (compared to the abnormal emergency response requirements in 2016/17).

Table 3-10 shows that SaskEnergy is forecasting 779 full-time equivalents (FTEs) for the 2017/18 test year; slightly lower than the 2016/17 test year forecast and the 2016/17 fiscal year actual level [780 FTEs]. In contrast, there is a forecast increase in base labour costs in the 2017/18 test year and 2017/18 fiscal year compared to 2016/17 fiscal year actuals; the following is specifically noted in Table 3-10:

- While average base labour costs are forecast to **decrease** by about 0.7% in the 2017/18 test year compared to the 2016/17 test year; average base labour costs are actually forecast to **increase** by approximately 3.0% (or $2.185 million) in the 2017/18 test year when compared to 2016/17 fiscal year actuals.

[43] 1st Round Information Request 3(c).
[44] 1st Round Information Request 29 (j) ii).
[45] 1st Round Information Request 4 (f) from 2016 Commodity and Delivery Service Rate Application.
[46] 1st Round Information Request 29 (j) ii).
[47] 1st Round Information Request 5 (c) from 2013 Delivery Service Rate Application shows that the actual overtime cost in 2009 was at $6.173 million. Since 2009 the overtime was at average $8.1 million/year with highest in 2014 at $9.6 million.
[48] Page 10 of Tab 23.
[49] 2nd Round Response 3(c).
[50] 1st Round Information Request 3 (c).

- Average base labour costs are forecast to **increase** by about 1.6% (or $1.141 million) for the 2017/18 fiscal year forecast compared to the 2016/17 fiscal year actuals.

Table 3-10: Average Labour Costs per Full Time Equivalent[51]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actuals	2013 Actuals	2014 Actuals	2015 Actuals	2015/16 Actuals	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Test Year	2017/18 Test Year	*Change from 2016/17*	*% Change*
Base Labour Costs ($000s)	65,168	67,720	71,293	71,815	71,553	72,711	73,855	75,686	75,399	74,896	*- 503*	*-0.7%*
Total Net Labour Costs ($000s)	77,409	81,324	85,847	83,933	83,312	83,061	85,605	87,664	89,074	86,783	*(2,291)*	*-2.6%*
Full-Time Equivalents	755	773	797	782	775	780	779	779	780	779	*(1)*	*-0.1%*
Avg Base Labour / FTE ($/FTE)	86,315	87,607	89,452	91,835	92,326	93,219	94,807	97,158	96,665	96,144	*(522)*	*-0.5%*
Avg Net Labour / FTE ($/FTE)	102,528	105,206	107,713	107,331	107,499	106,488	109,891	112,534	114,197	111,403	*(2,794)*	*-2.4%*
Annual Change		2,677	2,507	(381)		(1,011)	3,402	2,643				
Annual Change, %		2.6%	2.4%	-0.4%		-0.9%	3.2%	2.4%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

SaskEnergy has confirmed that the 2017/18 test year labour costs included in the test year revenue requirement are net of vacancies.[52] Table 3-11 summarizes the actual vacancies from 2012 to 2015 calendar year, and 2016/17 fiscal year and forecast vacancies for 2017/18 and 2018/19 fiscal years. SaskEnergy is forecasting that 35 FTEs will be vacant for both the 2017/18 and 2018/19 fiscal years. This is slightly lower than the actual vacancies for the 2016/17 fiscal year (40 FTEs), however, the 2016/17 fiscal year was materially impacted by restraint measures. Further, forecast vacancies for the 2017/18 and 2018/19 fiscal years remain well above the average actual FTE vacancies for the last five years (averaging at 23 FTEs annually).[53]

Table 3-11: Full-Time Equivalent Vacancies from 2012-15 (calendar) and 2016/17 to 2018/19 (fiscal)[54]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]		
	2012 Actuals	2013 Actuals	2014 Actuals	2015 Actuals	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast
Full-Time Equivalents [FTEs]	755	773	797	782	780	779	779
Vacant FTEs	21	16	16	22	40	35	35
Calculated Vacancy Rate	2.8%	2.1%	2.0%	2.8%	5.1%	4.5%	4.5%

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

[51] Prepared based on labour cost information provided in response to 1st Round Information Request 3 (a) and FTE numbers from Tab 8 of the 2017 Delivery Service Rate Application.
[52] 1st Round Information Request 3 (e).
[53] The information provided in response to 2nd Round Information Request 3 (c) shows that the actual FTE vacancies for 2012 through 2015 calendar year ranged from 16 and 22, and for 2016/17 fiscal year was at 40 FTE. The average for 2012 through 2016/17 is at 23.
[54] Prepared based on information provided in Tab 8. Vacant FTE are from response to 2nd Round Information Request 3 (c). The vacancy rate is calculated based on vacant FTE divided by total FTEs.

Observations

As noted in Table 3-9, there is an overall 3.1% year-over-year change in total net labour costs in 2017/18 (fiscal year forecast) over 2016/17 (fiscal year actuals), and a 2.4% year-over-year change in 2018/19 (fiscal year) compared to 2017/18 (fiscal year). The following is specifically noted:

- SaskEnergy is forecasting 2017/18 test year FTEs to be at the same approximate level as the 2016/17 test year, as well as the actuals for the 2016/17 fiscal year. With FTEs maintained at the 2016/17 fiscal year level for both 2017/18 and 2018/19, the increase in base salaries for 2018/19 (at 2.5%) over 2017/18 is somewhat higher than standard inflation,[55] but is in line with allowances for cost-of-living and merit increases.[56] The forecast base labour costs for the test year also appear to be reasonable.
- Actual salaries and wages for the period from November 1, 2016 to June 30, 2017 (i.e., first eight months of the 2016/17 test year), were about $3.1 million lower compared to the forecast included in the 2016/17 test year [about 3.5% of the total labour cost for the 2016/17 test year]. SaskEnergy notes that the lower than forecast labour costs are "attributable to overtime management as a result of business process changes and efficiency initiatives in addition to the restraint measures."[57] SaskEnergy also notes that the lower overtime amount for the 2016/17 fiscal year was impacted by a "warmer than normal winter and fewer emergency responses required during the year".[58]

  SaskEnergy notes that the 2017/18 Business Plan also included an estimated reduction in planned overtime of approximately $0.5 million.[59] While forecast overtime expense for the 2017/18 fiscal year has increased materially over 2016/17 fiscal year levels [by 18.3%], it remains at 2015/16 fiscal year actual level and is $1.371 million (or 15.3%) lower than the 2016/17 test year.[60]

The Consultant notes that some level of overtime is unavoidable to deal with urgent or emergency situations; and in some cases completing a task by incurring overtime may be more cost effective than resuming a task the following work day. The major types of activities that are expected to contribute to forecast overtime requirements in 2017/18 and 2018/19 are efficiency, risk avoidance and emergency response initiatives. In the Consultant's view, given the nature of the activities and the importance of maintaining a safe and reliable system, it is unlikely that risk avoidance and emergency response initiatives could be materially reduced in response to restraint efforts directed by the shareholder. Consequently, it is understood that overtime and other non-base labour cost reductions in 2016/17, the lowest since 2009 actuals, were achieved without SaskEnergy compromising the safety of its system, its employees or the public."[61]

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[55] For example, Consumer Price Index for Saskatchewan changed by about 0.8% from July 2016 to July 2017 based on Statistics Canada data. Available at http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/cpis01i-eng.htm [accessed August 21, 2017].
[56] SaskEnergy notes that "merit and economic increases for out-of-scope employees are in accordance with CIC guidelines that are applicable to all crown sector management employees." Page 8, 2017 Delivery Service Rate Application.
[57] 2nd Round Information Request 1 (d) (ii).
[58] 2nd Round Information Request 3 (a).
[59] 1st Round Information Request 29 (j) (ii).
[60] Please see Table 3-9.
[61] 1st Round Information Request 2 (e).

However, savings achieved during the restraint period appear to have negatively impacted customer service levels.[62] While SaskEnergy only indicates adverse impacts on customer service, and stresses that safety has not been compromised by restraint initiatives, the Consultant notes concern regarding potential impacts of any further restraint measures on SaskEnergy operations and customer service.

Recommendations

The Consultant recommends that the Panel accept SaskEnergy's labour costs for the 2017/18 test year as proposed by SaskEnergy.

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 3-12 provides a detailed breakdown of these costs comparing between 2016/17 and 2017/18 test years, as well as 2016/17 fiscal year results compared to the 2017/18 and 2018/19 fiscal year forecasts.

[62] 1st Round Information Request 2 (e). SaskEnergy notes that adverse impacts particularly relate to phone queue where the number of dropped calls has increased.

Table 3-12: Communication, Public Relations, Fees, Dues and Community Contributions[63]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Test Year	2017/18 Test Year	*Change from 2016/17 Test Year*	*% Change*
General Advertising and Marketing	261	382	296	186	186	189	293	293	365	293	*(72)*	*(19.7%)*
Safety and Awareness	718	587	462	373	350	491	761	761	806	761	*(45)*	*(5.6%)*
Energy Efficiency Programs and Awareness	1,537	2,716	1,833	1,473	1,448	1,003	1,981	1,981	1,761	1,981	*220*	*12.5%*
Professional Memberships and Dues	764	711	717	674	723	666	708	708	815	708	*(107)*	*(13.1%)*
Sponsorships and Donations	1,217	1,219	983	427	342	328	454	454	167	454	*287*	*171.9%*
Scholarships	105	105	105	105	105	105	105	105	105	105	*0*	*0.0%*
Training and Conferences	636	605	804	321	299	394	603	604	762	603	*(159)*	*(20.9%)*
Damage Claims and Other	199	206	369	330	322	111	110	110	353	110	*(243)*	*(68.8%)*
Business, Telephones, Cellular and Network	2,164	2,224	2,509	2,189	2,149	2,450	2,447	2,516	2,562	2,487	*(75)*	*(2.9%)*
Total	**7,600**	**8,754**	**8,077**	**6,078**	**5,925**	**5,737**	**7,462**	**7,531**	**7,695**	**7,502**	***(195)***	***(2.5%)***
Annual Change		1,154	(677)	(1,999)		(188)	1,725	69				
Annual Change, %		15.2%	-7.7%	-24.7%		-3.2%	30.1%	0.9%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

	Fiscal Year [Apr 1 to March 31]						
	2016/17 Forecast*	2017/18 Forecast	*Change from 2016/17*	*% Change*	2018/19 Forecast	*Change from 2017/18*	*% Change*
General Advertising and Marketing	189	293	*104*	*55.0%*	293	*0*	*0.0%*
Safety and Awareness	491	761	*270*	*55.0%*	761	*0*	*0.0%*
Energy Efficiency Programs and Awareness	1,003	1,981	*978*	*97.5%*	1,981	*0*	*0.0%*
Professional Memberships and Dues	666	708	*42*	*6.3%*	708	*0*	*0.0%*
Sponsorships and Donations	328	454	*126*	*38.4%*	454	*0*	*0.0%*
Scholarships	105	105	*0*	*0.0%*	105	*0*	*0.0%*
Training and Conferences	394	603	*209*	*53.0%*	604	*1*	*0.2%*
Damage Claims and Other	111	110	*(1)*	*(0.9%)*	110	*0*	*0.0%*
Business, Telephones, Cellular and Network	2,450	2,447	*(3)*	*(0.1%)*	2,516	*69*	*2.8%*
Total	**5,737**	**7,462**	***1,725***	***30.1%***	**7,531**	***70***	***0.9%***

[63] 1st Round Information Request 5 (a). 2016/17 test year information from 1st Round Information Request 5 (a), 2016 Commodity and Delivery Service Rate Application.

- **Comparison of 2016/17 and 2017/18 Test Year Forecasts:** Total communication, public relations, fees, dues and community contribution expenses for the 2017/18 test year are forecast to be $7.502 million. This represents a decrease of approximately $0.195 million (or 2.5%) compared to the 2016/17 test year forecast. Cost variances for the 2017/18 test year compared to the 2016/17 test year relate primarily to the following expense areas:
    - A $0.287 million (or 171.9%) **increase** in spending on sponsorships and donations;
    - A $0.243 million (or 68.8%) **reduction** in spending on damage claims and other;
    - A $0.220 million (or 12.5%) **increase** in energy efficiency programs and awareness expense; and
    - A $0.159 million (or 20.9%) **reduction** in spending on training and conferences as well as reductions in other cost categories.

  However, while the 2017/18 test year forecast is lower than the 2016/17 test year forecast; it is noted that the 2017/18 test year forecast is substantially higher than the 2016/17 actual results.
- **Comparison of 2016/17 Fiscal Year Actuals to 2016/17 Test year and Prior Years' Actuals:** As illustrated in Table 3-12, due to the implementation of ongoing restraint measures in 2016/17, the results for the 2016/17 fiscal year were substantially **lower** than the 2016/17 test year forecast and also lower when compared to the previous years' actual results.
- **Comparison of 2016/17 Fiscal Year Actuals with 2017/18 Fiscal year Forecast:** SaskEnergy has forecast a substantial **increase** in the 2017/18 fiscal year compared to the 2016/17 fiscal year in the following expense areas:
    - A $0.978 million (or 97.5%) **increase** in energy efficiency programs and awareness;
    - A $0.270 million (or 55%) **increase** in safety and awareness;
    - A $0.104 million (or 55%) **increase** in general advertising and marketing;
    - A $0.209 million (or 53%) **increase** in training and conferences; and
    - A $0.126 million (or 38.4%) **increase** in spending on sponsorships and donations.

  SaskEnergy states that the substantial increase in the 2017/18 fiscal year over the 2016/17 fiscal year relates to SaskEnergy's plan to return "to a more normal level of expenditure in this area" following fiscal restraint.[64] However, it is noted that while SaskEnergy has forecast costs to increase in the 2017/18 and 2018/19 fiscal years; overall forecast costs continue to remain below 2012-2014 actual levels.

Observations

While 2017/18 test year forecast costs are lower than the 2016/17 test year by 2.5%, the 2017/18 test year forecast costs are actually materially higher than 2016/17 fiscal year costs by 30.8% due in part to the resumption of the activities that were impacted by restraint measures directed by the shareholder:

[64] 1st Round Information Request 5 (c).

- **Sponsorship & Donations:** CIC Imagine Canada guidelines [about 1% of net profit] continue to be used by SaskEnergy as a measure for the maximum level of community contributions through sponsorship/donations[65]. For 2016/17, sponsorships and donations were 0.36% of net profit; and for the 2017/18 test year sponsorship and donations are expected to be about 0.52% of net profit.[66] SaskEnergy notes that the difference between 2016/17 fiscal actual and the 2017/18 fiscal forecast period relates to the nearly six month suspension of sponsorship spending in 2016-17 due to implementation of extreme fiscal restraint measures in that year.
- **Public Relations:** Public Relations costs in the 2017/18 fiscal year are forecast to increase substantially relative to 2015/16 and 2016/17 fiscal year actuals as the corporation returns to a more normal level of expenditure in this area following an election and a period of extreme fiscal restraint. SaskEnergy notes the need to "increase public relations expenditures, including advertising, in order to educate the general public about natural gas, energy efficiency and important safety issues."[67]
- **Training and Conferences:** Prior to the 2015 restraint directive, SaskEnergy personnel participated actively on industry committees and working groups; following the restraint directive "all non-essential travel was discontinued and participation on these committees was extremely difficult via teleconference". SaskEnergy notes that it is "committed to the pursuit of industry best practice and has determined that some level of active participation on these industry committees is very valuable for SaskEnergy going forward."[68]

The Consultant notes the substantial increase in Communication, Public Relations, Fees, Dues and Community related costs in the 2017/18 fiscal year compared to the 2016/17 fiscal year. However, as illustrated in Table 3-12 this was the result of much lower costs in the 2016/17 fiscal year due to ongoing extreme restraint measures. The forecasts for the 2017/18 and 2018/19 fiscal years continue to remain below the level of pre-restraint measure actuals. However, in light of the expected requirement for ongoing delivery rate increases to address ongoing and material safety and integrity spending requirements, areas of discretionary spending such as sponsorship and donations should be subject to careful review and scrutiny going forward. The Consultant has previously noted that regulators in other jurisdictions have limited the degree to which these types of costs are included in a utility's revenue requirement, and it may be more appropriate for sponsorships to be paid by the shareholder.

Recommendations

SaskEnergy 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." [69] In light of ongoing cost

[65] 1st Round Information Request 5(b). SaskEnergy has historically used a 5 year rolling average to plan future community contributions.
[66] 1st Round Information Request 5 (b). Based on a projected 5 year rolling average.
[67] 1st Round Information Request 5 (c).
[68] 2nd Round Information Request 2 (c).
[69] 1st Round Information Request 2 (e).

pressures to address material safety and integrity spending requirements, areas of discretionary spending should be subject to careful review and scrutiny going forward.

3.1.3 Intercompany Allocations

The Intercompany Allocation of costs also impacts SaskEnergy's delivery service revenue requirement. SaskEnergy notes that "the budget for Intercompany Allocations in the 2017/18 fiscal year is approximately $662,000 higher than the forecast for 2016/17 and $952,000 higher than the actual 2016/17 result."[70] However, SaskEnergy also notes that lower actual results for 2016/17 relate to austerity measures implemented during that year and the corporation's efforts to reduce discretionary expenditures.

Table 3-13 provides a comparison for selected cost categories of the actual intercompany allocations in 2015/16 and 2016/17 fiscal years compared to 2017/18 and 2018/19 fiscal year forecasts. Table 3-13 focuses on selected cost categories where SaskEnergy has made changes in intercompany allocations over the period.

Table 3-13: Intercompany Allocation (2015/16 to 2018/19)[71]

	Fiscal Year [Apr 1 to March 31]			
Description	**2015/16 Actual**	**2016/17 Forecast***	**2017/18 Forecast**	**2018/19 Forecast**
Audit Services	42.2%	17.0%	17.0%	17.0%
Board of Directors	65.0%	65.0%	70.0%	70.0%
Purchasing	44.0%	52.0%	52.0%	52.0%
Payment Services	0.0%	0.0%	100.0%	100.0%
Treasury	78.3%	85.6%	84.9%	84.9%
VP TransGas Limited	7.0%	17.0%	17.0%	17.0%
System Integrity Programs	15.8%	20.2%	20.2%	20.2%
Facilities and Storage Engineering	0.0%	2.0%	9.0%	9.0%
Support Services	4.0%	4.0%	14.0%	14.0%

* In response 2nd Round Information Request 8(a), SaskEnergy notes "2016-17 Forecast" column contains 2016/17 actuals.

While SaskEnergy reduced the percentage of Audit Services cost allocated to the distribution utility in 2016/17 [reduced from 42.2% to 17.0%], it has increased the percentage of costs allocated to the distribution utility for the remaining cost categories noted in Table 3-13.

[70] 1st Round Information Request 3 (h).
[71] 1st Round Information Request 8 (c).

Changes to intercompany allocations since 2015/16 have increased the allocation of costs to the distribution company and consequently impacted the revenue requirement.[72]

Material differences in intercompany allocations between the distribution and transmission utilities relate to "elevated regulatory burden", and in many cases individual roles have been expanded to address both transmission and distribution work instead of adding incremental resources.[73] The following additional information was provided by SaskEnergy to support the changes in cost allocation over the period.

- **VP TransGas Limited [Allocation increase from 7% in 2015/16 to 17% in 2016/17 onward] –** Role of the Director of Emergency Management and Regulatory Affairs (reports directly to the TransGas VP, Engineering, Integrity and Construction) expanded to include LDC issues including asset management, environment, and safety processes and documentation. This role has continued to evolve "given the direct responsibility for the Unified Management System (UMS).[74]"
- **Support Services [Allocation increase from 4% to 14%] –** This group "provides drafting services, materials management, crossing management and geographical information and mapping services to the distribution utility. The increased allocation to 14% in 2017/18 from 4% in 2015/16 and in 2016/17 is primarily attributable to the foundational work to convert the Distribution assets into the GIS."[75]
- **Payment Services [100% allocation starting in 2017/18] –** The change in allocation relates to the reorganization of the collections function which was moved to its own area from sharing costs to the 100% business unit of the distribution utility.[76]

SaskEnergy is proposing no change in FTE levels for 2017/18 and 2018/19 fiscal years from 2016/17 level. Therefore, expanding the roles to address both transmission and distribution work appears to be a reasonable approach.

Recommendations

The changes in intercompany allocations appear to be appropriate and reasonable and should be accepted. However, 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.

[72] SaskEnergy notes that if 2015/16 fiscal year actual allocation percentages are used for the 2017/18 test year, the revenue requirement for the 2017/18 test year would decrease by about $0.7 million.
[73] 1st Round Information Request 8(c).
[74] 1st Round Information Request 8(c). The Unified Management System entails documentation of key programs including distribution system maintenance, distribution integrity management, distribution facility design, distribution project development review, drug and alcohol testing and employee and process safety.
[75] 1st Round Information Request 8 (c)(i).
[76] 2nd Round Information Request 8 (b)

3.1.4 O&M Expenses Charged to Capital

Table 3-14 summarizes charges to capital from 2010 to 2015 (calendar year actuals); 2015/16 and 2016/17 (fiscal year actuals); and 2017/18 and 2018/19 fiscal year forecasts. The following is noted regarding year over year changes:

- For the 2017/18 and 2018/19 fiscal years, charges to capital are forecast to be at the 2015/16 and 2016/17 fiscal year level [about $29.5 million]; and
- Total capital expenditures for the same period are forecast to increase from the $114.4-$118.8 million level to the $138.9-$153.3 million level (or increase by about 21%-34% compared to 2016/17 fiscal year).

SaskEnergy notes that, despite the increase in total capital spending, charges to capital are lower in 2016/17 compared to 2015/16 and to the 2017/18 and 2018/19 forecast years due to differences in the relative mix of capital spending each year.[77]

SaskEnergy notes that charges to capital are calculated based on an analysis of the costs incurred to complete the capital work and an assessment of the work performed. SaskEnergy also notes that hours are the usual driver, the cost allocation would be a cost per hour, and that the calculation of charges to capital depends on whether or not "the work performed by the SaskEnergy workforce was capital in nature as defined by International Financial Reporting Standards".[78] SaskEnergy indicated that it does not have a specific policy statement regarding the process and notes that this is an "established practice that occurs within the OneWorld general ledger system."[79]

Table 3-14: Charges to Capital Compared to the Total Capital Spending ($million)[80]

	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 Forecast*	2017/18 Forecast	2018/19 Forecast
Total Capital Expenditures	**62.6**	**83.1**	**89.0**	**116.3**	**125.2**	**122.6**	**118.8**	**114.4**	**153.3**	**138.9**
Charges to Capital	22.1	26.2	26.8	27.7	29.7	30.1	29.4	29.3	29.4	30.3

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

Table 3-15 provides a comparison of charges to capital by labour and non-labour components. It shows that the labour portion has remained, and is forecast to remain, at the $18.0-$18.7 million level from 2013

[77] 1st Round Information Request 4 (a).
[78] 2nd Round Information Request 5 (a).
[79] 1st Round Information Request 4 (b).
[80] Page 1 of Tab 9 from 2015 Commodity and Delivery Service Rate Application. Page 1 of Tab 9 from 2017 Delivery Service Rate Application. Page 8 of Tab 6 2017 Delivery Service Rate Application.

actual to the 2018/19 fiscal year forecast [excluding 2016/17 which was impacted by a change in accounting that year].[81]

Table 3-15: Charges to Capital Compared to the Capital Intercompany Allocation[82]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast	2017/18 Forecast	2018/19 Forecast
Labour	16.3	18.3	18.1	18.3	18.0	22.0	18.1	18.7
Non-Labour	10.5	9.4	11.6	11.8	11.4	7.3	11.3	11.6
Total	**26.8**	**27.7**	**29.7**	**30.1**	**29.4**	**29.3**	**29.4**	**30.3**

Observations

As illustrated in Table 3-14, charges to capital for the 2017/18 and 2018/19 fiscal years are forecast to be at the 2015/16 and 2016/17 fiscal year level [about $29.5 million], while total capital expenditures for the same period are forecast to increase from the $114.4-$118.8 million level to the $138.9-$153.3 million level (or increase 21%-34% compared to 2016/17 fiscal year). The Consultant accepts that the mix of capital spending could impact the amount charged to capital. However, the following is noted regarding the forecast:

- Capital spending relating to public safety, system integrity, and infrastructure renewal has increased significantly from $7.4 million in 2010 to $51.3 million during the application period.[83] Table 5-1 in Section 5 supports the statement that much of the increase in capital spending relates to system improvements.
- Table 3-15 shows that the labour portion of charges to capital has remained, and is forecast to remain, at the $18.0-$18.7 million level from 2013 (actual) to the 2018/19 fiscal year forecast [excluding 2016/17 which was impacted by a change in accounting]; in contrast the net labour cost for the same period increased from $81.323 million to $87.664 million (or by 7.8%).[84]

For future applications further disclosure regarding O&M expenses charged to capital, including how this is impacted by the mix of capital spending, and any changes in policy or practices would further assist the review process.

[81] In response to the 2nd Round Information Request 5 (b) SaskEnergy notes that in 2016/17 accounting began to eliminate intercompany construction labour and vehicle charges within the distribution utility from construction to the distribution area offices across the province. That change did not affect 2017/18 and 2018/19 fiscal years as at the time of preparing the forecast the administrative decision had not been finalized. The impact is offset by a change in intercompany recoveries as detailed in Section 3.1.
[82] 1st Round Information Request 4 (c).
[83] Page 1 and 16 of 2017 Delivery Service Rate Application.
[84] As indicated in labour cost section, the collective agreement between SaskEnergy and Unifor was ratified in 2013 covering the period for February 2013 through January 31, 2017 and wage schedules in the overall collective agreement increased by 2.0% effective February 1, 2013; 1.8% effective February 1, 2014, and 1.9% effective February 1, 2015 and 1.6% effective February 1, 2016. The cumulative increase is about 7.5% from 2013 to 2016.

3.2 TRANSPORTATION AND STORAGE EXPENSE

Delivery transportation service is provided by TransGas Limited (TransGas), a wholly owned subsidiary of SaskEnergy.[85] 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 18% of the total delivery revenue requirement in the 2017/18 test year, and is the second largest component of the revenue requirement after Operating and Maintenance Expense (see Table 3-1). As noted in Table 3-16, there is only a negligible (0.1%) increase in total transportation and storage expense in 2017/18 test year compared to 2016/17 test year.[86]

[85] Page 5 of 2017 Delivery Service Rate Application.
[86] SaskEnergy forecast transportation and storage rates increase by 5% effective April 1, 2018. The increase in 2017/18 test year is only 0.1% over 2016/17 test year as 2016/17 test year had assumed rate increase of 3.5% effective January 1, 2017 which did not occur.

Table 3-16: Comparison of Transportation and Storage Expense[87]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
Category	**2012 Actual**	**2013 Actual**	**2014 Actual**	**2015 Actual**	**2015/16 Actual**	**2016/17 Forecast***	**2017/18 Forecast**	**2018/19 Forecast**	**2016/17 Forecast from 2016 Application**	**2017/18 Forecast from Current Application**	***Change from 2016/17***	***Percent Change***
Transportation Costs	27,806	28,580	30,037	31,282	31,516	31,834	31,951	33,832	33,044	33,091	*47*	*0.1%*
Storage Costs	14,051	14,777	15,830	17,265	17,569	18,357	18,377	19,338	18,920	18,937	*17*	*0.1%*
Total	**41,857**	**43,357**	**45,867**	**48,547**	**49,085**	**50,191**	**50,328**	**53,170**	**51,964**	**52,028**	***64***	***0.1%***
Transportation Contracted Demand (GJ/day)	570,000	575,020	585,000	590,000	595,000	600,000	600,000	605,000	600,000	600,000	*0*	*0.0%*
Contracted Firm Deliverability (GJ/day)	385,934	382,838	383,244	391,478	393,217	394,194	394,194	394,194	394,194	394,194	*0*	*0.0%*
Contract Storage Volume (PJs)	20.9	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		1,500	2,510	2,680		1,106	137	2,842				
Annual Change, %		3.6%	5.8%	5.8%		2.3%	0.3%	5.6%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

[87] Schedule 4.1 from the 2016 Commodity and Delivery Service Rate Application and Schedule 1.1 from the 2017 Delivery Service Rate Application. 2015 Contracted Firm Deliverability (GJ/day) is corrected version from 1st Round Information Request 10 (b).

Table 3-17 illustrates transportation and storage rate changes since 2009 and forecast changes for 2018/19 to 2020/21 fiscal years.

Table 3-17: Transportation and Storage Rate Changes[88]

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
April 1, 2018	$4.6571	5.2%	$1.0	$1.8889	$0.0370	5.2%	$0.5
2018/19 Forecast		3% - 5%	$1.0 - $1.7			3% - 5%	$0.6 - $1.0
2019/20 Forecast		3% - 5%	$1.1 - $1.8			3% - 5%	$0.7 - $1.0
2020/21 Forecast		3% - 5%	$1.1 - $1.8			3% - 5%	$0.7 - $1.0

TranGas' transportation and storage rates are subject to provincial cabinet approval.[89] TransGas last adjusted its transportation and storage rates on January 1, 2016, and the delivery transportation rate has remained unchanged from that time. Transportation and storage expense forecasts for the 2017/18 test year assume a 5% rate increase effective April 1, 2018. The forecast rate increase impacts the 2017/18 test year expenses for April 1 through October 31, 2018 [seven months of 2017/18 test year].[90]

As illustrated in Table 3-17, between 2009 and April 1, 2018 [including the impact of the April 1, 2018 forecast increase of 5%], transportation rates would have an average annual increase of 2.29%, and storage rates an average annual increase of about 3.41%. These rate changes have increased annual expenses by about $1.5 million/year on average. For the 2018/19 through 2020/21 fiscal years, assumed increases in transportation and storage rates are expected to increase transportation and storage expense by $1.6 million to $2.7 million annually [increase between 3% and 5%].[91]

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

[88] 2nd Round Information Request 6 (a), (b) and (c) from 2016 Commodity and Delivery Service Rate Application, 1st Round Information Request 10 (f), (g) and (h) from 2017 Delivery Service Rate Application. In clarifying 2nd Round IR responses on August 29, 2017 SaskEnergy noted that the impact from the April 1, 2018 increase was about $1.5 million.
[89] Page 5, 2017 Delivery Service Rate Application.
[90] 1st Round Information Request 10 (a) (iv).
[91] 1st Round Information Request 10 (h).

"1 in 5 design" to a "coldest ever design".[92] 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 2017/18 test year forecast contracted demand is 600,000 GJs/day, the same as the 2016/17 test year and the 2016/17 fiscal year [as illustrated in Table 3-16].

Contracted storage volume refers to the total volume of natural gas required at the start of the heating season in order to meet expected winter requirements. Storage contract deliverability refers to the expected daily rate at which gas will be withdrawn from storage. Contracted storage has increased as Saskatchewan has become a net importer of natural gas in 2011. SaskEnergy now purchases more than half of its natural gas from outside the province. In order to mitigate the risk of not being able to import enough gas into the province during severely cold weather, SaskEnergy increased its contracted storage capacity from TransGas in 2014.[93]

SaskEnergy notes that it reviews contracted levels of storage and transportation annually to determine the most cost-effective way to maintain firm access to a secure supply of natural gas. SaskEnergy also notes that it "strives to contract for the minimum amount of storage and transportation capacity" that is required to satisfy forecasted requirements, while ensuring that SaskEnergy has firm access to a secure supply of natural gas to meet the demand of a 1 in 20 cold winter. However, SaskEnergy notes that it must take a long term view of its requirements given the relatively long lead times for requested increases of transportation and storage capacity with no guarantee of receiving the requested additional service. SaskEnergy notes that it is maintaining contracted storage capacity and Alberta transportation capacity at 2016/17 levels for the test period by using its transportation and storage contracts at a slightly higher load factor resulting in greater efficiencies.[94]

Observations

Total transportation and storage costs for the 2017/18 test year are only forecast to increase by about 0.1% over the 2016/17 test year forecast. This is mostly due to the assumption that SaskEnergy used for the 2016/17 test year, which included an increase of 3.5% effective January 1, 2017 [which did not occur]. Consequently, the 2017/18 test year is about 3.7% higher compared to the 2016/17 fiscal year expense [$52.028 million compared to $50.191 million as illustrated in Table 3-16].

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.[95] As SaskEnergy has limited ability to control or curb spending in this area due to the above context, review of transportation costs has tended to focus on the reasonableness of the forecast transportation and storage volumes.

[92] Page 26, 2017 Delivery Service Rate Application, notes that this means there is a 1 in 20 probability that the design peak day load will be reached during the upcoming winter.
[93] Page 5, 2017 Commodity and Delivery Service Rate Application.
[94] 1st Round Information Request, 10 (e).
[95] In response to 2nd Round Information Request 10 (a) SaskEnergy notes that TransGas cost of service for 2018/19 assumed 5% average rate increase for the transportation and storage rates effective April 1, 2018. SaskEnergy also notes that TransGas' 2018/19 business plan is in the early development stage and the assumptions will be revisited as part of the planning process.

- **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 prudent and consistent with normal utility practice.
- **Contracted Storage Volumes:** The need for increased storage volume since 2014 is driven by the fact that SaskEnergy is sourcing a greater proportion of its natural gas supply from outside the province. SaskEnergy notes that maintaining transportation and storage contracts at 2016/17 levels by using a slightly higher load factor resulted in greater efficiencies, and that related risks can be managed through proactive purchasing of incremental winter gas requirements. SaskEnergy states that there is "no opportunity to leverage this transportation any further without jeopardizing the ability to meet our customer's winter gas requirements."[96] Potential cost reductions through using transportation and storage contracts at a higher load forecast must be balanced against the interests of reliability and public safety.[97]
- **Competitiveness:** In the 2016 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;[98] and that TransGas monitors the rates charged by peer companies to assess their competitiveness, and "TransGas rates remain competitive with peer companies".[99]

The Panel's Report on SaskEnergy's 2016 Commodity and Delivery Service Rate Application recommended that SaskEnergy provide the Panel with access to the information provided though the TransGas Customer Dialogue Committee, including information on the competitiveness of TransGas rates. SaskEnergy has indicated that information provided to the TransGas Customer Dialogue committee cannot be made available to the Panel to assist with better understanding of these matters.[100]

The Consultant reiterates its comments from the 2016 Report, 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.

Recommendations

The Consultant recommends that the Panel accept the forecast transportation and storage expense for the 2017/18 test year as proposed by SaskEnergy.

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[96] 2nd Round Information Request 10 (c).
[97] 2nd Round Information request 10(c). A portion of SaskEnergy's firm NIT and TEP transportation is reserved to enable SaskEnergy to purchase the incremental gas requirements associated with a colder than normal winter. Using this transportation contract at a higher load factor means that some of the transportation reserved for a colder than normal winter is being used to meet our regular annual requirements. The risk associated with this practice is that there may not be sufficient transportation to meet the gas requirements of a colder than normal winter.
[98] Page 5 of 2017 Delivery Service Rate Application. 1st Round Information Request 8 (f) from 2016 Commodity and Delivery Service Rate Application.
[99] 2nd Round Information Request 6 (d) from 2016 Commodity and Delivery Service Rate Application.
[100] SaskEnergy in Tab 22, page 2 notes that "TransGas Customer Dialogue information is not within the Terms of Reference for the rate application, therefore will not be provided to the Panel. This decision was concurred by the TransGas Customer Dialogue Committee in November."

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 the 2016 Report, 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.[101] The effects of the changes in proposed depreciation rates in the 2013 study were reviewed by the Panel as part of the 2014 Financial Update filing.

Table 3-18 summarizes actual depreciation expense from 2012 to 2015 (calendar years), 2015/16 and 2016/17 (fiscal years), the forecast expense for 2017/18 and 2018/19 (fiscal years), and also shows a comparison of the forecast for the 2016/17 and 2017/18 test years.

The 2017/18 test year forecast for depreciation expense is $4.077 million (9.7%) higher than the 2016/17 test year forecast. Major forecast increases in depreciation expense are in the following asset categories:

- Information System Assets is forecast to be about $1.453 million (or 18.0%) higher;
- Services is forecast to be about $1.304 million (or 10.9%) higher;
- Mains is forecast to be about $0.787 million (or 7.0%) higher;
- Heavy Work Equipment is forecast to be about $0.547 million (or 70.2%) higher;
- Building and Site Improvements is forecast to be about $0.364 million (or 19.6%) higher; and
- Meter and Regulator Installations is forecast to be about $0.169 million (or 8.7%) 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."[102]

[101] Tab 13 of the 2017 Delivery Service Rate Application.
[102] Page 16. 2017 Delivery Service Rate Application.

Table 3-18: Depreciation Expense ($000s)[103]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Forecast from 2016 Application	2017/18 Forecast from Current Application	*Change from 2016/178*	*Percent Change*
Distribution Plant												
Land Rights	225	227	246	256	259	252	257	257	252	257	*5*	*2.0%*
Building and Site Improvements	1,067	2,462	1,365	1,700	1,780	1,750	2,112	2,295	1,861	2,225	*364*	*19.6%*
Services	6,616	6,908	9,140	10,424	10,661	11,536	13,049	13,332	11,993	13,297	*1,304*	*10.9%*
Meter and Regulator Installations	1,560	1,339	1,442	1,575	1,612	1,807	2,001	2,192	1,945	2,114	*169*	*8.7%*
Mains	11,242	8,804	9,393	10,094	10,255	10,840	11,484	12,243	11,281	12,068	*787*	*7.0%*
Measuring and Regulating Equipment	2,695	3,141	1,730	1,421	1,437	1,449	1,531	1,585	1,491	1,563	*72*	*4.8%*
Meters	2,336	1,376	1,793	2,704	2,815	3,115	3,219	3,549	3,273	3,411	*138*	*4.2%*
Other Distribution Equipment	486	321	453	460	479	551	715	885	648	818	*170*	*26.2%*
Amortization of Customer Contributions	(3,774)	(4,232)	(4,843)	(5,200)	(5,326)	(5,794)	(6,182)	(6,568)	(6,025)	(6,417)	*(392)*	*6.5%*
Sub-total	**22,453**	**20,346**	**20,719**	**23,434**	**23,971**	**25,505**	**28,188**	**29,768**	**26,718**	**29,335**	***2,617***	***9.8%***
General Plant												
Building and Improvements	1,437	1,473	1,550	1,612	1,609	1,643	1,778	2,602	2,233	2,276	*43*	*1.9%*
Office Furniture and Equipment	509	496	491	486	484	503	508	498	503	500	*(3)*	*(0.6%)*
Transportation Vehicles	2,128	2,524	2,756	2,723	2,726	2,744	2,761	2,381	3,140	2,476	*(664)*	*(21.1%)*
Heavy Work Equipment	522	532	618	679	704	707	1,359	1,308	779	1,326	*547*	*70.2%*
Tools and Equipment	749	489	542	581	596	666	763	800	706	789	*83*	*11.8%*
Information System Assets	3,996	4,087	6,593	6,476	6,426	7,607	8,674	9,887	8,051	9,504	*1,453*	*18.0%*
Sub-total	**9,341**	**9,601**	**12,550**	**12,557**	**12,546**	**13,870**	**15,844**	**17,475**	**15,412**	**16,872**	***1,459***	***9.5%***
Total Depreciation Expense	**31,794**	**29,947**	**33,269**	**35,990**	**36,517**	**39,375**	**44,031**	**47,244**	**42,130**	**46,207**	***4,076***	***9.7%***
Annual Change in Total		(1,847)	3,322	2,721		2,858	4,656	3,213				
Annual Change, %		-5.8%	11.1%	8.2%		7.8%	11.8%	7.3%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

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.[104]

SaskEnergy states that depreciation of an asset begins when it is "available for use" and ends when the asset is either held for sale, is permanently disposed of, or has become fully depreciated. SaskEnergy uses a mid-year approach for calculation of depreciation expense where assets are brought into use or taken out of use half way through the year, regardless of when they were actually acquired or retired. However, larger assets are depreciated beginning with the actual in-service date.[105] This is generally accepted utility practice and a reasonable approach to use as most assets are brought into service before winter, which is mid-way through SaskEnergy's fiscal year (April to March).

SaskEnergy notes that 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."[106] The last depreciation study was completed in 2013. A new study was planned for 2015, but deferred due to the implementation of restraint measures in 2015.[107] SaskEnergy indicates that the next depreciation study will be completed before March 31, 2018.[108]

[103] Schedule 4.3 from the 2016 Commodity and Delivery Service Rate Application and Schedule 1.3 from the 2017 Delivery Service Rate Application.
[104] 1st Round Information Request 11 (a).
[105] 1st Round Information Request 11 (c).
[106] 1st Round Information Request 11 (c).
[107] 1st Round Information Request 11 (b).
[108] 2nd Round Information Request 11 (a).

Observations

Since the last depreciation study, depreciation expense has increased by an average of 9% (or more than $3.0 million/year on average) and is forecast to increase further in 2017/18 and 2018/19 at the same average annual rate. The increase in depreciation expense in the 2017/18 test year (over the 2016/17 test year) comprises 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].

Given the materiality of depreciation expense in the current test year and its expected materiality going forward, there is a need for greater transparency in order to provide assurance regarding how depreciation expense is calculated and how it will affect customer rates. The following specific concerns are noted regarding the consultant's review of the calculation of depreciation expense in the current application:

- A detailed calculation of the forecast depreciation expense for the 2017/18 and 2018/19 fiscal years could not be provided. However, SaskEnergy noted that "depreciation calculations for the purposes of Financial Reporting are reviewed each year in detail by the Corporation's external auditors".[109] It is uncertain whether external auditors review only the calculation for the fiscal years or the calculation of the forecast depreciation expense that is included in the test year revenue requirement for the purpose of setting rates.
- Further, as illustrated in Table 3-2 for the period from November 1, 2016 to June 30, 2017 [i.e., the first eight months of the 2016/17 test year], actual depreciation expense was about $1.0 million lower than the 2016/17 test year forecast [about 2.5% of the total depreciation expense for the 2016/17 test year]. SaskEnergy notes that about $17 million of capital spending was deferred or not put into service in 2016/17 which would reduce depreciation expense in that year.[110] However, this is a material change between test year and actual results.

Annual depreciation expense will continue to be materially impacted due to ongoing spending requirements related to safety and integrity. Specifically, annual investment in safety and integrity measures are expected to be maintained at about $50 million/year for the foreseeable future.[111] The annual average increase of about 9% in depreciation expense, as 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. For example, for the 2017/18 test year $4.077 million (or 45% of the $9.1 million revenue shortfall) is due to the increase in depreciation expense. Absent this increase in depreciation expense, the required average rate increase would be about 2% compared to 3.6% as proposed in the application.[112]

New improvements and infrastructure may have longer service lives compared to existing assets that are being replaced.[113] In this regard, extending service lives through ongoing system integrity programs may reduce annual depreciation expense related to new capital investments and help to mitigate related rate impacts. Considering expected material spending on capital going forward, it is prudent for a rigorous

[109] 2nd Round Information Request 11 (c).
[110] Response to 2nd Round Information Request 15(a).
[111] Page 16. 2017 Delivery Service Rate Application.
[112] $9.1-$4.077/$254.1 million revenues at existing rates.
[113] 1st Round Information Request 9(c) and (d) 2016 Commodity and Delivery Service Rate Application.

review of depreciation rates to be undertaken prior to the next rate application to ensure that current depreciation rates match the useful lives of new assets in service.

Recommendations

In the Consultant's view, the depreciation expense for the test year appears to be reasonable and it is recommended that the Panel accept SaskEnergy's proposed depreciation expense for the 2017/18 test year.

However, future reviews would benefit from more fulsome information regarding depreciation calculations, including providing the depreciable base that reconciles to the plant in service, depreciation rates and calculated depreciation expense by account included in the depreciation study. In the Consultant's view, this level of disclosure will provide a greater level of transparency regarding the calculation of this significant expense item and aid in understanding any year-over-year changes.[114]

3.4 TAX EXPENSE

SaskEnergy's tax expense consists of corporate capital tax and grants in lieu of taxes as shown in Table 3-19. Forecast tax expense is $5.948 million for the 2017/18 test year. This represents an increase over the 2016/17 forecast of $0.370 million (or 6.6%). The following is specifically noted regarding forecast tax expense:

- 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, deductions and allowances prescribed by *The Saskatchewan Corporation Capital Tax Act*.[115]
- 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 is forecasting grants in lieu of taxes for 2017/18 and 2018/19 to be at the 2016/17 level of $0.214 million.

[114] For example, Ontario Energy Board Filing Requirements for Natural Gas Rate Applications, Section 2.2.2 provides a list of information required to be provided by the application in relation of capital assets and depreciation expenses.
[115] Page 17, 2017 Delivery Service Rate Application.

Table 3-19: Tax Expense ($000s)[116]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Forecast from 2016 Application	2017/18 Forecast from Current Application	*Change from 2016/17*	*Percent Change*
Corporate Capital Tax	3,829	4,191	4,177	4,370	4,514	4,514	5,378	5,992	5,410	5,734	*324*	*6.0%*
Grants in Lieu of Taxes	131	151	168	199	199	213	214	214	168	214	*46*	*27.4%*
Total Taxes	**3,960**	**4,342**	**4,345**	**4,569**	**4,713**	**4,727**	**5,592**	**6,205**	**5,578**	**5,948**	***370***	***6.6%***
Annual Change		382	3	224		14	865	613				
Annual Change, %		9.6%	0.1%	5.2%		0.3%	18.3%	11.0%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

For the 2017/18 fiscal year, SaskEnergy forecast an 18% increase in tax expense compared to 2016/17 fiscal year actuals; and forecast a further 11% increase in tax expense in 2018/19 fiscal year (compared to the 2017/18 fiscal year forecast). However, as illustrated in Table 3-19, 2016/17 fiscal year actuals remained at the same level as 2015/16 fiscal year actuals.

SaskEnergy notes that the increase in corporate capital tax in the 2017/18 test year "is primarily driven by the increase in total debt due to elevated capital expenditures projected in 2017/18".[117] SaskEnergy notes that debt is a component of the paid up capital calculation which is used for the corporate capital tax assessment.

Table 3-20 compares the annual calculation of the forecast corporate capital tax expense provided by SaskEnergy in the 2015 and 2016 Commodity and Delivery Service Rate Applications, as well as the current Application.

[116] Schedule 4.4 of 2014 Commodity and Delivery Service Rate Application and Schedule 1.4 of 2016 Delivery Service Rate Application.
[117] 2nd Round Information Request 13(a).

Table 3-20: Corporate Tax Expense Forecast Compared to Actuals ($000s)[118]

	2015 Application		2016 Application		2016/17 Fiscal Year Actual	2017 Application			
	2015 Calendar Year Forecast	2016 Calendar Year Forecast	2016 Calendar Year Forecast	2017 Calendar Year Forecast		2017/18 Fiscal Year Forecast	Incr. over 2016/17	2018/19 Fiscal Year Forecast	Incr. over 2017/18
Net Book Value	1,018,001	1,086,502	1,099,801	1,188,596	1,065,115	1,186,342	11%	1,303,256	10%
Less Undepreciated Capital Cost	658,584	718,203	709,104	791,011	702,405	802,603	14%	879,603	10%
Income Tax deduction	359,417	368,299	390,697	397,585	362,710	383,739	6%	423,653	10%
Retained Earnings and Equity	385,953	402,259	321,248	347,568	392,733	403,069	3%	434,294	8%
Loans and Advances	**1,296,852**	**1,350,368**	**1,434,843**	**1,510,823**	**1,272,313**	**1,429,775**	**12%**	**1,534,915**	**7%**
Interest Payable	12,429	11,924	11,486	11,336	10,878	8,192	-25%	13,995	71%
Less: Income Tax Deduction	-359,417	-368,299	-390,697	-397,585	-362,710	-383,739	6%	-423,653	10%
Total Paid up capital	1,335,817	1,396,252	1,376,880	1,472,142	1,313,214	1,457,297	11%	1,559,551	7%
Less: Standard Exemption	-10,895	-10,895	-10,895	-10,895	-10,895	-10,895	0%	-10,895	0%
Total Paid up capital	1,324,922	1,385,357	1,365,985	1,461,247	1,302,319	1,446,402	11%	1,548,656	7%
Less: Investment Allowance	-550,000	-550,000	-550,000	-550,000	-550,000	-550,000	0%	-550,000	0%
Taxable Paid up Capital	774,922	835,357	815,985	911,247	752,319	896,402	19%	998,656	11%
Rate	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0%	0	0%
Forecast Tax Expense	**4,650**	**5,012**	**4,896**	**5,467**	**4,514**	**5,378**	**19%**	**5,992**	**11%**

As summarized below, actual Loans and Advances for 2015/16 and 2016/17 were much lower than forecasts for 2015 or 2016 in each year; and 2017/18 and 2018/19 loans and advances are also expected to be much higher than the 2016/17 actual results.

- In the 2015 Application, SaskEnergy forecast Loans and Advances at $1,296.8 million for the 2015 calendar year, and $1,350.4 million for the 2016 calendar year.
- In the 2016 Application SaskEnergy forecast Loans and Advances at $1,434.8 million for the 2016 calendar year [$84.5 million **higher** than the forecast for 2016 included in the 2015 Application], and at $1,510.8 million for 2017 calendar year.
- 2016/17 fiscal year actual Loans and Advances were at $1,272.3 million, which is:
    - About $25 million **lower** compared to the 2015 calendar year forecast.[119]
    - About $78 million **lower** compared to the 2016 calendar year forecast included in 2015 Application.
    - About $162 million **lower** compared to the 2016 calendar year forecast included in 2016 Application.
    - About $238 million **lower** compared to the 2017 calendar year forecast included in 2016 Application.
- For the 2017/18 fiscal year Loans and Advances is forecast to **increase** by about $157 million [from $1,272.3 million in the 2016/17 fiscal year to $1,429.7 million in 2017/18 fiscal year forecast].

[118] Prepared based on information provided in response to 1st Round Information Request 10(a) of 2015 Commodity and Delivery Service Rate Application, 1st Round Information Request 11(a) of 2016 Commodity and Delivery Service Rate Application and 1st Round Information Request 13(a) of 2017 Delivery Service Rate Application.
[119] The calendar year is from January 1 to December 31, while fiscal year is from April 1 to March 31 of the next year. However, both calendar and fiscal years include 12 months data.

- For the 2018/19 fiscal year Loans and Advances is forecast to **increase** by about $105 million over 2017/18 fiscal year forecast.

The information provided in the current Application [see Tab 14] shows that the average outstanding debt amount, both long-term and short-term, is about $624.1 million for the 2017/18 fiscal year and $680.7 million for the 2018/19 fiscal year [see Table 3-23 in Section 3.5]. SaskEnergy notes that the outstanding debt amounts in the Application cannot be reconciled to Loans and Advances information used to calculation corporate tax expense for the following reasons:[120]

- Differences in timing for the amounts provided [the tax calculation includes the balance for a point in time, while debt amount in the Application is an average over the period].
- The calculation of Loans and Advances for corporate capital tax expense is complex and has many other factors in addition to long-term debt.
- For tax purposes, the Distribution Utility is not a stand-alone taxable entity.[121]

SaskEnergy notes that "total paid up capital" incorporates "capital investment during the year, as well as retained earnings, decommissioning liabilities, the net book value of assets and numerous other variables", and given the complexity of the calculation of the tax amount and the number of variables which impact the amount of corporate capital tax paid "the estimate for the forecast period is based on the historical amounts and adjusted for expected increases in net book values."[122] However, as illustrated in Table 3-21 below, for the actual year the percentage change in the tax amount is much lower compared to the percentage change in the net book value of the assets, while for the forecast years the increase in tax amount is higher compared to the increase in net book value of assets.

Table 3-21: Corporate Tax Expense Forecast Compared to Actuals ($000s)[123]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast
Net Book Value of Assets	510,454	559,710	637,830	723,550	737,698	793,387	867,093	945,676
Annual change		10%	14%	13%		8%	9%	9%
Corporate Capital Tax	3,829	4,191	4,177	4,370	4,514	4,514	5,378	5,992
Annual change		9%	0%	5%		0%	19%	11%

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

[120] 2nd Round Information Request 13(d).
[121] Further clarification provided by SaskEnergy on August 30, 2017 notes that "the taxable entity is the holding company" and other SaskEnergy subsidiaries are taxable entities in their own right and are not included in the holding company corporate capital tax calculation.
[122] 1st Round Information Request 13(b).
[123] Net book value of assets are from 1st Round Information Request 16(b) of 2016 Commodity and Delivery Service Rate Application and 1st Round Information Request 19(b) of 2017 Delivery Service Rate Application.

The following is noted regarding the comparison of forecast and actual corporate tax expense summarized in Table 3-21:

- In 2014, there was a negligible change in tax expense compared to the 2013 tax expense level (-$14,000 change). However, over this same period there was a 14% ($78.1 million) year over year change in the net book value of assets.
- In 2015, there was a 5% ($193,000) increase in tax expense over 2014; while there was a 13% ($85.7 million) increase in net book value of assets.
- In the 2016/17 fiscal year, there was no change in tax expense compared to 2015/16 fiscal year level; but an 8% ($55.7 million) change in net book value of assets.
- In the 2017/18 fiscal year, there was a 19% ($864,000) tax expense increase over the 2016/17 fiscal year; and a 9% ($73.7 million) increase in net book value.
- In the 2018/19 fiscal year there was an 11% ($614,000) increase in tax expense over the 2017/18 fiscal year; and a 9% ($78.6 million) increase in net book value.

SaskEnergy notes that the difference between net book value in the corporate tax calculation and plant in service is due to the accounting framework, and the most significant difference between the two frameworks relates to the treatment of customer contributions.[124] The calculation for corporate tax purposes uses IFRS, which recognises customer contributions as revenues in the year received, and total paid up capital is not reduced for the amount received from customers.

Observations

Actual tax expenses were lower than forecast for the most recent years.[125] SaskEnergy has noted that given the complexity of the calculation and the number of variables which impact the amount of corporate capital tax paid "the estimate for the forecast period is based on the historical amounts and adjusted for expected increases in net book values." However, as summarized in Table 3-21:

- The increase in net book value of assets does not appear to support the large increase in tax amount for the forecast years; and
- For the actual year the percentage change in tax amount is much lower compared to the percentage change in net book value of assets, while for the forecast years the increase in tax amount is higher compared to the increase in net book value of assets.

Outstanding debt included in the Application [see Tab 14] cannot be reconciled to the Loans and Advances included in the corporate tax calculations. SaskEnergy notes that this is due to timing of the amounts provided and the complexity of the calculation. However, the difference between SaskEnergy's average outstanding debt [about $624.1 million for the 2017/18 fiscal year and $680.7 million for the 2018/19 fiscal

[124] 2nd Round Information Request 13(b).
[125] Please see Table 3-2 where the actual tax expenses were about 5.2% lower compared to the forecast included in the 2016/17 test year. The forecast corporate capital tax expense for 2015 was at $4.650 million as illustrated in Table 3-20, while the actual was at $4.370 million [Table 3-19] or $0.280 million [6.4%] lower compared to forecast.

year] and Loans and Advances [about $1,429.7 million for the 2017/18 fiscal year and $1,534.9 million for the 2018/19 fiscal year] has not been fully explained.

Based on the review of available information, it is understood that customer contributions are not recognized in the calculation of paid up capital, i.e., SaskEnergy corporate capital tax payments include the portion calculated for the amount recovered from customers. If customer contributions are not recognized in the calculation of paid up capital it will increase SaskEnergy's taxable base that informs SaskEnergy's revenue requirement.

The Information Bulletin regarding allowable corporate capital tax deductions from the Government of Saskatchewan website[126] shows that investment allowances are determined using a formula which includes total paid-up capital and total assets; and that additional exemptions will apply based upon the proportion of total salaries and wages paid in Saskatchewan. While there are annual changes in the salaries and wages, as well as cost of assets, the tax exemption amount used for SaskEnergy has not changed (see Table 3-20).

Recommendations

The Consultant recommends that the Panel accept SaskEnergy's forecast tax expense for the test year. However, it is recommended that in the future applications SaskEnergy provide more detailed information to support the calculation of corporate capital tax, including showing how paid up total capital and loans and advances are calculated, and how these amounts reconcile to the other information provided in the Application [net book value of assets, total debt, etc.]. The Consultant also recommends that SaskEnergy review and report on the impact that the accounting treatment for customer contributions has on corporate capital tax calculations.

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 accesses debt at a lower cost than it would achieve on a standalone basis.[127]

Table 3-22 summarizes actual interest expense from 2012 to 2015 (calendar years), 2015/16 and 2016/17 (fiscal years), the forecast for the 2017/18 and 2018/19 (fiscal years), and the forecast for the 2017/18 test year compared to the 2016/17 test year. The forecast total interest expense in 2017/18 is $26.882 million, an increase of $0.598 million (2.3%) over 2016/17 test year forecasts. The forecast for the 2017/18 test year is also 18.8% (or $4.250 million) **higher** than 2016/17 fiscal year actuals, including increases in the following areas:

- A forecast **increase** in long-term debt expense of $3.171 million;

[126] http://finance.gov.sk.ca/revenue/cct/bulletins/CT-2%20Allowable%20Deductions.pdf [accesses September 1, 2017].
[127] Page 17, 2017 Delivery Service Rate Application.

- A forecast **increase** in short-term debt expense of $1.456 million;
- A forecast **increase** in accretion expense of $0.706 million; and
- Offset by **increase** in sinking fund, capitalized interest and interest allocated to commodity cost of gas of $1.049 million.

Table 3-22: Interest Expense ($000s)[128]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Forecast from 2016 Application	2017/18 Forecast from Current Application	*Change from 2016/17*	*Percent Change*
Interest on Notes Payable to Holdings Division	15,719	15,881	18,111	20,071	20,601	20,896	22,618	25,421	23,413	24,067	*654*	*2.8%*
Interest on Bank Indebtedness	1,285	1,800	1,729	1,065	949	1,016	2,014	2,655	2,499	2,472	*(27)*	*(1.1%)*
Accretion Expense		1,778	1,921	2,027	2,051	2,044	2,400	3,000	2,580	2,750	*170*	*6.6%*
Amortization of Deferred Charges	19	23	150	259	267	239	210	209	271	205	- *66*	*(24.4%)*
Sinking Fund Earnnigs	(1,728)	(1,658)	(1,416)	(2,203)	(1,281)	(1,097)	(1,711)	(2,117)	(1,715)	(1,948)	*(233)*	*13.6%*
Capitalized Interest	(969)	(877)	(616)	(143)	(183)	(147)	(239)	(248)	(231)	(244)	*(13)*	*5.6%*
Interest Allocated to Commodity Cost of Gas	(561)	(503)	(361)	(378)	(390)	(319)	(470)	(450)	(533)	(420)	*113*	*(21.2%)*
Total	**13,765**	**16,445**	**19,518**	**20,699**	**22,014**	**22,632**	**24,823**	**28,471**	**26,284**	**26,882**	***598***	***2.3%***
Annual Change		2,680	3,073	1,181		618	2,191	3,648				
Annual Change, %		19.5%	18.7%	6.1%		2.8%	9.7%	14.7%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

[128] Schedule 4.5 of 2016 Commodity and Delivery Service Rate Application and Schedule 1.5 of 2017 Delivery Service Rate Application.

Table 3-23 summarizes forecast long-term and short-term average outstanding debt. The table shows the average outstanding balance for long-term debt in 2016/17 increased by about 4.2% over 2015/16 actuals compared to an annual increase of 21.4% in 2015 over 2014. SaskEnergy has noted that investment related to property, plant and equipment and higher dividends in 2015 necessitated higher borrowing levels in 2015.[129] The annual change in the average outstanding balance for short-term debt in 2016/17 over 2015/16 was 6.5% compared to an annual increase of 13.9% in 2015 over 2014 (similar trend in the annual change of long-term debt levels).

Table 3-23: Forecast Long-Term and Short-Term Average Outstanding Debt ($000s)[130]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Forecast from 2016 Application	2017/18 Forecast from Current Application	*Change*	*Percent Change*
Long-Term Debt												
Average Outstanding Long-term Debt	256,864	258,252	316,465	384,043	384,905	400,979	438,451	498,201	460,880	470,730	*9,850*	*2.1%*
Long-Term Debt Percentage	71%	61%	66%	67%	73%	72%	70%	73%	73%	72%	*(1.6%)*	*(2.2%)*
Average Interest Rate	5.45%	5.52%	5.32%	4.72%	5.09%	5.00%	4.82%	4.72%	4.77%	4.74%	*(0.0%)*	*(0.6%)*
Short-Term Debt												
Average Outstanding Short-term Debt	103,468	166,239	165,048	187,995	145,842	155,325	185,665	182,496	167,431	185,494	*18,063*	*10.8%*
Short-Term Debt Percentage	29%	39%	34%	33%	27%	28%	30%	27%	27%	28%	*1.6%*	*6.1%*
Average Interest Rate	1.24%	1.08%	1.05%	0.57%	0.65%	0.65%	1.08%	1.45%	1.49%	1.33%	*(0.2%)*	*(10.7%)*
Total Average Outstanding Debt	**360,332**	**424,491**	**481,513**	**572,038**	**530,747**	**556,304**	**624,116**	**680,697**	**628,311**	**656,224**	**27,913**	**4.4%**
Annual Change in Long-Term Debt		1,388	58,213	67,578		16,074	37,472	59,750				
Annual Change, %		0.5%	22.5%	21.4%		4.2%	9.3%	13.6%				
Annual Change in Short-Term Debt		62,771	(1,191)	22,947		9,483	30,340	(3,169)				
Annual Change, %		60.7%	-0.7%	13.9%		6.5%	19.5%	-1.7%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

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

- **Share of Short-term versus Long-term Debt:** SaskEnergy notes that revenues peak in winter months and decline in warmer months and 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.[131] In the 2017/18 test year, the share of low cost short-term debt is forecast to be 28%, which is a slight increase from the 2016/17 test year forecast of 27%, and at the 2016/17 fiscal year actual level. The share of short-term debt from the total debt was an average of 34% for the 2012-2015 actuals.
- **Forecast Interest Rates for Short-term Debt:** 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.[132] As illustrated in Table 3-23, the average interest rate for short-term debt is forecast to increase from 0.65% in 2015/16 and

[129] 1st Round Information Request, 10(g). 2016 Commodity and Delivery Service Rate Application.
[130] Prepared based on information available from page 3, Tab 14 of 2017 Delivery Service Rate Application and Tab 14 of 2016 Commodity and Delivery Service Rate Application.
[131] Page 17. 2017 Delivery Service Rate Application.
[132] Page 4, Tab 14 of 2017 Delivery Service Rate Application. The bank forecasts were as of May 3, 2016.

2016/17 actuals, to 1.08% in the 2017/18 fiscal year and 1.45% in 2018/19 fiscal year. SaskEnergy notes that the basis for the higher forecast interest rates is consistent with the "average of the five large Canadian banks forecast for short-term Canadian rates and adjusted for debt issued from the Province of Saskatchewan."[133]

- **Forecast Interest Rates for Long-term Debt:** SaskEnergy notes that long-term debt interest rate forecasts are based on the average of Bank of Montreal, Bank of Nova Scotia, Royal Bank, TD Bank and CIBC adjusted for the Province of Saskatchewan's credit spread.[134] Table 3-24 below provides a list of current and forecast long-term debt. This shows that approximately $34 million of high interest rate long-term debt matures in 2020 [with interest rates of 6.57%-6.70%]; and two other high interest rate long-term debt instruments totalling $50 million mature in 2029 [with interest rates of 5.6%-5.75%]. During the review of the 2016 Commodity and Delivery Service Rate Application, SaskEnergy noted that it has not considered refinancing its higher rate debt for lower rate debt as market rates and fair value of those debt instruments would result in no incremental benefit to the Company.[135]

  The average interest rate for long-term debt for the 2017/18 test year is forecast to be 4.74%. This is slightly lower than the 2016/17 test year forecast of 4.77%, and lower compared to 2015/16 [average of 5.09%] and 2016/17 [average of 5.00%] fiscal year actual averages. The lower average interest rate is impacted by high forecast sinking fund earnings in 2017/18 and 2018/19 compared to 2015/16 and 2016/17 fiscal year actuals.

[133] 1st Round Information Request 12(b).
[134] 1st Round Information Request 12(e) and page 4, Tab 14 of 2017 Delivery Service Rate Application.
[135] 2nd Round Information Request 7(c), 2016 Commodity and Delivery Service Rate Application. SaskEnergy noted that market rates and fair value of debt instruments would result in no incremental benefit to the Company. Because of the fair value of the debt at those levels, the notional amount of the total debt would increase considerably to cover the difference of lower rates, eliminating any benefits of debt with lower rates.

Table 3-24: Current and Forecast Long-Term Debt[136]

Outstanding Balance, $	Interest Rate	Maturity Date
25,000,000	5.75%	March 5, 2029
25,000,000	5.60%	March 5, 2029
11,814,000	6.67%	May 2, 2020
13,572,000	6.70%	June 2, 2020
8,585,000	6.57%	July 3, 2020
50,000,000	6.40%	September 5, 2031
20,000,000	4.65%	September 5, 2017
75,000,000	5.19%	June 1, 2040
25,000,000	3.40%	February 3, 2042
50,000,000	3.90%	June 2, 2045
50,000,000	3.90%	June 2, 2045
50,000,000	3.20%	June 2, 2024
10,000,000	1.95%	Mar 1, 2019
10,000,000	3.90%	June 2, 2045
50,000,000	2.75%	December 2, 2046
50,000,000	3.30%	June 2, 2048
75,000,000	**4.39%**	**Forecast June 1, 2048**

- **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 any long-term debt maturities that have occurred during the year, which reduces the sinking fund amounts.[137] Table 3-25 illustrates the debt retirement fund earnings for the most recent actual years and the forecast for the 2017/18 and 2018/19 fiscal years, as well as forecast for 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 and to 2.4% in 2016/17 fiscal year. The forecast for the 2017/18 fiscal year is 3.3% and for 2018/19 is 3.6% which is higher than the 2015/16 and 2016/17 fiscal years. The forecast for the 2017/18 test year is 3.5% (slightly higher than the 2016/17 test year forecast at 3.4%).[138]

[136] 1st Round Information Request 12 (a).
[137] 1st Round Information Request 12 (j).
[138] 2016/17 test year Debt Retirement Fund balance was at $50.920 million as per 1st Round Information Request 10(j) from 2016 Commodity and Delivery Service Rate Application and earnings of $1.715 million as provided in Table 3-22.

Table 3-25: Debt Retirement Fund Earnings ($000)[139]

	Calendar	Fiscal Year [Apr 1 to March 31]				Nov 1 to Oct 31	
	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Forecast	2018/19 Forecast	2016/17 Test Year Forecast	2017/18 Test Year Forecast
Debt Retirement Fund Balances	42,601	43,406	46,608	51,774	58,065	50,920	55,033
Debt Retirement Fund Earnings	2,203	1,281	1,097	1,711	2,117	1,715	1,948
Average Yield	5.2%	3.0%	2.4%	3.3%	3.6%	3.4%	3.5%

- **Accretion Expense:** Accretion expense was introduced as a line item in interest expense in the June 2014 Financial Update. 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.[140] As illustrated in Table 3-22, the forecast cost for the 2017/18 test year is $2.750 million (about 6.6% higher than the 2016/17 test year forecast). As noted in Table 3-26, forecast accretion expense increases 17.6% in 2017/18 over 2016/17 and then increases by a further 25% in 2018/19. These changes reflect an increase in the forecast discount rate and the Present Value of Estimated Decommissioning Liabilities for 2017/18 and 2018/19 fiscal years compared to the 2016/17 fiscal year.

Table 3-26: Accretion Expense ($000)[141]

	Calendar	Fiscal Year [Apr 1 to March 31]			
	2015 Actual	2015/16 Actual	2016/17 Forecast	2017/18 Forecast	2018/19 Forecast
Present Value of Estimated Decomissioning Liability	83,300	104,300	100,100	109,100	123,300
Discount Rate	2.40%	2.00%	2.00%	2.20%	2.40%
Accretion Expense	2,030	2,050	2,040	2,400	3,000
Annual Inc. in Accretion Expense			-0.5%	17.6%	25.0%

- **Amortization of Deferred Charges:** The Amortization of Deferred Charges included in interest expense is forecast to be $0.205 million for the 2017/18 test year. This is about $0.06 million or 24% lower than 2016/17 test year.

Observations

SaskEnergy noted it uses deemed equity and debt for the purpose of calculating interest expense and confirmed that the interest expense included in the revenue requirement is calculated based on 63%

[139] 1st Round Information Request 12 (j).
[140] Page 3-4, 2014 Delivery Service Rate Financial Update.
[141] 1st Round Information Request 12 (i).

deemed debt of average rate base.[142] The cost of debt is calculated based on the outstanding balance of long-term debt and the remaining portion of deemed debt assumed to be short-term debt. This is consistent with the practice for other utilities that use short-term debt in regulatory filings as a balancing entry for the capital structure to maintain the debt/equity ratio.[143]

Table 3-4 shows SaskEnergy 2015/16 and 2016/17 fiscal year "savings" related to interest expense, and indicates actual savings compared to the test year forecast in each year due to restraint measures or market-driven measures of about $1.5 million in 2015/16 and $1.4 million in 2016/17.[144]

SaskEnergy notes that if more up to date short-term debt and long-term debt forecasts were used in the application, the interest expense forecast [both short-term and long-term] would be approximately $1.3 million lower compared to the forecast included in the Application. However, SaskEnergy has also clarified that if the July 2017 total debt was used as the starting point, the revised interest rate assumption would result in a $0.8 million reduction to interest expense in the test period. SaskEnergy also notes that interest rate forecasts are trending upwards with speculation of a further increase in October 2017.[145]

Short-Term Interest Rates

Compared to the actual average interest rates experienced in the 2015/16 and 2016/17 fiscal years (at 0.65%), SaskEnergy is forecasting higher interest rates for short-term debt for 2017/18 and 2018/19 (1.08% and 1.45% respectively).

The average short-term debt rate for the 2017/18 test year is at 1.33%. The information provided shows that the short-term interest rate forecast for the 2017/18 test year (from November 2017 to October 2018), ranges between 0.9% and 1.33%.[146] In the 2016 Commodity and Delivery Service Rate Application SaskEnergy had forecast short-term debt for the 2016 calendar year at 1.08% and for the 2017 calendar year at 1.58%,[147] while the actual average short-term interest rate for the 2016/17 fiscal year [which includes nine months of the 2016 calendar year and three months of the 2017 calendar year] was 0.65% (as illustrated in Table 3-23). Figure 3-2 below illustrates the forecast short-term interest rates provided by SaskEnergy in the 2016 Commodity and Delivery Service Rate Application compared to actuals. This shows that the actual interest rates were lower compared to forecast.

The actual three month average yield for Treasury bills has increased for the most recent months and shows a 0.74% average for July and August 2017[148] [compared to 0.55% in April, 0.53% in May and 0.68% in June 2017], however, this is still below SaskEnergy's forecast for the 2017/18 fiscal year (of 1.08%).

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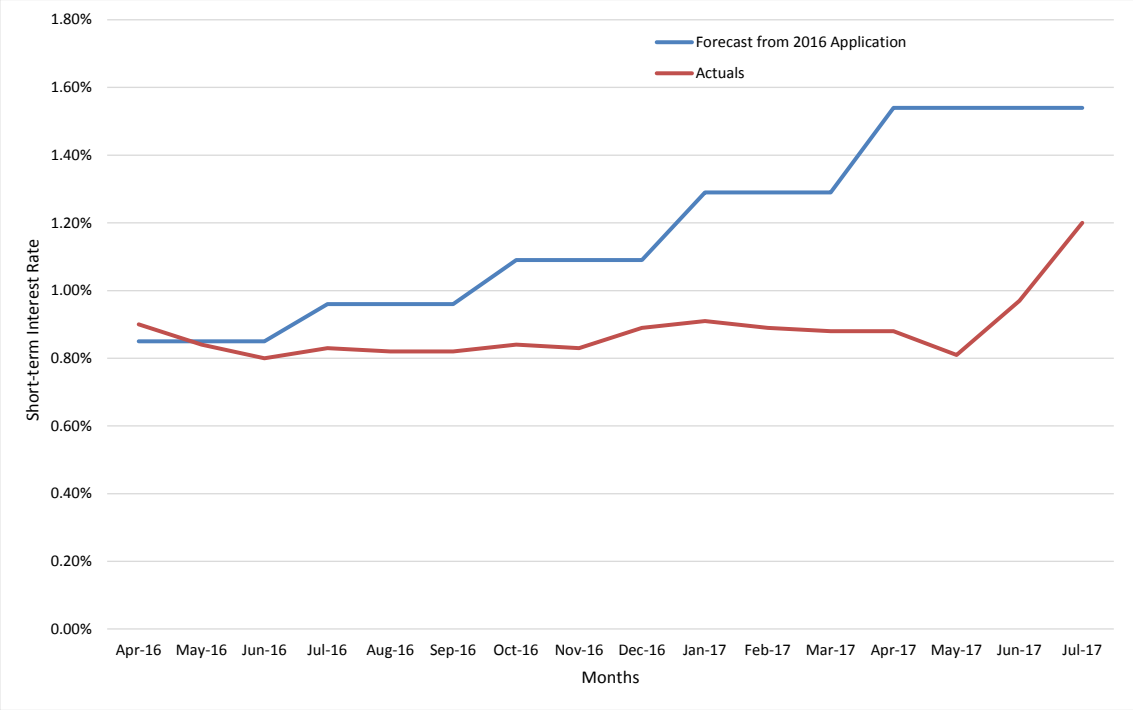
[142] 1st Round Information Request 12(h).
[143] For example, FortisBC Energy Inc. Application for 2015 and 2016 Revenue Requirements and Rates for the Fort Nelson Service Area notes that "short-term debt represents the difference between its long-term debt allocation from FEI and 61.5 percent of its rate base". Available at http://www.bcuc.com/Documents/Proceedings/2014/DOC_42756_B-1_FEI-FortNelson-2015-16-RRA-Rates.pdf [accessed on August 18, 2017].
[144] 2nd Round Information Request 1(e). Restraint measures included carrying more short-term debt versus longer term debt; and market driven measures included lower interest rates than assumed in the budget.
[145] 1st Round Information request 12(c).
[146] 1st Round Information Request 12(f).
[147] Page 2, Tab 14 of 2016 Commodity and Delivery Service Rate Application.
[148] Bank of Canada, http://www.bankofcanada.ca/rates/interest-rates/t-bill-yields/selected-treasury-bill-yields-10-year-lookup/ [accessed on September 3, 2017].

Figure 3-2: Comparison of Forecast and Actual Short-term Interest Rates[149]



A review of the forecast short-term interest rate compared to other utilities indicates as follows:

- Fortis BC Energy Inc.'s (Fortis BC) used a forecast short-term debt rate for 2018 of 2.10% (which assumes a three-month Treasury Bill at 1.22%, plus adjustments for spreads and fees).[150] This is higher than the short-term debt rate that SaskEnergy is proposing. However, Fortis BC also recovers (or refunds to/from customers) variances in interest expense through a flow-through deferral account. [151]
- The proposed short-term interest rate is higher than the proposed rate used by SaskPower in its recent rate application (which assumes a short-term borrowing rate of 0.5% for the 2017/18 fiscal year and 0.8% for the 2018/19 fiscal year).[152]

Interest expense is a forecast risk that is taken by the utility, and any losses (or benefits) that accrue due to higher (or lower) actual interest expense compared to forecast are typically borne by the utility.[153]

[149] The forecast short-term interest rates are from page 3, Tab 14 of 2016 Commodity and Delivery Service Rate Application. The actual short-term interest rates as provided by SaskEnergy in response to 2nd Round Information Request 12 (e) of 2017 Delivery Service Rate Application. As a source for the 2nd Round Information Request 12 (e) data SaskEnergy shows "Bank of Canada, monthly series, Bankers' acceptances - 3 month" while page 4 of Tab 14 notes that forecasts are based on three month Treasury bills.
[150] Pages 77 and 78 of the Fortis BC Energy Inc. Application for Annual Review for 2018 Rates before BCUC. Available at https://www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasBCUCSubmissions/Documents/170804_FEI_Annual_Review_2018_Rates_FF.pdf [accessed on August 18, 2017].
[151] Page 78 of the Fortis BC Energy Inc. Application for Annual Review for 2018 Rates before BCUC. Available at https://www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasBCUCSubmissions/Documents/170804_FEI_Annual_Review_2018_Rates_FF.pdf [accessed on August 18, 2017].
[152] Page 45 of the 2018 Rate Application shows business plan assumption for short-term and long-term borrowing. http://www.saskratereview.ca/docs/saskpower2017/saskpower-2018-rate-application.pdf [accessed on August 18, 2017].
[153] Some utilities maintain a deferral account that is intended to recover or refund the difference in the interest expenses. For example, FortisBC Energy Inc. as indicated on the previous page.

Overall, SaskEnergy has tended to have higher short-term interest rate forecasts compared to actual results and has tended to benefit from these year-over-year costs savings. SaskEnergy has continued to forecast an increase in short-term interest rates for the test year.

Long-Term Interest Rates

SaskEnergy has forecast the average interest rate for long-term debt for 2017/18 at 4.82% and for 2018/19 at 4.72%. The 2017/18 test year average interest rate forecast is 4.74% compared to 4.77% for the 2016/17 test year. The test year average interest rate is also lower compared to the actual for 2015/16 (at 5.09%) and 2016/17 (at 5.0%).

Table 3-24 shows that since the last application[154] SaskEnergy borrowed two long-term debt items: $50 million with an interest rate of 2.75% and maturity date in 2046; and $50 million with interest rate of 3.30% and maturity date in 2048, and forecasts borrowing of $75 million with an interest rate of 4.39%. SaskEnergy confirmed that the actual interest rates for the 2016 and 2017 new long-term debt issues were lower compared to the forecast included in the 2016 Commodity and Delivery Service Rate Application.[155]

The forecast interest rate also appears to be higher than the interest rate forecasts used by other utilities. In December 2016, Fortis BC issued long-term debt of $150 million with an interest rate of 3.78% for a term of 30 years and plans to issue additional long-term debt of approximately $150 million in 2017, and $150 million in 2018 with interest rates of 3.60% and 4.00% respectively.[156] Union Gas Limited assumes a 4% long-term debt interest rate in its 2017 filing.[157] SaskPower in its most recent rate application assumes a long-term borrowing rate of 3.1% for the 2017/18 fiscal year and 3.3% for 2018/19 fiscal year.[158]

Forecast Share of Short-Term Debt

SaskEnergy has noted that it intends 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.[159] For the 2017/18 test year SaskEnergy's total short-term debt is about 28% of total debt.[160] This is reasonable

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[154] The information provided in response to 1st Round Information Request 12 (a) from the current application and the information provided in response to 2nd Round Information Request 7 (a) from 2016 Commodity and Delivery Service Rate Application shows two new actual long-term debts and forecast long-term debt.

[155] 2nd Round Information Request 12 (f). The forecast borrowing for 2016 was at $75 million with 3.46% interest rate and for 2017 was at $62.5 million with 4.14% interest rate compared to actual borrowing of $50 million in 2016 with interest rate of 2.75% and $50 million borrowing in 2017 with interest rate of 3.30%.

[156] Page 76 of the Fortis BC Energy Inc. Application for Annual Review for 2018 Rates before BCUC. Available at https://www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasBCUCSubmissions/Documents/170804_FEI_Annual_Review_2018_Rates_FF.pdf [accessed on August 18, 2017].

[157] The revenue requirement for the projects assume capital structure of 64% long-term debt at 4%. Appendix G, 2017 Rates Evidence. Available at: https://www.uniongas.com/-/media/aboutus/regulatory/rate-cases/eb-2016-0245-2017-rates/UNION_APPL_2017_Rates_07102016.pdf?la=en [accessed on August 19, 2017].

[158] Page 45 of the 2018 Rate Application shows business plan assumption for short-term and long-term borrowing. http://www.saskratereview.ca/docs/saskpower2017/saskpower-2018-rate-application.pdf [accessed on August 18, 2017].

[159] 1st Round Information Request, 10(c) from 2016 Commodity and Delivery Service Rate Application.

[160] The total debt illustrated in Table 3-15 of $656.224 million is higher compared to deemed debt portion of the rate base. With rate base of $991.062 million and deemed debt ratio of 63% the rate base financed by debt would be $624.369 million [Tab 14, page 2]. This yields to 24.6% short-term debt and 75.4% long-term debt [$470.730 million long-term debt and the remaining $153.639 million financed through short-term debt].

compared to the target used by other utilities.[161] Holding a greater percentage of debt as short-term debt during periods of low interest rates may reduce overall interest expense in the short-term, but will also expose SaskEnergy to interest rate risks when interest rates begin to rise again.

Sinking Funds

SaskEnergy notes that the Ministry of Finance manages sinking fund investments.[162] The forecast earning on debt retirement funds for the 2017/18 fiscal year is 3.3% and for the 2018/19 fiscal year is 3.6%; this is higher compared to 2015/16 [3.0%] and 2016/17 [2.4%] fiscal years. The forecast for the 2017/18 test year of 3.5% is slightly higher than the 2016/17 test year forecast of 3.4%.[163] 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, as well as Present Value of Estimated Decommissioning Liabilities, are much higher compared to historical trends. As illustrated in Table 3-26 the forecast increase in liability and discount rate results in a 17.6% increase in accretion expense in 2017/18 (over the 2016/17 fiscal year) and further 25% increase in 2018/19 (over the 2017/18 fiscal year).

- In the 2016 Commodity and Delivery Service Rate Application, SaskEnergy forecast a discount rate of 2.90% for both the 2016 and the 2017 calendar years,[164] while the actual discount rate for the 2015/16 and 2016/17 fiscal years was 2%. SaskEnergy notes that discount rates are based on the zero curve for 10 to 30 year rates as provided by the Royal Bank of Canada; and a quarterly calculation of decommissioning liabilities and a historical review of the actual zero curve discount rates[165] shows "the average discount rate used had increased on a quarterly basis since the third quarter of 2016-17" and "as a result, a moderate increase to the average discount rate was incorporated into the 2017-18 and 2018-19 forecasts".[166]
- Since 2013, SaskEnergy has included accretion expense as part of interest expense with annual average expense of $1.9 million [average for 2013 calendar year through 2016/17 fiscal year] and forecast accretion expense of $2.4 million for the 2017/18 fiscal year and $3.0 million for 2018/19 fiscal year (see Table 3-22). During the 2014 Financial Update review, SaskEnergy noted that "the creation of decommissioning assets and liabilities resulted in an increase of approximately $4.6

[161] For example, Manitoba Hydro Debt Management Strategy: 2014/15, 2015/16 and 2016/17 notes that Manitoba Hydro's interest rate risk guidelines for the existing debt portfolio include maintaining an aggregate of floating rate debt and short-term debt within 15 – 25% of the total debt portfolio. https://www.hydro.mb.ca/regulatory_affairs/electric/gra_2014_2015/pdf/appendix_3_7.pdf [accessed on July 26, 2016]. SaskPower notes that it has a current strategy of maintaining a 15% short-term debt mix as a percentage of the total debt, the response to SRRP Q78 http://www.saskratereview.ca/docs/saskpower2016/saskpower-round-one-interrogatories-srrp-website.pdf [accessed on August 19, 2017].
[162] 1st Round Information Request 12(j). 2nd Round Information Request 7(i) from 2016 Commodity and Delivery Service Rate Application notes that SaskEnergy does not review the reasonableness of forecast sinking fund earning assumptions with the Ministry of Finance.
[163] 2016/17 test year Debt Retirement Fund balance was at $50.920 million as per 1st Round Information Request 10(j) from 2016 Commodity and Delivery Service Rate Application and earnings of $1.715 million as provided in Table 3-14.
[164] 1st Round Information Request 10(h) from 2016 Commodity and Delivery Service Rate Application.
[165] Which covered the period from the first quarter of 2015-16 to the first quarter of 2017-18.
[166] 2nd Round Information Request 12(h).

million in expense that the Corporation had never previously incurred"[167] and also noted that "decommissioning assets are included in Property, Plant and Equipment".[168]

SaskEnergy has confirmed that "decommissioning assets" are capitalized as part of the tangible asset and depreciation expense includes depreciation of decommissioning assets;[169] however, decommissioning assets are not included in rate base as these assets are non-cash assets and not subject to a return on investment. Based on available information the amount of removal from rate base and the impact of annual accretion expenses to that adjustment is not clear.

Peer utilities reviewed do not include asset retirement obligations in rates, and note that there is a reasonable expectation that asset retirement costs would be recoverable through future rates.[170]

Recommendations

Given the environment of increased spending on capital to support safety and integrity measures, the interest rate forecast should be subject to careful review and scrutiny.

- **Interest Rates:** The current application raises concerns regarding impacts on ratepayers due to ongoing rate increases. Interest rates appear to be high compared to most recent actuals, as well as compared to peer utilities. SaskEnergy has noted that using more up to date information [short-term and long-term debt forecasts and total debt as of July 2017] would result in a $0.8 million reduction in interest expense for the test period. It is recommended that for future applications, the most up to date rates and borrowing amounts for both short and long-term debt be used.
- **Sinking Funds:** Prior Delivery Rate Application review processes have noted the possibility of eliminating the sinking fund, and raising this issue with the Provincial Government. Given the environment of increased spending on capital to support safety and integrity measures; SaskEnergy should continue to pursue elimination of sinking fund requirements in order to reduce the burden on ratepayers.
- **Accretion Expense:** Future applications would benefit from further and more detailed information regarding how decommissioning assets are removed from rate base, the calculation of accretion expenses and its impact to the rate base adjustment.

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[167] Page 5, Tab 6 of 2014 Financial Update to Delivery Service Rates. Page 3, 2014 Financial Update to Delivery Service Rates.
[168] 1st Round Information Request 3(d) from 2014 Financial Update to Delivery Service Rates.
[169] The review and clarifications to some responses to the Information Requests with SaskEnergy on August 29, 2017 and follow up clarifications on September 5, 2017.
[170] For example, Fortis BC Inc. Consolidated Financial Statements for the years ended December 31, 2016 and 2015 [https://www.fortisbc.com/About/InvestorCentre/GasUtility/NatGasQuarterlyReport/Documents/FortisBC_Gas_2016_YE_FS_with_Notes_E2_SEDAR.pdf] indicates that, "the Corporation has not recognized an ARO as at December 31, 2016 and 2015. For regulated operations there is a reasonable expectation that asset retirement costs would be recoverable through future rates"; Manitoba Hydro notes that it "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." [https://www.hydro.mb.ca/regulatory_affairs/electric/gra_2014_2015/pdf/appendix_5_4.pdf]; 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." [Paragraph 246. http://www.auc.ab.ca/regulatory_documents/ProceedingDocuments/2013/2013-417.pdf].

3.6 NET EARNINGS

SaskEnergy is requesting approval of rates for the 2017/18 test year that would result in forecast net earnings of $30.435 million (see Table 3-1).[171] This would result in a return on equity of approximately 8.3%. SaskEnergy calculates its long-term return on equity target based on a capital structure of 37% equity[172] and average rate base during 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 3-27 summarizes SaskEnergy's actual and weather-normalized ROE for 2007 through 2015 calendar years, as well as for 2015/16 fiscal year.

Table 3-27: Actual and Weather Normalized Return on Equity[173]

		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%
5-year Average		**8.42%**	**7.50%**		
10-year Average		**8.46%**	**7.62%**	**12.13%**	**11.66%**

On an actual basis, non-weather normalized ROE for the last five years averaged 8.42%, while the average of weather normalized ROE for the same period was at 7.50%. The average for the last ten years was also in the same range.

SaskEnergy notes that the lower net income for the 2015/16 fiscal year was primarily attributable to warmer than normal weather. It notes that in 2015 weather was 6% warmer than normal and in the first three months of 2016 weather was 14% warmer than normal. SaskEnergy also notes that another contributing

[171] Schedule 1 and Schedule 1.6. 2017 Delivery Service Rate Application.
[172] Page 2, Tab 14 of 2017 Delivery Service Rate Application.
[173] 1st Round Information Request 20 (b). 2006 is based on information provided in 1st Round IR 17 (b) from 2016 Commodity and Delivery Service Rate Application. 5-year and 10-year averages are for 2011-2015 and 2006-2015 calendar years respectively. 2015/16 fiscal year was not used for average as it includes 9 months of 2015 calendar year which is already used for averaging.

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.[174]

SaskEnergy notes that it expects higher net income for the 2016/17 fiscal year. This is due to a rate increase effective November 1, 2016, as well as cost restraint measures undertaken in response to directives from the Province of Saskatchewan.[175] Schedule 1.6 of the current application shows 2016/17 fiscal year net income at $29.713 million, which results in about 9.4% non-weather normalized ROE for the 2016/17 fiscal year (or an 11.8% weather normalized ROE).[176] This is higher than the target ROE of 8.3% and higher than the five year and ten averages.

The weather normalized average consolidated ROE for the last 10 years was 11.66%.

Observations

SaskEnergy's net earnings calculations are consistent with the forecasts of rate base, capital structure and ROE described in the Application.

Typically, regulated utilities are allowed the opportunity to earn a return on equity consistent with companies with similar business risk profiles. 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 provides a financially sustainable, safe and reliable natural gas delivery system.[177]

Lower ROE for the 2015 calendar and the 2015/16 fiscal years were due to warmer than normal weather. For the 2016/17 fiscal year, the net earnings and ROE are expected to be higher due to the rate increase effective November 1, 2016, as well as lower than forecast expenses due to restraint measures.

Recommendations

The Consultant recommends that the Panel accept the proposed net earnings for the 2017/18 test year based on the forecasts included in the Application.

[174] 1st Round Information Request 18 (a).
[175] 1st Round Information Request 18 (a).
[176] Schedule 1.6 of the current application shows 2016/17 fiscal year net income at $29.713 million. Page 1 of Tab 17 shows rate base for 2016/17 fiscal year at $858.177 million and with deemed equity ratio of 37% the equity portion of the rate base would be $317.525 million which results in 9.4% non-weather normalized ROE [$29.713/$317.525=9.4%]. In response to 1st Round Information Request 18 (c) SaskEnergy notes that weather normalized net earnings for 2016/17 at $37.5 million which results in weather normalized ROE at 11.8% [$37.5/317.525=11.8%].
[177] See discussion in Section 12-2.

3.6.1 Rate Base

Rate base consists of net book value of plant in service, which is the total cost of plant in service less accumulated depreciation, plus natural gas in storage, inventories of materials and cash working capital allowance.

Table 3-28 provides a summary of rate base for 2012 through 2015 (calendar years), 2015/16 and 2016/17 (fiscal years), 2017/18 and 2018/19 (fiscal year forecasts), as well as 2017/18 test year forecast in comparison to 2016/17 test year from the previous application.

Table 3-28: Summary of Rate Base for 2012-2015 Calendar Year, 2015/16 and 2016/17 Fiscal Year Actual, 2017/18 and 2018/19 Fiscal Year Forecasts and 2017/18 Test Year Forecast[178]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Test Year Forecast	2017/18 Test Year Forecast	*Change from 2016/17*	*Percent Change*
Plant in Service at Cost	859,350	933,195	1,028,084	1,135,904	1,156,510	1,238,994	1,351,551	1,471,083	1,340,004	1,434,420	*94,416*	*7.0%*
Accumulated Depreciation	(348,895)	(373,486)	(390,254)	(412,354)	(418,812)	(445,607)	(484,458)	(525,407)	(476,896)	(508,009)	*(31,113)*	*6.5%*
Net Book Value	**510,455**	**559,710**	**637,830**	**723,550**	**737,698**	**793,387**	**867,093**	**945,676**	**863,108**	**926,411**	***63,303***	***7.3%***
Natural Gas in Storage	27,457	27,902	42,884	44,921	44,910	42,884	37,138	36,872	34,520	39,489	*4,969*	*14.4%*
Inventories of Materials	8,549	9,518	9,800	9,833	9,703	8,902	10,151	10,047	9,454	10,113	*659*	*7.0%*
Cash Working Capital	11,116	12,643	13,014	11,064	11,768	13,004	14,939	15,386	14,189	15,049	*860*	*6.1%*
Total	**557,576**	**609,773**	**703,528**	**789,368**	**804,078**	**858,177**	**929,321**	**1,007,981**	**921,271**	**991,062**	***69,791***	***7.6%***
Annual Change		52,197	93,755	85,840		54,099	71,144	78,660				
Annual Change, %		9.4%	15.4%	12.2%		6.7%	8.3%	8.5%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

Table 3-28 indicates the following:

- Between the 2012 calendar and the 2016/17 fiscal year, rate base increased by approximately $71.5 million on average per year with the highest increase in 2014 over 2013 (at $93.7 million). For the 2017/18 fiscal year, SaskEnergy is forecasting an increase of $71.1 million over the 2016/17 fiscal year; and for the 2018/19 fiscal year SaskEnergy is forecasting a further increase of about $78.7 million (over the 2017/18 fiscal year). For all years, except 2014,[179] the annual increase is due solely to increases in plant in service, slightly offset by changes in natural gas in storage, inventories and cash working capital requirements. The increase in plant in service due to increased capital spending is discussed in Section 5.0.

[178] Tab 17, 2016 Commodity and Delivery Service Rate Application and Tab 17 of 2017 Delivery Service Rate Application. During the review process of the 2016 Commodity and Delivery Service Rate Application SaskEnergy provided a corrected rate base amount for the 2016/17 test year in the Clarifications to Application Details, Round 1 & Round 2 IRs provided on July 27, 2016. The revised rate base for the 2016/17 test year was $926.637 million due a change to the Natural Gas in Storage balance to $39.868 million. The deemed equity and debt portions, as well as return on equity and debt cost in the 2016 Application, were calculated based on $921.271 million rate base as was originally filed; and SaskEnergy noted that was not recalculating its revenue requirement or requesting an adjustment for this revision. Therefore, the table shows rate base for 2016/17 test year at $921.271 million as was filed in 2016 Commodity and Delivery Service Rate Application.

[179] Part of the increase in 2014 was due to increase in natural gas in storage amount.

- The 2017/18 test year forecast is $991.062 million, or about $69.8 million (7.6%) higher compared to the 2016/17 test year. This reflects a forecast increase in plant in service, as well as an increase in natural gas in storage, inventories and cash working capital requirements.

Observations

Plant in service and accumulated amortization included in the rate base is consistent with the continuity schedule provided by SaskEnergy.[180]

No change is proposed in the lead/lag days for the calculation of the cash working capital requirement compared to the previous Application.[181] However, there is a higher lag day for Distribution Toll revenues [82.90 days compared to 40 days for the other rate revenues]. SaskEnergy notes that Distribution Toll lag days are longer compared to the lag 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".[182] The impact from this increased lag day to the revenue requirement could increase over time as Distribution Toll revenues increase.[183]

SaskEnergy forecast a 7% increase in inventories in the 2017/18 test year over 2016/17 test year. The forecast increase in inventories appears to be reasonable compared to the actual year results as well as the expected increase in capital spending as discussed in Section 5. SaskEnergy also confirmed that inventories included in rate base as part of capital additions are not included in the calculation of working capital requirements.[184]

SaskEnergy notes that the natural gas in storage value is based on an average for 13 months, from October 1, 2017 to October 31, 2018,[185] while the test year is from November 1, 2017 to October 31, 2018. This approach appears to be consistent with practice for other peer utilities.[186]

In Section 3.5, the Consultant notes uncertainty regarding how decommissioning assets are reflected in rate base.

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[180] Continuity schedule was provided in response to 1st Round Information Request Delivery 19 (b).
[181] The lead/lag days are provided in response to 1st Round Information Request Delivery 19 (c) are the same lead/lag days used in the 2016 application as provided in response to 1st Round Information Request Delivery 16 (c) from 2016 Commodity and Delivery Service Rate Application.
[182] Review and clarifications to 2nd Round Information Requests with SaskEnergy on August 29, 2017.
[183] For example, with Distribution Toll revenue forecast of $18.8 million for the 2017/18 test year the impact of using 40 lag days compared to 82.90 lag days would result in approximately $2 million decrease in rate base. Tab 14 shows the weighted average return on rate base is 5.8% which would yield to about $0.120 million reduction in revenue requirement if 40 lag days were used for Distribution Toll revenues.
[184] 1st Round Information Request Delivery 19 (g).
[185] 1st Round Information Request Delivery 19 (d).
[186] For example, Fortis BC Energy Inc. in its application for Annual Review for 2018 Rates notes that gas in storage is calculated based on 13-month average basis. Section 7, page 75 of the Annual Review for 2018 Rates. Available at: https://www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasBCUCSubmissions/Documents/170804_FEI_Annual_Review_2018_Rates_FF.pdf [accessed on August 18, 2017].

Recommendations

The Consultant recommends that SaskEnergy review the issue regarding longer revenue lag days for Distribution Tolls with TransGas in order to determine whether actions can be taken to reduce the lag days, and provide an update to the Panel in the next Delivery Service Rate Application.

The Consultant also recommends that SaskEnergy review and clarify how decommissioning assets are reflected in rate base. In future applications it would be beneficial for SaskEnergy to include a separate schedule that includes the rate base computation showing the impact of decommissioning assets to rate base.

3.6.2 Capital Structure and ROE

SaskEnergy's capital structure and ROE for the test years are outside the scope of the Panel's review parameters. However, it is noted that the deemed capital structure of 63% debt and 37% equity is consistent with previous applications and as illustrated by Table 3-29, within the range of peer utilities. The 37% equity ratio is approximately the midpoint of the ranges used by SaskEnergy's peer utilities; and the proposed ROE of 8.30% is below the average ROE for comparable major utilities in other jurisdictions.

Table 3-29: Return on Equity (%) and Common Equity (%)[187]

	Company	Return on Equity (%)	Common Equity Ratio (%)
1	Centra Gas Manitoba	6.89%	33.40%
2	ATCO Gas Calgary	8.50%	37.00%
3	SaskEnergy (target ROE)	8.30%	37.00%
4	Fortis BC (Vancouver)	8.75%	38.50%
5	Gaz Metro (Montreal)	8.90%	38.50%
6	Union Gas Limited (Hamilton)	8.93%	36.00%
7	Enbridge Gas Distribution (Toronto)	8.78%	36.00%

Observations

The Consultant recognizes that SaskEnergy must maintain a capital structure that balances financial stability with the need to maintain competitive customer rates. If the common equity ratio is too high it is costly for ratepayers as equity is generally more expensive to service than debt. 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.

[187] Tab 20, page 5, 2017 Delivery Service Rate Application.

3.7 OTHER REVENUE

SaskEnergy earns other revenue from a variety of sources including connect fees, gas marketing margins, service alterations and distribution tolls. Table 3-30 summarizes actual other revenue from 2012 to 2015 calendar years, 2015/16 and 2016/17 fiscal years, forecast for 2017/18 and 2018/19 fiscal years, and forecast for the 2017/18 test year in comparison to 2016/17 test year.

Table 3-30: Other Revenue ($000s)[188]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]				Test Year [Nov 1 to Oct 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast*	2017/18 Forecast	2018/19 Forecast	2016/17 Forecast from 2016 Application	2017/18 Forecast from Current Application	*Change from 2016/17*	*Percent Change*
Connect Fees	2,373	2,190	2,164	2,072	2,058	2,038	1,900	1,900	2,018	1,900	*(118)*	*(5.8%)*
Margin on Gas Marketing	4,629	5,229	746	4,052	3,919	6,084	2,102	2,074	1,581	2,100	*519*	*32.8%*
Late Payment Charges	326	540	1,235	1,191	1,186	1,102	900	947	885	922	*37*	*4.2%*
Customer Financing	71	81	92	99	76	122	61	61	84	61	*(23)*	*(27.4%)*
Miscellaneous Revenue	1,418	941	1,058	476	413	813	384	384	1,223	384	*(839)*	*(68.6%)*
Distribution Tolls	12,104	13,196	14,658	16,420	16,557	16,453	18,376	19,084	18,306	18,856	*550*	*3.0%*
Total	**20,921**	**22,178**	**19,954**	**24,311**	**24,209**	**26,611**	**23,724**	**24,449**	**24,096**	**24,223**	***127***	***0.5%***
Annual Change		1,257	(2,224)	4,357		2,402	(2,887)	725				
Annual Change, %		6.0%	-10.0%	21.8%		9.9%	-10.8%	3.1%				

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

Forecast other revenues in the 2017/18 test year is $24.223 million, which is about $0.127 million (or 0.5%) higher compared to the 2016/17 test year.

- **Connect Fees –** For the 2017/18 test year, connection fees are forecast to be about $0.118 million (or about 5.8%) lower than the 2016/17 test year. However, the 2017/18 and 2018/19 fiscal years are forecast to be at $1.9 million (or about 6.8%) lower compared to the $2.038 - $2.058 million actually incurred in the 2015/16 and 2016/17 fiscal years. The information provided by SaskEnergy shows that in the 2014 calendar year there were 7,332 connections, in the 2015 calendar year 5,090 connections and in the 2016/17 fiscal year 4,000 connections. SaskEnergy has forecast 4,500 connections for the 2017/18 and 2018/19 fiscal years.[189] Based on number of forecast new connections, the revenues from connections fees appears to be reasonable.
- **Margin on Gas Marketing –** 2017/18 test year revenues from margin on gas marketing are forecast to be about $0.519 million higher than the 2016/17 test year forecast (or about 32.8% higher). However, the forecast of $2.1 million for 2017/18 and 2018/19 fiscal years, as well as for the 2017/18 test year, is about two times lower compared to historical actual revenues [average of $4.1 million for 2012 calendar year through 2016/17 fiscal year; or $5.0 million in the most recent 2015/16 and 2016/17 fiscal years]. SaskEnergy notes that it is "extremely difficult to

[188] Schedule 4.7 from the 2016 Commodity and Delivery Service Rate Application and Schedule 1.7 from the 2017 Delivery Service Rate Application.
[189] 1st Round Information Request Delivery 16 (k).

forecast" gas marketing activities and that the following four factors impact margin on gas marketing revenues:[190]

- The volatility of gas prices;
- The absolute level of gas prices (low vs. high);
- The difference in the price of gas in Saskatchewan versus Alberta; and
- The availability of underutilized capacity under SaskEnergy's storage and transportation contracts.

SaskEnergy indicates that the following factors led to higher than forecast revenues in the 2015/16 and 2016/17 fiscal years:

- For the 2015/16 period, SaskEnergy was able to take advantage of an unexpected pricing environment called backwardation, where short-term prices were higher than future prices.
- For the 2016/17 period, gas prices were extremely erratic during the spring/summer of 2016 which allowed SaskEnergy to purchase gas in the spring and sell this gas later that summer at unprecedented profit margins for that time of year.

SaskEnergy notes that with the continuation of low gas prices and low price volatility, forecast profit for 2017/18 and 2018/19 of about $2.1 million is reasonable.[191]

- **Late Payment Charges –** Late payment charges in the 2017/18 test year are forecast to be about 4.2% (or $0.037 million) higher compared to the 2016/17 test year. The forecast for 2017/18 and 2018/19 fiscal years are within a reasonable range compared to the average for the 2012 calendar year through 2016/17 fiscal year which (of $0.930 million). SaskEnergy notes that it elevated collection efforts on customer accounts 30, 60, and 90 days in arrears which reduced late payment charges in the 2016/17 fiscal year. This is expected to continue into 2017/18 and 2018/19.[192]
- **Miscellaneous Revenue –** Miscellaneous revenues in the 2017/18 test year are forecast to be about 68.6% (or $0.839 million) lower compared to the 2016/17 test year. The 2017/18 and 2018/19 fiscal year forecasts at $0.384 million are $0.429 million (or 53%) lower than 2016/17 actuals (of $0.813 million). SaskEnergy notes that higher revenues in 2016/17 were related to meter move fees and energy efficiency program fees and that these amounts are "difficult to forecast as they are dependent on customer requests/demand."[193]
- **Distribution Tolls**[194] **–** 2017/18 test year forecast revenues from distribution tolls are forecast to increase by about $0.550 million (or 3%) over the 2016/17 test year forecast. The 2017/18 fiscal year forecast of $18.376 million is about $1.9 million (or 11.7%) higher than the 2016/17 test year; and the 2018/19 fiscal year forecast is about $0.708 million (or about 3.9%) higher than the

[190] 1st Round Information Request 14(a).
[191] 1st Round Information Request 14(a).
[192] 1st Round Information Request 14(b).
[193] 1st Round Information Request 14(c).
[194] 1st Round Information Request 14(d). Distribution tolls are calculated based on the forecast customer delivered volumes and contracted demand, provided by TransGas, and then multiplied by the D-toll rates.

2017/18 fiscal year. SaskEnergy notes 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.[195]

Observations

For all Other Revenue sources, except Distribution Toll revenues, SaskEnergy is forecasting a reduction from 2016/17 fiscal year actual levels. The revenues for those sources are also lower compared to the average for the last five years, from 2012 calendar through 2016/17 fiscal year actuals. The large reduction in forecast revenue relates to Margin on Gas Marketing, which is $3.9 million (or 65%) lower in 2017/18 compared to 2016/17 fiscal year actuals; and $2.0 million (or 49%) lower compared to the average for the last five years. SaskEnergy notes that it is "difficult to forecast" revenues from those sources. Table 3-31 below provides a comparison of forecasts and actuals for the last three applications.

- For the 2013 calendar year actual Other Revenues were about 10.6% (or $2.127 million) **higher** compared to forecast due to higher than forecast revenues from Margin on Gas Marketing offset by lower actual revenues from Distribution Tolls.
- For the 2014 calendar year, the actual other revenues were about 6.6% (or $1.415 million) **lower** compared to forecast mostly due to lower than forecast revenues from Margin on Gas Marketing. Actual revenues from Distribution Tolls were also lower compared to forecast.
- For the 2015 calendar year actual Other Revenues were about 7.0% (or $1.583 million) **higher** compared to forecast mostly due to higher than forecast revenues from Margin on Gas Marketing. Actual revenues from Distribution Tolls were also higher compared to forecast.

Table 3-31: Other Revenue Forecasts compared to Actuals ($000s)[196]

	2013 Forecast	2013 Actuals	Diff.	Percent Diff.	2014 Forecast	2014 Actuals	Diff.	Percent Diff.	2015 Forecast	2015 Actuals	Diff.	Percent Diff.
Connect Fees	2,444	2,190	*(254)*	*(10.4%)*	2,442	2,164	*(278)*	*(11.4%)*	2,202	2,072	*(130)*	*(5.9%)*
Margin on Gas Marketing	2,434	5,229	*2,795*	*114.8%*	2,324	746	*(1,578)*	*(67.9%)*	2,913	4,052	*1,139*	*39.1%*
Late Payment Charges	506	540	*34*	*6.7%*	588	1,235	*647*	*110.0%*	777	1,191	*414*	*53.3%*
Customer Financing	74	81	*7*	*9.5%*	74	92	*18*	*24.3%*	77	99	*22*	*28.6%*
Miscellaneous Revenue	561	941	*380*	*67.7%*	964	1,058	*94*	*9.8%*	994	476	*(518)*	*(52.1%)*
Distribution Tolls	14,032	13,196	*(836)*	*(6.0%)*	14,977	14,658	*(319)*	*(2.1%)*	15,765	16,420	*655*	*4.2%*
Total	**20,051**	**22,177**	***2,127***	***10.6%***	**21,369**	**19,953**	***(1,415)***	***(6.6%)***	**22,728**	**24,310**	***1,583***	***7.0%***

The Consultant understands that revenues related to Margins on Gas Marketing or other sources are difficult to forecast and highly variable from year to year. SaskEnergy bears the risk (or benefits) to its net income where there are variances between forecast and actual revenues. Table 3-30 shows large fluctuations year over year, especially revenues from Margin on Gas Marketing. While it is difficult to forecast revenues from Other Revenue sources, the ongoing impact of over or under-forecasting these revenues can be material.

Some peer utilities use historical actuals for forecasting Other Revenues. For example, Fortis BC calculates Late Payment Charge revenue " as a percentage of total forecast revenue" based on a "three-year average of the actual ratio of Late Payment Charges" to revenues; and Connection Charge revenue is calculated

[195] 1st Round Information Request 14 (d).
[196] 2013 forecast is from Schedule 1.8 of Delivery Service Rate Application, 2014 forecast is from Schedule 1.8 of 2014 Financial Update to Delivery Service Rates Application, 2015 forecast is from Schedule 4.7 from the 2016 Commodity and Delivery Service Rate Application.

based on " a $25 connection fee, the historical move ratio of 12.5 percent and the projected or forecast number of average customers."[197] It is also noted that Fortis BC defers variations in revenues for certain revenue components.[198]

Recommendations

The Consultant recommends that the Panel accept SaskEnergy's forecast of other revenue for the test year.

Future reviews may benefit from SaskEnergy providing a more detailed discussion regarding how it forecasts "Other Revenues", how this compares to peer utilities and whether using historical actuals to forecast revenues for late payments, customer connections and miscellaneous revenues may provide more accurate forecasts.

3.8 REVENUE DEFICIENCY

SaskEnergy's forecast net delivery revenue requirement (after other revenues) and forecast revenues at existing rates results in a revenue deficiency in the test year as summarized in Table 3-32. As approved by the shareholder, SaskEnergy proposes targeting a forecast ROE of 8.3%, which requires an increase of $9.1 million (average increase of 3.6%) in existing delivery service rates.

Table 3-32: Revenue Deficiency ($millions)[199]

	2017/18 Revenue Requirement 8.3% ROE
Net Delivery Revenue Requirement	263.2
Forecast Revenues at Current Rates	254.1
Revenue Deficiency at Current Rates	**9.1**
Average increase required over existing rates	*3.6%*
Forecast Revenues at Proposed Rates	263.2
Revenue Deficiency at Proposed Rates	**0.0**
Average increase required over proposed rates	*0.0%*

SaskEnergy notes that the incremental delivery revenue of $9.1 million results in an industry comparable ROE of approximately 8.3% over the application period. SaskEnergy notes that increases are needed to address ongoing cost pressures including:

[197] Section 5 of the Fortis BC Energy Inc. Application for Annual Review for 2018 Rates before BCUC. Available at https://www.fortisbc.com/About/RegulatoryAffairs/GasUtility/NatGasBCUCSubmissions/Documents/170804_FEI_Annual_Review_2018_Rates_FF.pdf [accessed on August 18, 2017].
[198] It notes that any variance from the forecast Southern Crossing Pipeline third party revenues "will continue to be recorded in the SCP Mitigation Revenues Variance Account and returned to or recovered from customers over a two-year period."
[199] Page 1 and Schedule 1 and 2.1. 2017 Delivery Service Rate Application.

- Strong customer growth;[200] and
- Aging infrastructure that has resulted in ongoing capital and operating cost pressures related to public safety and system expansion. Specifically, SaskEnergy notes increases are required "to support capital investment relating to public safety, system integrity, and infrastructure renewal of its distribution system." [201]

SaskEnergy notes that $7.0 million[202] of the total $9.1 million additional revenue is not weather dependent; the remaining $2.1 million will be impacted by weather and represents the incremental revenue forecast to be generated by the proposed increase to the volumetric Delivery Charge 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.

[200] Page 14. 2017 Delivery Service Rate Application. SaskEnergy notes that growth in Regina and Saskatoon are driving capital projects including a 15 km transmission pipeline expansion east of Regina, 16 km pipeline west of Regina, and a new Town Border Station. Capital projects being undertaking in Saskatoon to address growth include installing a new high pressure main pipeline, connectors and block valve system, and a Regulator Station near the Saskatoon Airport. Capital spending on these multi-year projects is approximately $30 million.
[201] Page 1. 2017 Delivery Service Rate Application.
[202] Page 23. 2017 Delivery Service Rate Application.

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 $42.7 million in efficiency savings have been achieved between 2009 and 2016/17 through implementation of a number of different productivity and efficiency measures. Annual corporate cost savings between 2009 and 2016/17 and corporate cost savings forecast for the 2017/18 test year are summarized in Table 4-1 below.

Table 4-1: Summary of Efficiency Savings[203]

	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016/17 Actual	2017/18 Forecast
	Actual Savings 2009 – 2016/17 approximately $42.7 million								
Savings	$6.0 M	$5.2 M	$5.3 M	$6.2 M	$5.5 M	$4.6 M	$5.9 M	$4.0M	**$4.4 M**

SaskEnergy notes that to the extent that corporate savings identified in the 2017 Application impact the LDC cost of service, they were incorporated into the 2017/18 revenue requirement.[204]

For the 2017/18 fiscal year, SaskEnergy has targeted a further $4.4 million in annual efficiency savings. SaskEnergy notes that initiatives planned for 2017/18 are in progress and intended to continue to provide savings to ratepayers in future periods.[205] Key measures that are anticipated to provide productivity and efficiency savings for 2017/18 are summarized in Table 4-2.

[203] Application, page 1. Tab 23, 2017 Delivery Rate Application; and 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).
[204] 1st Round Information Request 29(a).
[205] 1st Round Information Request, 29(c).

Table 4-2: Summary of Targeted 2017/18 Fiscal Year Savings[206]

Productivity and Efficiency Measures		Targeted Savings
New Revenue Initiatives	• Initiatives identified as part of the 2017/18 Business Plan relate to Facility Optimization Activity by Bayhurst Gas Limited.	**$2.4 million**
Crown Collaboration	• Anticipated Crown collaboration efficiencies relate to the areas of billing, employee surveys and insurance services.	**$0.4 million**
Business Process Changes	• Anticipated business process change savings relate to safety and integrity patrols, procurement and auto generated timesheets in TGL operations.	**$0.9 million**
Leveraging Technology	• Efficiencies planned for 2017/18 include savings from the implementation of the Distribution Work Management System and the first phase of the Communication and Collaboration infrastructure project.	**$0.7 million**

Table 4-3 outlines the productivity and efficiency measures that contributed to the $4.0 million in estimated corporate savings in 2016/17.

[206] Application, page 10. Tab 23, 2017 Delivery Rate Application; Response to 1st Round Information Request 29(c) and Response to 2nd Round Information Request 25(c).

Table 4-3: Summary of 2016/17 Productivity and Efficiency Measures[207]

Category	Description of 2016/17 Productivity Efficiency Measure & Savings
Crown Collaboration Targeted savings of $0.6 million in 2016/17 Actual savings of $1.0 million	Includes savings in the following areas: • Continued Advanced Metering Infrastructure (AMI) deployment; • Administrative savings associated with joint services installations; and • Collaboration efforts with SaskPower on postage/ envelopes as well as cathodic protection.
Leveraging Technology Targeted savings of $0.9 million in 2016/17 Actual savings of $0.2 million	Includes savings in the following areas: • Increased use of e-billing; • Time reporting efficiencies; and • Savings related to the customer information system.
Business Process Changes Targeted savings of $2.5 million in 2016/17 Actual savings of $2.5 million	Includes savings in the following areas: • Discontinuing cashiering services in Regina and Saskatoon; • Reduced response to "no heat" calls; • Additional mobile compression deployment; and • Savings related to new valves and fittings agreement.
Revenue Initiatives No targeted savings in 2016/17 Actual savings of $0.3 million	• TransGas undertook natural gas diversion deals during the year that were not anticipated in the original efficiencies plan given uncertainty related to capacity and the availability of supply.

SaskEnergy indicates that not all planned efficiency initiatives took place during the year and other initiatives that were not planned were undertaken and resulted in savings or incremental revenues.[208] A number of these initiatives have been reviewed and discussed in prior applications, including: the Joint Service Line Initiative; Damage Prevention; Leveraging SaskPower Third Party Transport; Field Office Consolidation; Advanced Metering Infrastructure Program; Enhanced Paperless Billing; Retendering Polyethylene Pipe Contract; Overtime Management – Construction and Operations; Cashiering Function Closures; and Reduction in Leaks – Service Upgrade Program.[209]

New initiatives not previously reviewed include:

- **Negotiation of Contracts with Service Providers:** SaskEnergy notes that purchasing has been working with business groups to identify goods and services that would benefit from long-term

[207] Actual savings are from 1st Round Response 29(b). 2016/17 targeted savings from Tab 25, page 1-2 of the 2016 Commodity and Delivery Service Rate Application. Savings noted are for the consolidated company and not just the distribution company.
[208] 1st Round Information Request, 29(b).
[209] See Tab 23; 2015/16 programs were reviewed during the 2016 Commodity and Delivery Service Application review process and described in in the Consultant's Report at pages 4-2 and 4-3. Tab 25 of the 2016 Application notes that Cashiering Function Closures and Reduction in Leaks – Service Upgrade Program were 2014 productivity and efficiency initiatives.

vendor relationships.[210] Benefits for efficiencies from dealing with a single vendor include: SaskEnergy is no longer required to issue quotes to the market; and shorter lead times on key project material. Further, pricing mechanisms have been negotiated to provide greater transparency and have eliminated inconsistency in pricing among vendors; and open dialogue with vendors has allowed sharing of forecasts and establishment of key performance indicators to better track vendor performance.

- **No Heat Calls:** SaskEnergy is using a strategy that encourages customers to contact a mechanical contractor for assistance in order to reduce the number of no heat calls that require a response from a SaskEnergy technician. Under the previous business policy there was a $68 charge for no heat calls during the summer season, a $95 charge for after-hours calls, and no charge during the winter season. Over the period from January 15 to January 31, SaskEnergy's anticipated number of field activities for no heat calls would have been 287; however, with this change there were only 28 no heat calls dispatched to Technicians. The following savings have been estimated by SaskEnergy[211]: hard savings realized due to reduction in overtime calls and travel and regular hours travel ($166,000 for labour; and $40,000 for vehicle); and soft savings realised due to reducing in regular time hours related to no heat calls where resources are re-deployed to other regular hours work ($117,000 labour). SaskEnergy notes that there has been very little negative feedback from customers.
- **IT Contractors – Mandatory Time Off:** SaskEnergy's corporate support group reviewed the potential impact of a two week mandatory time off period for IT contractors on the Corporation's IT capital projects. The objective was to realize substantial cost savings while mitigating the negative impact on IT project timelines. The decision was made to issue the mandatory time off notice to all project focused IT contractors for the final two weeks in December 2016. This halted progress on projects but resulted in cost savings of approximately $260,000.[212]

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 notes 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,

[210]Tab 23, page 9, SaskEnergy notes that this typically applies to material required on a frequent basis throughout the year by multiple stakeholders at SaskEnergy and TransGas. Previously, significant time was spent by multiple groups to manage these requirements; pricing was inconsistent and the process was not considered efficient with projects at risk due to inability to secure material in a timely manner.
[211] Tab 23, page 11.
[212] Tab 23, page 12.

Crown collaboration, or business processes changes that result in operating efficiencies and reduced costs."[213]

Considering the above definitions, both the 2016 Application and the 2017 Application have included initiatives that may be described more accurately as restraint measures in the description of productivity and efficiency measures.

- The 2015/16 Productivity and Efficiencies Report[214] included in the 2016 Application included spending reductions for the Energy Efficiency Program[215] and for Sponsorships.[216]
- The 2016/17 Productivity and Efficiencies Report included in the 2017 Application includes spending reductions related to the IT Contractors – Mandatory Time Off program. SaskEnergy has clarified that the identified program cost savings were short term in nature as they were shifted to a future period. As such, the program "would most appropriately be considered a restraint measure rather than an efficiency initiative".[217]

Restraint measures have affected actual results relative to the forecasts included in the 2015 and 2016 Applications and may potentially affect future applications. In the 2016 application and the 2017 application, SaskEnergy has clarified budget reductions related to restraint measures and characterized the specific measures and the quantum of costs associated with each measure. However, including descriptions of restraint measures in the Productivity and Efficiencies report may result in confusion regarding whether described savings are short term in nature or whether savings will be shared by ratepayers in future years.

Recommendations

The Consultant recommends the Panel accept SaskEnergy's proposed productivity and efficiency measures and costs. However, it is recommended that for future rate applications SaskEnergy provide in the descriptions for each productivity and efficiency program a statement indicating how it meets the definition for productivity and efficiency initiatives provided by SaskEnergy during this review process. Further, restraint programs that have been, or that will be undertaken, should be clearly identified and described.

[213] Response to 2nd Round Information Request 1(i).
[214] 2016 Commodity and Delivery Service Rate Application, Tab 25, page 14 and 15.
[215] Tab 25 of the 2016 Commodity and Delivery Service Rate Application, page 14. This notes a $200,000 cost reduction in the 2016 program budget through redesign of the Commercial Boiler program and a new approach to the New Homes market.
[216] Tab 25 of the 2016 Commodity and Delivery Service Rate Application, page 15. SaskEnergy notes a substantial reduction in sponsorship levels over the prior 3 year period with sponsorship reductions targeted to achieve a 1% level of donations relative to net profit, based on a historical 5-year rolling average of approximately $70 million in annual net income. For 2015, SaskEnergy noted a total savings of $362,295 achieved through suspending the HELP program for one year and reducing the sponsorship budget by an additional $300,000.
[217] 2nd Round Information Request 25(d).

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 2008 through 2015, average annual net capital spending was approximately $72.30 million; however, annual net capital spending more than doubled over this period increasing from $45.9 million in 2008 to $99.80 million in 2015. Going forward, SaskEnergy is forecasting average annual net capital spending of $121.83 million from 2016/17 to 2021/22. Net capital spending is forecast to increase from $96.03 million in 2016/17 (fiscal) to $132.80 million in 2017/18 (fiscal).

SaskEnergy notes that approximately $111 million of the forecasted capital planned to be completed in the 2016/17 test year was actually completed and in service (and this amount was included in rate base in that time period), and that about $17 million of planned capital was deferred and/or planned to be completed in 2017/18.[218] SaskEnergy has confirmed that the deferral of this spending was not driven by restraint initiatives in 2016/17 and indicates that spending in the following areas was deferred in 2016/17:[219]

Customer Connections	$6.0 million	Information Systems	$7.4 million
System Improvements	$0.9 million	Vehicles	$1.1 million
Meter Replacement	$0.8 million	Buildings	$0.6 million
Tools & Equipment	$0.2 million		

Table 5-1 summarizes actual and forecast capital spending for 2008 to 2015 and 2015/16 through 2021/22.

[218] Response to 1st Round Information Request 16(a).
[219] 2nd Round Information request 15(a).

Table 5-1: Total Actual and Forecast Capital Spending ($ millions)[220]

	Calendar Year [Jan 1 to Dec 31]								Fiscal Year [Apr 1 to March 31]						
Distribution	**2008 Actual**	**2009 Actual**	**2010 Actual**	**2011 Actual**	**2012 Actual**	**2013 Actual**	**2014 Actual**	**2015 Actual**	**2015/16 Actual**	**2016/17 Forecast***	**2017/18 Forecast**	**2018/19 Forecast**	**2019/20 Forecast**	**2020/21 Forecast**	**2021/22 Forecast**
Customer Connections	35.90	40.60	34.90	38.40	40.20	50.20	51.50	49.80	48.34	37.01	45.92	41.60	40.20	38.70	38.7
System Improvements	7.00	8.30	7.40	19.40	24.20	33.60	34.90	43.10	40.25	55.02	51.28	55.58	62.90	68.50	54.2
Gas Measurement	1.20	1.40	1.80	3.60	6.40	12.40	25.40	14.60	14.10	7.00	10.60	10.60	10.60	10.60	10.6
Tools/Station	1.20	1.10	0.60	1.00	0.90	1.00	0.70	1.00	0.90	1.20	1.70	2.00	1.90	1.80	1.8
Sub-total	**45.30**	**51.40**	**44.70**	**62.40**	**71.70**	**97.20**	**112.50**	**108.50**	**103.59**	**100.23**	**109.50**	**109.78**	**115.60**	**119.60**	**105.30**
General Plant															
Information Systems	6.20	3.40	9.20	13.30	11.00	12.80	5.50	7.90	8.90	9.90	16.70	16.30	16.30	14.10	14.8
Vehicles	2.70	4.60	5.30	4.20	3.70	4.30	4.60	4.50	4.60	1.90	3.00	3.40	3.80	4.20	4.7
Building/ Furniture	3.30	2.50	3.00	2.60	2.10	1.20	2.00	1.00	0.90	1.90	23.40	8.80	13.00	16.30	4.2
Regulators	0.40	0.60	0.40	0.70	0.50	0.60	0.50	0.70	0.70	0.50	0.70	0.70	0.70	0.70	0.8
Sub-total	**12.60**	**11.10**	**17.90**	**20.80**	**17.30**	**18.90**	**12.60**	**14.10**	**15.10**	**14.20**	**43.70**	**29.10**	**33.80**	**35.30**	**24.50**
Total Capital Expenditures	**57.90**	**62.50**	**62.60**	**83.20**	**89.00**	**116.10**	**125.10**	**122.60**	**118.79**	**114.43**	**153.30**	**138.88**	**149.40**	**154.90**	**129.80**
Customer Contributions	- 12.00	- 15.30	- 12.10	- 18.10	- 14.20	- 20.20	- 25.90	- 22.80	- 21.90	- 18.40	- 20.40	- 18.50	- 17.90	- 17.20	-17.2
Net Capital Expenditures	**45.90**	**47.20**	**50.50**	**65.10**	**74.80**	**95.90**	**99.20**	**99.80**	**96.89**	**96.03**	**132.90**	**120.38**	**131.50**	**137.70**	**112.60**
Annual Change		1.30	3.30	14.60	9.70	21.10	3.30	0.60		- 0.86	36.87	- 12.52	11.12	6.20	- 25.10
Annual Change, %		2.8%	7.0%	28.9%	14.9%	28.2%	3.4%	0.6%		-0.9%	38.4%	-9.4%	9.2%	4.7%	-18.2%

* SaskEnergy notes that 2016/17 actual results were not materially different from the "2016-17 Forecast" column provided in the 2017 Application schedules [which includes 11 months of actual results and one month of forecast]. Therefore, for the purpose of this report 2016/17 Forecast column numbers are referred as actuals.

[220] 2008 to 2010 actuals from Tab 6, page 7. 2013 Natural Gas Delivery Service Application; 2011 to 2014 actuals from Tab 6, page 7. 2015 Commodity and Delivery Service Rate Application; 2015 actuals from Tab 6, page 8. 2016 Commodity and Delivery Service Rate Application. 2015/16 Actual and 2016/17 to 2018/19 Forecast from Tab 6, page 8; 2019/20 to 2021/22 forecast from response to 1st Round Information Request 16(c).

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 decreased by 3% in 2016/17 (over 2015/16) but is forecast to increase by 19% over the period between 2016/17 and 2020/21. Overall expense is forecast to return to slightly above 2015/16 levels by 2021/22 (a 2% increase in 2021/22 over 2015/16 levels). As summarized in Table 5-1 spending on distribution has historically been dominated by Customer Connections. However, since 2008, spending on System Improvements has steadily and materially increased and in the forecast years (2016/17 and following) it becomes the dominant factor in this category.

- Forecast distribution spending increases are driven by material increases in **System Improvements,** which increased significantly between 2008 and 2015 ($36 million increase) and are forecast to increase by $28.25 million (or a further 70%) between 2015/16 and 2020/21. Notably, unlike spending on customer connections, capital spending related to integrity programming does not by its nature generate an incremental revenue stream for the corporation.
    - Between 2008 and 2010, actual spending averaged approximately $7.6 million annually, and then jumped materially in 2011, averaging approximately $31.04 annually between 2011 and 2015.
    - Spending is forecast to increase by a further 37% (or $14.77 million) in 2016/17 compared to 2015/16 actual spending of $40.25 million, before decreasing by 7% (or $3.74 million) in 2017/18 compared to 2016/17 spending of $55.02.
    - Looking forward, during the period from 2015/16 to 2021/22, spending on system improvements is forecast to average $55.39 million annually.
- These distribution spending increases are partially offset by forecast ongoing reductions in **Customer Connection** expense after 2017/18. After peaking at $51.5 million in 2014, customer connection expense has steadily declined (outside of an $8.91 million [or 24%] increase forecast in 2017/18). Ongoing lower spending on customer connections relates to the slower pace of new connections since 2013 as summarized below.[221] This lower pace of connections reduces capital requirements to serve new customers, but also reduces the potential for revenue growth through system expansion and new customers.[222]

Table 5-2: Summary of Annual Active Increases in Customers

2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2016/17 Actual	2017/18 Forecast	2018/19 Forecast
5,803	7,386	7,687	7,332	5,090	4,140	4,000	4,500	4,500

[221] 1st Round Information Request, 15(k).
[222] As noted in response to 1st Round Information Request 1(e), capital investment to connect new delivery customers generates incremental revenue through increased basic monthly charge revenue and incremental delivery service revenue.

- **Gas Measurement**[223] spending is forecast to flatten out at the $10.6 million level in 2017/18, after spiking between 2013 and 2015. Specifically, actual spending averaged $1.4 million per year between 2004 and 2010; but increased steadily each year between 2011 and 2014 (from $3.6 million in 2011 to $25.4 million in 2014). Increases after 2013 were driven in part by implementation of the AMI project, as well as new Measurement Canada related capital expenditures.[224] 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),[225] due primarily to completion of mass AMI deployment at the end of 2015.[226]

- 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** materially increases in 2017/18 fiscal year primarily due to the forecast purchase of SaskEnergy Place ($19.4 million of the total $23.4 million forecast expenditures on buildings/ furniture in 2017/18).[227] Absent the increase in Buildings and Furniture for 2017/18 fiscal year to address the office building purchase [$19.4 million as noted above], the forecast spending on general plant would be approximately $24.3 million (which is $10.1 million over the 2016/17 fiscal year actuals). Other areas of increase in General Plant expense in 2017/18 relate to an additional increase in Buildings and Furniture expense of $2.1 million; as well as increases in Information Systems ($6.8 million increase) and Vehicles ($1.1 million increase).

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

- **Buildings and Furniture:** Between 2011 and 2015, average annual spending in the Buildings and Furniture category was $1.78 million. Ongoing forecast annual expenditures in this category between 2018/19 and 2021/22 average $10.58 million; SaskEnergy notes that forecast expenditures in 2018/19 relate to replacement of the existing customer service centre in Regina.[228]

- **Information Systems:** Actual spending on Information Systems averaged $4.7 million between 2004 and 2009, before materially increasing in 2010 (averaging approximately $10.1 million per year between 2011 and 2015). Spending is forecast to average $15.64 million annually between

[223] Gas measurement projects typically consist of procurement of measuring equipment (such as meters used to measure gas flow at the customer's location), and increased customer connections (that can translate into an increase in the number of meter requirements and related measurement equipment).
[224] 2013 Delivery Rate Application, 1st Round Information Request, 20(i). 2014 Delivery Service Rate Financial Update, Information Request, 7(a).
[225] Response to Information Request 16(x). SaskEnergy notes that the decrease in costs in 2016/17 relates primarily to completion of mass AMI deployment at the end of 2015. AMI efforts have been ongoing since that time, but have been on a significantly smaller scale.
[226] Response to 1st Round Information Request 16(x) notes that although AMI deployment efforts have been ongoing since 2015/16 it has been on a significantly smaller scale.
[227] Response to 1st Round Information Request 16(u). The timing for this transaction was initially forecast to occur in 2015 and has been delayed to the 2017/18 fiscal year. However, this matter is still before the courts.
[228] Response to 1st Round Information Request 16(u).

2017/18 and 2021/22. The majority of 2017/18 expenditures in this category relate to the projects summarized in Table 5-3.

Table 5-3: Summary of Information Systems Expense 2017/18 & 2018/19[229]

	Capital Costs		Operating Costs	
	2017/18	2018/19	2017/18	2018/19
Distribution Work Management	5.0	0.0	0.9	1.0
Hardware Lifecycle Initiatives	0.6	0.8	0.3	0.3
Capital Project Portfolio Management	0.5	1.0	0.3	0.5
Records Information Management	0.0	0.0	2.4	2.9
Geographical Information Systems	2.7	2.5	0.4	0.6
Total	**8.8**	**4.3**	**4.3**	**5.3**

- **Other General Plant Expense:** Actual annual spending on **Vehicles** averaged $4.26 million between 2011 and 2015; forecast spending between 2016/17 and 2021/22 is forecast to be in the range of $3.5 million per year. Actual spending on **Regulators** averaged $0.6 million between 2011 and 2015 and is forecast to be in the range of $0.68 million annually between 2016/17 and 2021/22.

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 that 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.[230] Spending in system improvements is expected to continue at current levels into the future, with potential modest increases driven by regulatory compliance and maintaining alignment with industry practices.

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

- **Service Upgrades ($13.5 million in the 2017/18 and 2018/19 forecast years):**[231] Service upgrades make up between 23% and 26% of total forecast spending on distribution over the period between 2016/17 and 2018/19. SaskEnergy notes that service upgrade activities focused on areas of Saskatchewan prone to significant ground movement and the freeze/thaw cycle increased materially after 2011 due to the "unusually high number of gas leaks" in Regina in that year.

  The service upgrade program is targeted to reduce six to eight leaks per year, is credited with saving approximately 50 leaks since 2011 and is targeting 30 leak savings from 2015/16 to 2018/19, which will save about $10,000 per leak repair costs.[232] Since the program was initiated

[229] Response to 1st Round Information Request 16(w). Response to 2nd Round Information Request 15(h).
[230] 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).
[231] Tab 6, Page 4. 2017 Delivery Service Rate Application.
[232] Response to 1st Round Information Request 17(c)(ii).

in 2011, over 14,000 service connections have been upgraded in targeted areas of the province, with another 2,400 upgrades planned in 2017. SaskEnergy notes that this level of activity is expected to continue for the next 5-10 years, and over the period between 2015/16 and 2018/19 the following communities will be targeted by the Service Upgrade Program: Regina, Regina Beach, Septre, Abbey, Sovereign, Rosetown, Elrose, Shackleton, Lancer, Drinkwater, Beatty, Delisle. These sites are prioritized by historical leak rate on a three and five year rolling average basis.[233] Since this program is risk based, it is expected that program spending would reduce the required O&M expense going forward as high risk services on a three to six week leak survey cycle move to a one to four year cycle after they are upgraded (depending on location).[234]

- **Regulator/ Meter Station Upgrades ($8.362 million forecast in 2017/18 and $11.380 million forecast in 2018/19):**[235] Spending on Regulatory/ Meter Station Upgrades makes up 16-20% of total spending on distribution over the period from 2016/17 to 2018/19. As a result of continued system growth and integrity programs focused on aging infrastructure, there has been an increase in capital work associated with regulator and meter station upgrades to reduce overall risk. SaskEnergy notes that this level of activity is expected to continue.

- **Distribution Main Replacement Program ($2.650 million forecast in 2017/18 and $3.350 million forecast in 2018/19):**[236] Spending on Distribution Main Replacement Program makes up about 2-6% of forecast spending on distribution between 2016/17 and 2018/19. SaskEnergy notes that annual spending requirements are being evaluated, but are estimated to peak at around $5.0 million annually within the next 10 years and level off at around $3.0 million annually going forward.[237] SaskEnergy notes that a review of plastic resins determined that most plastics on SaskEnergy's system have a "very long life span"; however, there are a few early vintage plastics (PVC) and original PE resin (black PE) on the system that must be replaced. A review of leak trends has also identified areas with these resins that are close to end of life. Based on the review of plastic resins and leak trends, the following areas have been prioritized for the replacement program.

  - Chitek Lake
  - Saskatoon Rural Residential Areas
  - White City
  - Waldeck
  - Silton
  - Debden
  - Yorkton
  - Shellbrook
  - Buffalo Pound
  - Bell Plaine
  - Rosetown
  - Jansen
  - Swift Current
  - Dundurn
  - Moosomin
  - Schoenfeld
  - Delisle
  - Porcupine Plain
  - Blumenhoff
  - Beatty
  - Tugaske
  - Saskatoon
  - Radisson
  - Laura
  - Prince Albert

[233] Application, page 14. Tab 23, page 13; and response to 1st Round Information Request 16(f) and 17(c)(i).
[234] Response to 1st Round Information Request 1(e)(ii).
[235] Response to 1st Round Information Request 16(p). Work on existing stations throughout the province is undertaken to address integrity or system growth requirements, and can include performing design and construction activities to replace or upgrade existing station equipment (such as regulators or relief valves) to accommodate load growth. This type of work can also include remedial design and construction activities to address integrity issues and can result in upgrading or replacing station facilities such as valve or piping.
[236] Response to 1st Round Information Request 16(g).
[237] Response to 2nd Round Information Request 15(f).

Going forward, forecast annual expenditures average $10 million each year between 2016/17 to 2021/22. This is an increase over expected forecast expenditures that were reviewed during the 2016 Application process (which forecast $8.7 million in 2016, and $5.0 million annually between 2017 and 2020). SaskEnergy notes increased expense in 2017/18 and 2018/19 relates to metering costs associated with a proposed initiative to replace large diaphragm meters with newer and more compact and lightweight meter technology in order to realize efficiencies and reduce potential for injury during handling.[238]

- **Bridge Crossing/ Major Infrastructure ($8.750 million forecast in 2017/18 an $9.450 million forecast in 2018/19)**:[239] Bridge Crossing/ Major infrastructure makes up 17-19% of forecast spending on distribution over the period from 2016/17 to 2018/19; this is a material increase over the 2012-2015 period, where it comprised between 3-8% of annual spending on distribution. SaskEnergy notes that expenditure increases in 2015/16 and 2016/17 relate to the Major Growth Infrastructure Program (MGI) spending for the following projects.[240]
    - In 2015/16, $2.0 million is attributed to the cost of purchasing land and long lead material items for the Saskatoon TBS#5; and
    - In 2016/17, $10.3 million is attributed to the installation of the Saskatoon TBS#5 regulator station and an associated NPS16 distribution pipeline.

  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.[241] As summarized in Table 5-4, the MGI program is focused on addressing growth and reliability concerns in the communities of Saskatoon, Regina, Prince Albert, North Battleford, Humboldt and Moose Jaw.

  SaskEnergy notes that major changes in forecast assumptions compared to information provided during the 2016 Commodity Rate and Delivery Service Application review are attributed to safety and integrity investment with a focus on addressing major infrastructure in major urban centres in Saskatchewan.[242] Notably, overall spending on projects currently being planned as part of the MGI program, and to be implemented over the period from 2015/16 to 2023/24, has increased by about $21.5 million compared to the projects reviewed at the time of the 2016 Application.[243]

[238] Response to 1st Round Information Request 16(c).
[239] Tab 6, Page 6. 2017 Delivery Service Rate Application.
[240] Response to 1st Round Information Request 16(s).
[241] Application page 14. 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.
[242] Response to 1st Round Information Request 16(c).
[243] See August 2016 Consultant's Report, for the 2016 Commodity Rate and Delivery Service Application, Table 5-3 which indicates forecast costs totalling $77.4 million over the period from 2015/16 through 2023/24.

Table 5-4: Summary of Major Infrastructure Growth Spending[244]

City	Assessment of Current & Long Term Plans	Identified Projects	Project Timeline	Estimated Costs
Saskatoon	Management of load growth and system reliability. • Install 5th TBS in northwest Saskatoon & associated pipeline and distribute Regulating stations. • New TBS to replace TBS#2 (adjacent to existing facilities) & install an IP pipeline from TBS#2 south through commercial area to allow for continued growth south of Saskatoon. • Additional pipeline infrastructure to accommodate changing load in proximity to University of Saskatoon and to address further growth and balance City IP flow between TBS#2 and TBS #4	TBS#5	2015/16 to 2017/18	$16.51 million
		TBS #2 Replacement	2018/19 – Purchase Land Install IP Pipeline 2021/22 – Relocate bulk odorant facilities 2022/23 – replace TBS #2	$7.15 million
		Central Avenue IP Main	2018/19 to 2022/23	$6.3 million
Regina	The current distribution system is approaching capacity due to continued subdivision growth. • Additional system requirements due to subdivision developments that are located further away from core system pipelines. • New Elevated Pressure (EP) pipelines are required to ensure adequate capacity for continued city growth. • High pressure (HP) pipelines supplying gas to TBS#1 & TBS#2 are located in close proximity to residential & commercial areas.	East Regina	2017/18 to 2021/22	$13.5 million
		Southwest Regina	2017/18 to 2023/14	$9.0 million
		Northwest Regina	2017/18 to 2023/24	$17.2 million
North Battleford	Management of load growth and system reliability. • Need for a 3rd TBS to support growth potential on the east side of North Battleford. • Need to incorporate flood control measures at TBS#1.	TBS #3	2017/18 to 2023/24	$7.25 million
		TBS#1	2023/24	$4.0 million
Prince Albert	Management of load growth and system reliability. • Need for a 2nd TBS to provide additional supply on the east side of Prince Albert.	TBS#2	2017/18 to 2020/21	$9.5 million
Moose Jaw	Management of load growth and system reliability • Need for a 2nd TBS for additional supply on the south side of Moose Jaw.	TBS#2	2017/18 to 2023/24	$9.2 million
Humboldt	Provide future capacity to allow for growth and to increase reliability in the system. • Replace TBS#2 and the associated pipeline to reduce reliance on TBS#1.	TBS#2	2017/18 to 2019/20	$1.18 million
Total Estimated Spending between 2015/16 and 2023/24				**$100.8 million**

[244] Response to 1st Round Information Request 16(d) and 2nd Round Information Request 15(e).

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. As such, a review of SaskEnergy's capital program is necessary to understand the cost drivers behind the proposed revenue requirement and delivery service rates, and provides some context for future rate drivers going forward. The following is noted in this regard:

- SaskEnergy's net capital expenditures are forecast to average $121.83 million annually over the period between 2016/17 and 2021/22. SaskEnergy notes 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.
- SaskEnergy notes that annual spending for safety and infrastructure renewal accounts for 5% of distribution utility rate base; and that the average distribution company in Canada spent 8% of their rate base on similar safety and infrastructure renewal.[245] Only a small portion of the system is upgraded at any given time; and SaskEnergy strives to upgrade 1% of infrastructure annually. Consequently, about 5% of the system has been upgraded since 2010, and SaskEnergy expects this pace of renewal will continue going forward.[246]
- SaskEnergy indicates that renewal of infrastructure through the Capital Expenditure Program may produce some gains in operating and maintenance budgets due to new equipment having a less frequent failure rate; however, this impact will be offset by the remaining aging infrastructure that still exists in the system that may drive increased costs due to unplanned maintenance and call outs. The main capital expenditure areas that can result in lower O&M costs are as follows: Regulator/ Meter Station Upgrades; Line Heater Upgrades; Service Upgrades; and Distribution Main Replacement.[247] SaskEnergy has not completed an analysis to determine the extent of O&M savings related to these initiatives.

Concern is noted regarding the sustained spending requirements that will continue to drive revenue requirement increases related to depreciation expense, capital tax and interest expense. These ongoing and sustained 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 will continue to have over the period from 2016/17 to 2018/19.

[245] Response to 1st Round Information Request 17(a). SaskEnergy notes that each peer utility is structured differently (i.e., private ownership, publicly traded; and Crown owned).
[246] Response to 1st Round Information Request 17(a).
[247] Response to 1st Round Information Request 16 (j).

Table 5-5: System Improvements Impact on Rates and Debt: Equity[248]

	Calendar Year					Fiscal Year Forecast			
	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Forecast	2017/18 Forecast	2018/19 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%
Impact ot Debt/ Equity - Increase (decrease)	1.3%	1.5%	1.7%	1.5%	1.7%	1.8%	2.4%	2.0%	1.9%

It is noted that while a significant portion of capital expense in the test year and going forward is focused on integrity and growth projects, material and increasing amounts are also being spent in the following areas, which do not appear to relate directly to system integrity or growth requirements:

- **Gas Measurement** ($10.6 million in forecast 2017/18, with spending forecast to continue at this level over the period to 2021/22): spending relates 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** ($16.7 million forecast in 2017/18, and average annual spending of $15.38 million between 2018/19 and 2021/22): spending relates to a number of ongoing initiatives including the Capital Planning Portfolio, the GIS Project, Distribution Work Management, Hardware Lifecycle Initiatives, the CIS Upgrade project and Unified Communications and Collaboration initiative.
- **Buildings and Furniture** ($23.4 million forecast in 2017/18, and average annual spending of $10.58 million between 2018/19 and 2021/22): spending primarily relates to the planned purchase of SaskEnergy place in 2017/18 and ongoing expenditures thereafter to begin to address replacement of the existing customer service centre.

SaskEnergy was asked what factors led to the initial prioritization of the above forecast capital expenditures and what circumstances would result in the re-prioritization of spending. SaskEnergy noted that the prioritization process "is in its infancy stage" and "was not significantly relied upon to make capital spending recommendations for the 2017/18 fiscal year." Further, decisions on these expense items were "guided by the core values of the corporation such as safety impacts, franchise obligations, financial return (including productivity and efficiency impacts) and regulatory requirements," "these capital expenditures are necessary to conduct the business of the distribution utility and are driven by regulatory requirements as well as the corporation's firm commitment to provide safe and reliable service to customers in an efficient manner", and "the primary drivers of these investments are the distribution utility customer base which grows steadily each year, as well as the corporation's objective to keep pace with industry best practices".

SaskEnergy notes that it is making ongoing efforts to ensure that it has appropriate systems in place to identify and respond to infrastructure risks and prioritize capital spending. Going forward, SaskEnergy

[248] 2016 Commodity Rate and Delivery Service Application response to 1st Round Information Requests, 14 (q); and response to 1st Round Information Request 16(y).

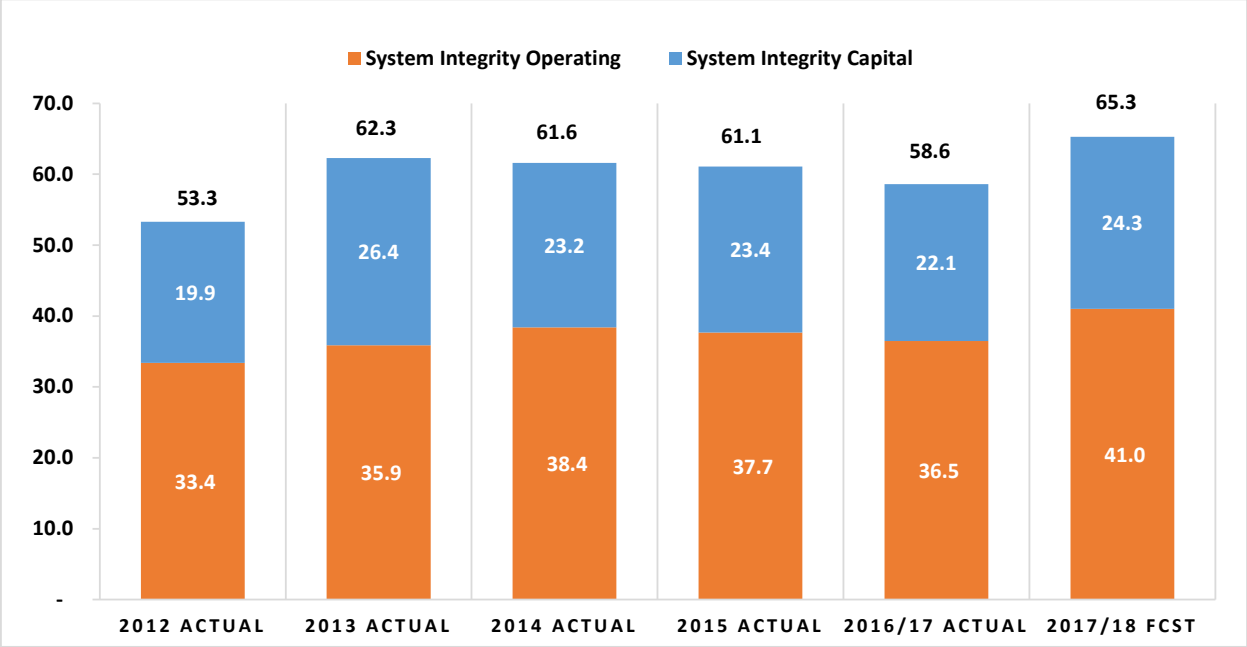
should be encouraged to provide detailed updates regarding the implementation of capital review and prioritization systems, and to explain how the results of ongoing assessments are impacting the capital program incorporated into test year revenue requirements. SaskEnergy should continue to provide updates regarding the measures and processes it uses to prioritize capital spending at subsequent applications. It may be helpful to Panel for SaskEnergy to provide an update to the Panel regarding the ongoing implementation process for dealing with prioritization of capital expenditures as part of its next application.

6.0 SAFETY AND RELIABILITY

SaskEnergy's distribution system is extensive, consisting of 84,000 km of distribution pipeline infrastructure that serves over 387,000 customers over a 380,000 km^2 service area that operates over diverse terrain in extreme weather conditions.[249] SaskEnergy indicates that substantial ongoing monitoring and maintenance is required to meet its primary objective of providing safe and reliable service to customers. 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.[250]

SaskEnergy notes that its system integrity program uses an enterprise risk approach that focuses on the risks faced by the approximate $2 billion of SaskEnergy/ TransGas facilities that deliver natural gas to industrial, businesses and residences throughout the province.[251] Further SaskEnergy notes that it has increased the amount of operating and capital budgeted for integrity programing from $53 million in 2012 to $65 million in 2017/18 as summarized in Figure 6-1 below.[252]

Figure 6-1: Summary of Capital and Operating Integrity Spending[253]



[249] 2017 Delivery Service Rate Application. Tab 23, page 1.
[250] Page 6, 2017 Commodity and Delivery Service Rate Application.
[251] Page 12. 2017 Commodity and Delivery Service Rate Application.
[252] Application, page 13.
[253] 1st Round Information Request 15(b); 2nd Round Information Request 14(e).

Safety and reliability spending is included in the following areas:

- **Capital Programming:** The application indicates that annual distribution related capital programming spending has grown from approximately $24 million in 2012 to $43 million in 2015; and is forecast to grow from $40 million in 2015/16 fiscal year to $55.6 million in the 2018/19 fiscal year.[254] Key areas of spending on system integrity capital are summarized below:[255]
    - **Service Tee Upgrades** on average made up 58% of total system integrity capital spending between 2012 and 2016/17 (actual), and are forecast to be 56% of total spending on system integrity capital in 2017/18.
    - **Alterations – Services and Service Tee Upgrades** on average made up 19% of total system integrity capital spending between 2012 and 2016/17 (actual) and are forecast to be 13% of total spending on system integrity capital in 2017/18.
    - **Distribution Pipe Replacements** on average made up 5% of total system integrity capital spending between 2012 and 2016/17 (actual) and are forecast to be 7% of total spending on system integrity capital in 2017/18.
- **Planned Maintenance Program:** Approximately 14% of SaskEnergy's total operations and maintenance expenses relate to the planned maintenance program for the test period.[256] This includes spending on safety and integrity measures related to cathodic protection and leak surveys which averaged $2.5 million per year between 2012 and 2015 and is forecast to be $3.0 million in 2017/18 and $2.8 million in 2018/19.[257] System integrity operating expenses also include annual spending in the following areas[258]:
    - **Service Technicians –** average spending of $17.3 million annually between 2012 and 2016/17, and forecast costs of 19.5 million in 2017/18;
    - **Maintenance and Instrument Technicians –** average spending of $14.6 million annually between 2012 and 2016/17, and forecast costs of 15 million in 2017/18;
    - **Planning and Dispatch –** average spending of $2.3 million annually between 2012 and 2016/17, and forecast costs of 3.1 million in 2017/18; and
    - **General Administration –** average of $0.216 million annually between 2014 and 2016/17, and forecast costs of $0.300 million in 2017/18.
- **Safety & Awareness Programming included in O&M Expense:** Actual O&M spending on safety and awareness programing decreased between 2012 and 2015 (from $0.718 million to $0.373 million), and increased moderately between the 2015/16 and 2016/17 fiscal years (from

[254] Tab 6, page 4; Tab 7, page 2. 2017 Commodity and Delivery Service Rate Application.
[255] 1st Round Information Request 15(b).
[256] 1st Round Information Request, 15(a). 2017/18 O&M expenses are forecast at $124.245 million.
[257] 1st Round Information Request, 27(b).
[258] 1st Round Information Request 15(b); and 2nd Round Information Request 14(e).

$0.350 million to $0.491 million). However, O&M spending on safety and awareness programing is forecast to increase materially in the test year to $0.761 million.[259]

SaskEnergy notes that the annual investment in safety and infrastructure is expected to be ongoing with elevated spending over the next five years. A maximum of 5% of the system has been upgraded since 2010, and it is expected that 1% of infrastructure will be upgraded annually going forward.[260] SaskEnergy is continuing to focus on service tee and related service upgrades as part of its 10 year plan to address known higher risk installations, and the Service Upgrade Program is expected to result in a measurable decrease in gas leak incidents associated with service lines. SaskEnergy is also continuing with its Distribution Main Replacement Program.[261]

SaskEnergy's safety and reliability activities and measures also include:

- **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. Annual capital costs for damage prevention have increased from $1,180 in 2016/17 to $100,000 forecast in 2017/18, and $250,000 forecast in 2018/19. Annual operating costs have increased from $60,000 in 2015/16 (actual) to $98,400 for 2016/17 to 2018/19 (forecast).[262]
- **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 $13 million of planned expenditure on service line upgrades, as well as continuation of existing initiatives such as service tee upgrades, lane upgrade work, and other programming in 2017.
- **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.[263]

[259] 2017 Commodity and Delivery Service Rate Application, 1st Round Information Request 5(a).
[260] 1st Round Information Request 17(a).
[261] Page 14. 2017 Commodity and Delivery Service Rate Application. Tab 6, page 6.
[262] 1st Round Information Request 16(h). SaskEnergy notes that the Sask 1st Call Safety Patrol program is run on an annual budget of $180,000 shared evenly between SaskEnergy, SaskPower and SaskTel; and that SaskEnergy's direct costs are $60,000 annually and paid for by SaskEnergy Operations. Distribution Daily Ground patrols of higher risk pipelines in Regina and Saskatoon are $38,400 per year under contract. Modest increases may be required to patrol new EP pipelines that are in planning phase. Capital damage prevention will increase starting in 2017 and will include planning and testing of new urban pipeline markers.
[263] Tab 7, page 1-4. 2017 Commodity and Delivery Service Rate Application.

SaskEnergy also notes that in 2016 it achieved an average emergency response time to site of 19 minutes, which is comparable to other utilities and is felt to be an appropriate level of service.[264]

6.1 SAFETY AND RELIABILITY MEASURES

In 2013, SaskEnergy simplified its reporting measures for safety and reliability of the distribution system in order to provide more clear comparisons with available industry metrics.[265] As part of this process, SaskEnergy replaced the Reliability Index in place since 2007 with a Target Leak Rate measure. The Application indicates that the number of leaks per 1,000 km of mains is the primary measure, and the secondary measure is the level of spending directed at safety and integrity initiatives.[266]

SaskEnergy provided the following summary information regarding how it compares to industry regarding the target leak rate and level of spending metrics.[267]

- **Level of spending directed at safety and integrity initiatives (leading indicator)**
    - SaskEnergy spending on mains is lower than industry ($13.8 million versus $44.8 million for industry, normalized for the size of the SaskEnergy system); however, SaskEnergy's system is relatively newer with most PE installed in the 1980's.
    - SaskEnergy spending on services aligns with industry ($18.0 million versus $18.1 million for industry, normalized for the SaskEnergy number of services).
- **Number of gas leaks per 1,000 kilometres of mains and 1,000 services (lagging indicator)**
    - SaskEnergy total leaks on gas mains per 1,000 km of main is significantly lower than industry (1.25 leaks per 1,000 km of mains versus 8.0 leaks per 1,000 km of mains for industry). SaskEnergy notes that it has materially lower leaks than industry due to the fact that a large majority of SaskEnergy' system is comprised of rural plastic and new, which can hide results of older infrastructure that still needs to be addressed.[268]
    - SaskEnergy total leaks on gas services per 1,000 services is slightly lower than industry (0.73 leaks per 1,000 services versus 1.1 leaks per 1,000 services for industry).

[264] Tab 7, page 4.
[265] See 2013 Delivery Rate Application, Tab 7, page 1, which notes that prior to 2013, SaskEnergy used a Reliability Index (comprised of eight lead and lag indicators) for reporting on quality of maintenance and operation of the distribution system while minimizing service interruption to customers. Historic lead and lag indicators under this system included: operator error; third party damage; number of customers impacted by an outage; average estimated cost to restore service; average outage duration; percentage of planned maintenance completed according to schedule; and percentage of training and job observations completed according to schedule.
[266] 2016 Commodity and Delivery Service Rate Application, 1st Round Information Request, 23 (j) notes spending itself is not deemed to be a safety metric, but rather that this metric is used as an accountability metric to ensure that integrity dollars are set aside and not used on other projects or deferred into the future.
[267] 2nd Round Information Request 16(i).
[268] 2016 Commodity Rate and Delivery Service Application. 2nd Round Information Request 18(a).

In 2013, SaskEnergy selected a target combined (service and main) leak rate of 7.70 or less leaks per 1,000 km of mains,[269] which was aligned with the Canadian Gas Association (CGA) indicator of number of failures per 1,000 km of mains,[270] noting that this would enable it to be in the top quartile of all Canadian companies that reported leaks in 2011.[271]

Target versus actual leak rates over the period from 2013 to 2016 calendar years are summarized in Table 6-1, along with a high level explanation of the change in number of leaks each year. For 2016, SaskEnergy had a target combined leak rate of 5.8 or less leaks per 1,000 km of mains, with an actual combined leak rate of 5.36 leaks per 1,000 km of mains. 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.[272]

[269] Tab 7 of the Application in error indicated a target leak rate of 1.70 for 2013; this was corrected to 7.70 leaks/1,000 km of mains in 1st Round Information Request 25(b) of the 2013 Delivery Service Rate Application.
[270] 2nd Round Information Request 7(a) from the 2013 Delivery Service Rate Application.
[271] 1st Round Information Request 25(b) from the 2013 Delivery Service Rate Application.
[272] 2016 Commodity Rate and Delivery Service Application. 2nd Round Information Request, 18(b).

Table 6-1: Target vs. Actual Combined Leak Rate per 1000 km of Main (2012 to 2016)[273]

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	5.95	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	5.96	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	5.36	5.8	All categories are down, credited to dry year, service upgrade program and damage prevention efforts.

SaskEnergy also provided a breakdown of the causes/categories of leaks between 2011 and 2016 which are summarized in Table 6-2. SaskEnergy notes that weather can materially impact the annual number leaks, and that rainfall and snowmelt tend to correlate to increased system leaks in geotechnical sensitive areas such as Regina (heavy clay) and Last Mountain Lake (slope).[274]

[273] 2nd Round Information Request 16 (e). The numbers for 2008 through 2011 are from 2013 Delivery Service Rate Application.
[274] Response to 1st Round Information request 17(d).

Table 6-2: Total Leaks and Leak Cause: 2011 to 2016[275]

Year	Leaks/ 1,000 of Mains	kms of Main	Pulled Service	Material Defects	Corrosion	Other	Total Leaks	Spending included in OM&A
2011	8.63	67,691	212	17	18	337	584	$2.1 Million
2012	5.82	68,092	122	22	11	233	396	$2.1 Million
2013	5.95	68,612	134	20	10	244	408	$2.5 Million
2014	5.96	69,015	142	28	14	227	411	$2.2 Million
2015	5.88	69,015	86	35	14	271	406	$3.1 Million
2016	5.36	69,015	73	33	17	247	370	$3.2 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 for 2016 is 2016/17 fiscal year. All other years are calendar

The summary provided indicates that over the period from 2012 to 2016 the total number of annual leaks has declined by 3%; however, there is considerable year to year variability with a 40% decline noted between 2011 and 2012; a 17% increase in 2013 over 2012; a 1% increase in 2014 over 2013 and a 1% decrease in 2015 over 2014. The following is specifically noted regarding the categories of leaks noted in Table 6-2.

- **Pulled Services (Natural Forces):** The percentage of total annual leaks relating to pulled services has decreased from 36% of total leaks (in 2011) to 20% of total leaks (in 2016). In 2016, the majority of leaks due to pulled services occurred in Regina (approximately 25% of total leaks in this category) and Humboldt (approximately 16% of total leaks in this category).
- **Material Defects/ Construction Defects:** The percentage of leaks relating to material defects/ construction defects has increased over the period. Leaks due to material defects have increased from 3% of total leaks in 2011 to 9% of total leaks in 2015 and 2016. In 2016, the majority of leaks due to material defects/ construction defects occurred in Regina (approximately 24% of total leaks in this category).
- **Corrosion:** Leaks due to corrosion have ranged between 18 leaks in 2011 to 10 leaks in 2013, with 17 leaks reported in 2016. Overall leaks in this category have been between 2% and 5% of total leaks over the period. The majority of leaks due to corrosion occurred in Saskatoon area[276] (53% of total leaks in this category if Saskatoon and City, and areas East, North and West are considered).
- **"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

[275] 1st Round Information Request 17(d) and (e); as corrected by 2nd Round Information Request 16(e). Corrections to both sets of data was provided in follow up information regarding reliability statistics provided by SaskEnergy on August 30, 2017.
[276] Per the response to 1st Round Information request 17(f) Saskatoon area includes: Saskatoon, Saskatoon City, Saskatoon East, Saskatoon West, and Saskatoon North.

leaks to 68% of total leaks over the period. Leaks in this category increased materially in 2015 (from 227 to 271) and the decreased again in 2016 (to 247 leaks in that year). Total leaks in the "Other" category are summarized in Table 6-3 and outlined in further detail below.

Table 6-3: Other Leaks Category from 2012 to 2016[277]

	2012	2013	2014	2015	2016
Pulled Service/ Natural Forces	122	134	142	86	73
Material Manufacturing or construction defect	22	20	28	35	33
Corrosion/ Degradation	11	10	14	14	17
Other	**237**	**244**	**227**	**271**	**247**
Equipment Malfunction	*9*	*6*	*15*	*19*	*30*
External Interference	*186*	*192*	*189*	*217*	*154*
Incorrect Operation	*36*	*43*	*17*	*19*	*23*
Unable to classify	*6*	*3*	*6*	*16*	*40*
Total Leaks	**392**	**408**	**411**	**406**	**370**

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 79-83% of leaks between 2012 and 2015. The majority of leaks due to external interference in 2016 occurred in Regina (13% of total leaks in 2016) and in the Saskatoon Area (12% of total leaks in 2016).
- **Equipment Malfunction** accounted for between 2% and 7% of total leaks over the period from 2012 to 2015 (between six and 19 leaks each year). Leaks increased in 2016 from 19 leaks to 30 leaks (12% of total leaks in 2016). In 2016, the highest percentage of leaks in this category occurred in Rosetown (30% of leaks in this category); in contrast Regina and the Saskatoon area each had 13% of total leaks in this category.[278]
- **Incorrect Operation** accounted for between 7%-18% of total leaks over the period from 2012 to 2016 (between 17 and 43 leaks) and has declined in recent years compared to 2012 and 2013. The Saskatoon area had the highest number of leaks in this category in 2016 (33% of total leaks in this category).
- **Unable to Classify** accounted for between 1% and 16% of total leaks over the period from 2012 to 2016 (between three and six leaks per year from 2012 to 2014, 16 leaks in 2015 and increasing to 40 leaks in 2016). Saskatchewan had the highest number of total

[277] 1st Round Information Request 17(d) and (e); as corrected by 2nd Round Information Request 16(e). Corrections to both sets of data was provided in follow up information regarding reliability statistics provided by SaskEnergy on August 30, 2017.
[278] Response to 2nd Round Information Request 16(b). SaskEnergy notes that this is a newer leak category added in 2013, and categorization of leaks has not been consistent over the period. As such, the increase in leaks from 6 in 2013 to 30 in 2016 relates more to better classification of leaks (rather than an actual increase in equipment malfunction incidents over the period).

leaks in this category in 2016 (18% of total leaks in this category). Regina and Rosetown each had 15% of total leaks in this category in 2016.

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.

Overall, the highest number of leaks in 2016 occurred in **Regina** (58 in total) and the **Saskatoon area** (56 in total). These centres also have the highest 3 year and 5 year average leaks as summarized in Table 6-4, and in each case, the 2016 total leaks are well below the 3-year and 5-year average leaks for the regional centre.

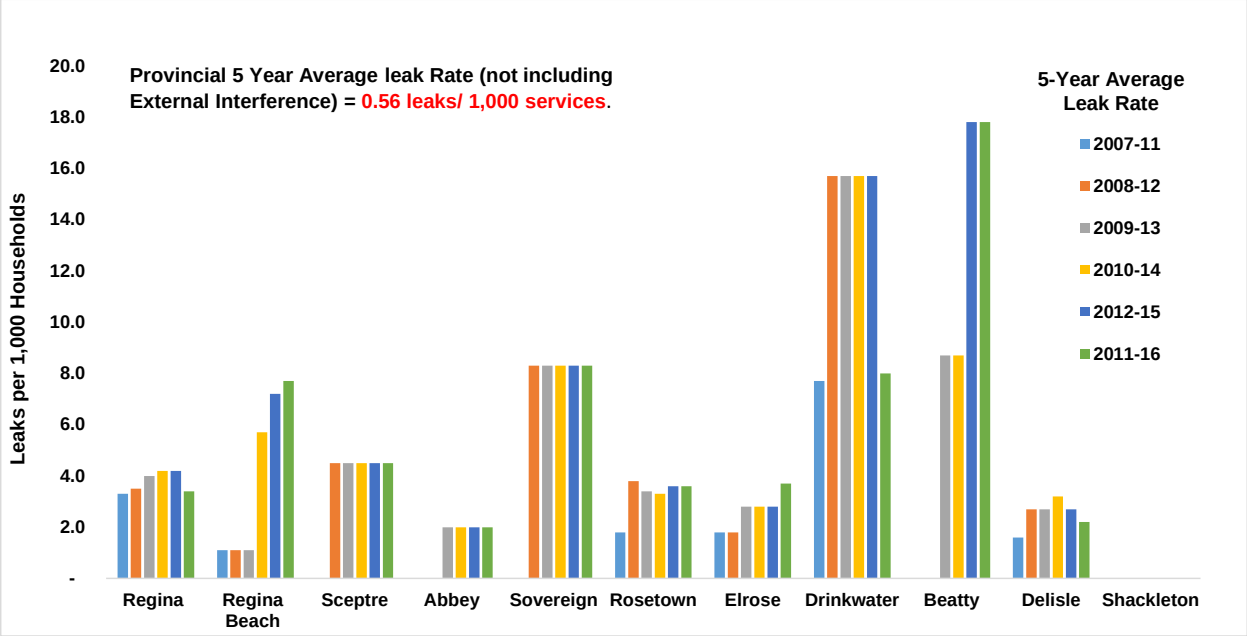
Table 6-4: Regional Centres with Highest Average Leaks (3 Year Average & 5 Year Average)[279]

	Reginal Centre	Total 2016 Leaks	3 Year Average	5 Year Average
1	Regina City	58	74	92
2	Saskatoon Area[280]	56	77	73
3	Lumsden	12	22	16
4	Prince Albert	13	21	20
5	Rosetown	24	15	16
6	Moose Jaw	16	13	12
7	White City	5	10	10
8	Humboldt	20	10	8
9	Swift Current	9	10	11
10	Davidson	12	9	7

SaskEnergy also 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. The service upgrade program tracks community leaks rates and prioritizes communities based on the historical leak rate for each community on a three and five year rolling average basis.[281] SaskEnergy notes that service upgrades are targeted for the following communities between 2015/16 and 2018/19: Regina, Regina Beach, Septre, Abbey, Sovereign, Rosetown, Elrose, Shackleton, Lancer, Drinkwater, Beatty, and Delisle. The five-year average leak rate for each of these communities (except Lancer) is summarized in Figure 6-2. The provincial five year average for leaks (not including external interference) is 0.56 leaks per 1,000 services, well below each of the communities outlined below (except Shackleton).[282]

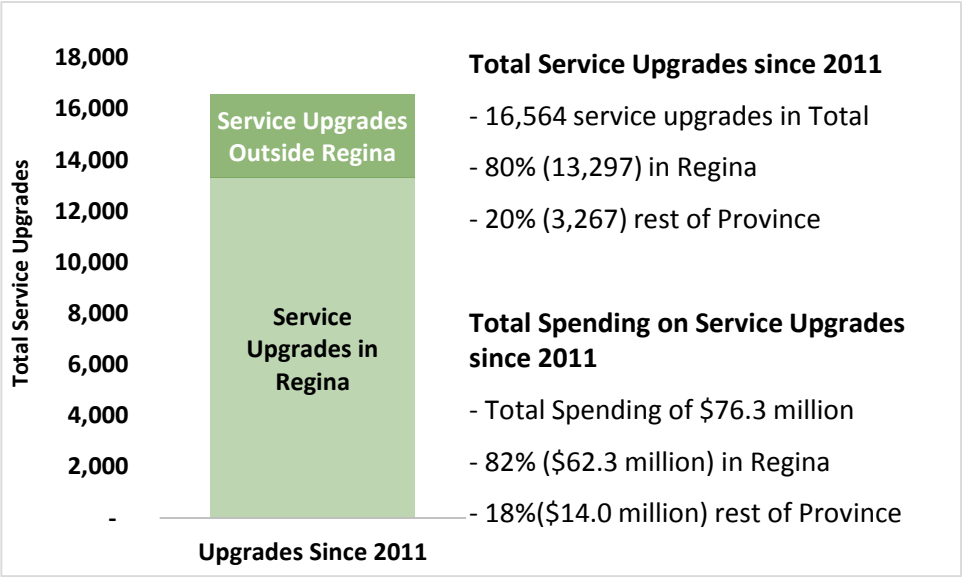
[279] 2nd Round Information Request 16(a) and (g). Excludes "No Information" which applies to leaks entered into SaskEnergy's reporting system without a location.
[280] Includes Saskatoon East, Saskatoon North and Saskatoon West.
[281] 1st Round Information Request 17(c).
[282] 2nd Round Information Request 16 (d). SaskEnergy notes that Shackleton was added as it had similar risk factors to other communities and as work was being undertaken at a nearby community efficiencies were gained by completing upgrade work at Shackleton at this time.

Figure 6-2: Five Year Average Leak Rate for communities targeted by Service Upgrade Program (Leaks per 1,000 households) from 2007-11 to 2011-16



Since 2011, service upgrade program activities and related spending have been targeted on Regina compared to other areas of the province. Total Service upgrades and spending for Regina compared to the rest of the Province is summarized in Figure 6-3 that follows. As noted in the figure, approximately 80% of total upgrades and 82% of total spending since 2011 has been targeted on Regina.

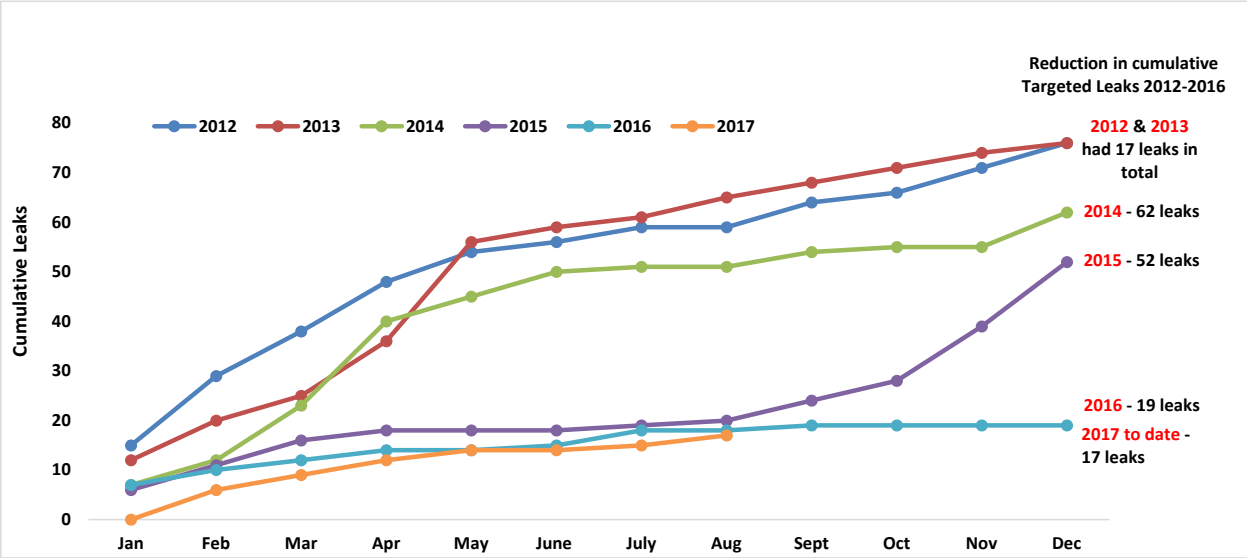
Figure 6-3: Service Upgrades Since 2011[283]



[283] 2nd Round Information Request, 16(f).

Service upgrade program efforts in Regina have resulted in a reduction in total leaks (for leak categories targeted by the Service Upgrade Program) as summarized in Figure 6-4. Overall, this shows a 75% reduction in the targeted leak categories over the period, and continuous year over year improvement. However, it is noted that the overall leak reduction relates only to targeted leak types (i.e., dresser fitting leaks). Overall total leaks in Regina in 2015 were 84 and in 2016 were 58.[284]

Figure 6-4: Reduction of Cumulative Leaks in Regina (Dresser Fitting Leaks only)[285]



6.2 OTHER SAFETY PERFORMANCE MEASURES

SaskEnergy indicates that it has the following targets for responding to safety incidents:[286]

- For call response in rural areas 1.5 hours maximum
- In larger urban centres and towns[287] 1 hour
- Provincial Average < 30 minutes

Table 6-5 summarizes the actual average response time for all safety calls between 2011 and 2017 (January to June). The table also provides the urban versus rural response times over that period.

[284] 1st Round Information Request 17(f); as updated by further leak rate information provided by SaskEnergy on August 30, 2017.
[285] 2nd Round Information Request 16(e). The Service Upgrade program in Regina currently only targets dresser fitting leaks.
[286] Tab 7, page 4. 2017 Delivery Service Rate Application.
[287] Tab 7, page 4 notes this reflects larger urban centers and towns where SaskEnergy has an office. 2017 Delivery Service Rate Application.

Table 6-5: Actual Average Response Time and Location of Safety Calls[288]

	Minutes			
	Response Time Minutes 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 (Jan-June)		23	33	16

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

Table 6-6: Actual Lost Time Injuries, Medical Aid and Preventable Vehicle Collisions[289]

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

* 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 it is common for lagging indicators to ebb and flow when comparing statistics over one or two years and that longer trends provide a better sense of the overall rate of continual improvement.[290]

- Preventable Vehicles Collisions (PVCs): The 10-year average from 2006 to 2015 is 31.5; consequently 26 PVCs in 2016 indicates a downward trend.
- Lost Time Injuries (LTIs): The 10-year average from 2006 to 2015 is 16.1 LTIs annually; 12 LTIs in 2016 indicates a downward trend in this metric.

[288] 1st Round Information Request, 17(i and j).
[289] 1st Round Information Request 17 (h). A preventable vehicle collision is defined as an incident in which the driver failed to do everything reasonable to prevent the collision.
[290] 2nd Round Information Request 16(h).

SaskEnergy also notes that a large number of incidents in 2016 are attributed to an overall lack of attention to the task at hand and not to abnormally hazardous work conditions or environmental factors (e.g., 61% of PVCs in 2016 involved collusions with fixed objects; and 58% of LTIs were the result of slip and falls). SaskEnergy notes a strong correlation between overall focus and awareness on safety and statistical safety performance; and indicates that it continues to reinforce the importance of Hazard Near Miss Reporting, while also looking at other avenues to improve safety focus.[291]

Observations

Spending on annual safety and infrastructure renewal investment is forecast to increase to $55 million in the 2016/17 fiscal year, $51.3 million in the 2017/18 fiscal year and $55.6 million in the 2018/19 fiscal year.

In the 2016 Application review process, SaskEnergy provided information regarding the number of regulatory and industry standards related to safe and reliable service that apply to SaskEnergy's business.[292] However, it was noted that higher levels of investment were driven more by enhancements to industry best practices due to increased public scrutiny and concern related to having a safe and reliable system than by any changes to regulatory requirements.[293]

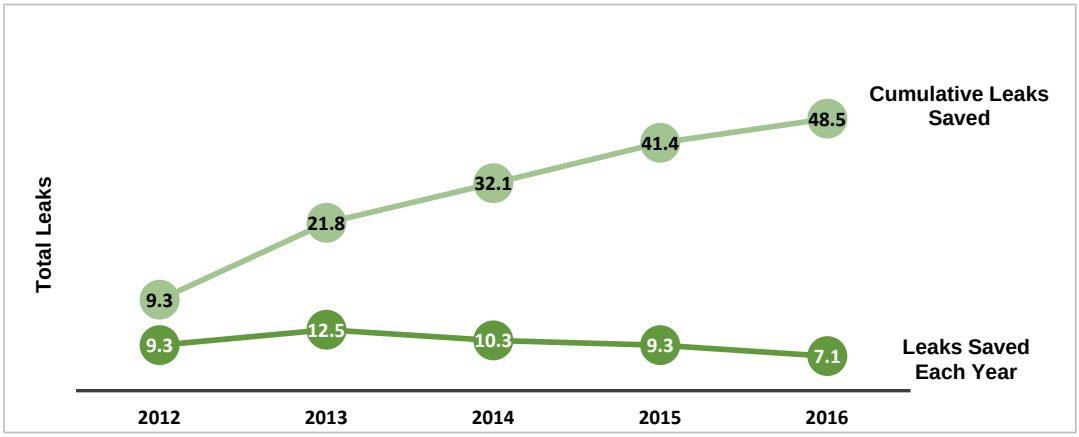
SaskEnergy has noted continuous improvement in a number of areas related to safety and reliability, including the following:

- The Sask 1st Call Safety Patrol Program has been effective in reducing line hits, with a 35% reduction in line hits between 2012 and 2016.[294] In 2016, SaskEnergy also delivered training related to responding to natural gas emergencies to 162 first responders representing 23 different communities. SaskEnergy also indicates its annual customer satisfaction research demonstrates the effectiveness and support of ongoing communication initiatives.[295]
- Approximately 2,400 services per year are being upgraded under the Service Upgrade Program with this level of work expected to continue for the next 5-10 years.[296] This program is credited with saving approximately 50 leaks since 2011, and has targeted 30 leak savings from 2015/16 to 2018/19. SaskEnergy estimates that this would save about $10,000 per leak repair cost.[297] As illustrated in Figure 6-5 below, leaks saved by the Service Upgrade Program have increased from 9.3 leaks saved in 2012 to a cumulative total of 49 leaks saved by 2016.[298] An average of 9.7 leaks

[291] 2nd Round Information Request 16(h).
[292] 2016 Commodity Rate and Delivery Service Application response to 1st Round Information Request 23(b) notes that main regulatory and industry standards that apply to SaskEnergy include: CSA Z662 – Oil and gas Pipeline Systems (required by the Pipeline Act and Regulation); Occupational Health and Safety Act (provincial statute and regulations); The Gas Inspection Act (provincial statute and regulations); The Boiler and Pressure Vessel Act (provincial statute and regulations); and the Electricity and Gas Inspection Act (provincial statute and regulations).
[293] 2016 Commodity Rate and Delivery Service Application response to 2nd Round Information Request 18(a).
[294] Application, Page 15. Tab 7, page 3.
[295] Tab 7, page 2. 2017 Delivery Service Rate Application.
[296] Tab 23, page 13.
[297] 1st Round Information Request 17(c). Tab 23, page 13. SaskEnergy notes estimated savings in 2016 of about $320,000, which are expected to grow each year to over $400,000 in 2019.
[298] Response to 2nd Round Information Request 16 (c). SaskEnergy notes this is calculated by multiplying the current leak rate (3 year average for Regina and 5 year average for other centres) by the number of upgrades completed. Leaks listed for each year are saved the year of the upgrade and every year going forward.

per year were saved over the period between 2012 and 2016. However, after a 34% increase in leaks saved in 2013 over 2012; year-over-year leaks saved have declined slightly each year.

Figure 6-5: SaskEnergy Leaks Saved: 2012 to 2016



- 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 2016 (370) were much lower than the 5-year average for total leaks (397 leaks); however, total leaks has tended to change materially year over year. Leaks between 2012 and 2016 also appear to be higher than for the period between 2005 and 2011.[299]

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.[300] 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.[301]

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:

[299] Tab 23, page 13. See figure that provides distribution underground leaks and indicates 338 leaks in 2005, 289 leaks in 2006, 325 leaks in 2007, 317 leaks in 2008, 314 leaks in 2009 and 345 leaks in 2010.
[300] Tab 6, page 1, 2017 Delivery Service Rate Application.
[301] Tab 6, page 2, 2017 Delivery Service Rate Application.

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.[302] SaskEnergy notes that approximately 14% of operations and maintenance expenses relate to the planned maintenance program.[303]

Spending on the planned maintenance program is summarized in Table 6-7 and indicates as follows:

- Regulator Stations and Mains and Services make up 28-30% of actual or forecast total planned maintenance program expense over the period, with regulator stations making up a larger portion of this expense. The share of expense was based on SaskEnergy field staff labour effort directly associated with planned maintenance activities on these assets.
- SaskEnergy notes that other costs relate to contractor costs and consumables costs related to planned maintenance activities and other planned maintenance activities in other categories not directly related to regulator stations, mains and services, including the following: odorization; pre-heating (cat heater and line heater maintenance); leak detection; valve maintenance; cathodic protection; verification of tools and equipment; vegetation control and sign maintenance.[304]

[302] 2015 Commodity and Delivery Service Rate Application 1st Round Information Request, 12(a).
[303] 1st Round Information Request 15(a).
[304] 2nd Round Information Request 14(b).

Table 6-7: Spending on the Planned Maintenance Program[305]

	Planned Maintenance Program As Percentage of Total OM&A			Regulator Stations portion of Maintenance Expense		Mains & Services portion of Maintenance Expense	
	Total O&M Spending ($000)	% of O&M Spending	% of Spending ($000)	% Regulator Stations	Total Spending on Regulator Stations ($000)	% Mains & Services	Total Spending Mains & Services ($000)
2015/16 Actual	114,790	16%	18,366	18%	3,306	11%	2,020
2016/17 Forecast	114,341	15%	17,151	18%	3,087	12%	2,058
2017/18 Forecast	124,245	14%	17,394	17%	2,957	11%	1,913
2018/19 Forecast	127,300	14%	17,822	18%	3,208	12%	2,139

SaskEnergy notes that routine maintenance expense is forecast to increase in 2016/17 through 2018/19 due to ongoing commitments regarding safety and integrity for distribution customers, including the focus on risk-based integrity programming which has led to greater reliance on initiatives such as cathodic protection, maintenance program and corrosion control. Routine Maintenance expense is expected to plateau in the early 2020's for current maintenance activities; however, SaskEnergy notes that maintenance standards are constantly changing in the industry as equipment is replaced and technology enhanced.[306]

Observations

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

Recommendations

The Consultant recommends that the Panel accept SaskEnergy's planned maintenance program for the test year.

[305] 1st Round Information Request 15(a) and 2nd Round Information Request 14(a) and (b).
[306] 1st Round Information Request, 7(g).

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.[307]

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 2012 to Forecast 2018/19.

Table 7-1: Average Weather Normalized Use per Customer (GJ)[308]

	Calendar Year [Jan 1 to Dec 31]				Fiscal Year [Apr 1 to March 31]			
	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Forecast	2018/19 Forecast
Customer Class								
Residential	105	105	107	104	103	103	102	102
Annual change, %		*0%*	*2%*	*-3%*	*-1%*	*0%*	*-1%*	*0%*
Commercial Small	487	497	514	507	502	506	489	486
Annual change, %		*2%*	*3%*	*-1%*	*-1%*	*1%*	*-3%*	*-1%*
Commercial Large	6,880	6,911	7,075	6,174	6,030	6,891	6,694	6,677
Annual change, %		*0%*	*2%*	*-13%*	*-2%*	*14%*	*-3%*	*0%*

Table 7-1 shows generally declining average use per customer for residential customers. SaskEnergy notes that 2014 was an "abnormally cold winter" and therefore the UPC for 2014 is high for that year.[309] Overall, use per customer in Saskatchewan has been declining on average by 1% to 2% annually since 1982, and is forecast to continue to decline through the test years. SaskEnergy 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

[307] Pages 24 and 25. 2017 Delivery Service Rate Application.
[308] Prepared based on information on page 25 of 2017 Delivery Service Rate Application.
[309] Page 25. 2017 Delivery Service Rate Application.

and businesses, reduced hot water consumption and generally increased awareness of energy consumption.[310]

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.

Table 7-2 summarizes the actual average number of customers for 2011 through 2016/17 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 the Commercial Large [ranges between -5% and 8%] and the Small Industrial customer class [ranges between -33% and 50%] customer forecasts. For the last four reporting years, i.e., the 2014 and 2015 calendar years and the 2015/16 and 2016/17 fiscal years, the actual number of Large Commercial customers was on average 6% higher compared to forecast.

Table 7-3 summarizes the annual change in the actual average number of customers for 2011 through 2016/17, as well as the forecast for 2017/18 and 2018/19.

The monthly customer forecast shows month to month fluctuations in the number of customers, with the highest occurring in March (total of 396,310) and the lowest occurring in August (total of 393,107 customers). During the 2016 Commodity Rate and Delivery Service Application review, SaskEnergy explained that month to month fluctuations in customer numbers occur due to timing of customers connecting, disconnecting and reconnecting, as well as due to seasonal accounts (such as hockey rinks and swimming pools).[311]

[310] Page 25. 2017 Delivery Service Rate Application. For example, Fortis BC Energy Inc. in its application for an Annual Review for 2017 Rates notes that "the analysis of historical normalized residential use rates indicates a continued downward trend". http://www.bcuc.com/Documents/Proceedings/2016/DOC_46873_B-2_FEI-Annual-Review-2017-Materials.pdf [accessed on August 31, 2017].
[311] 1st Round Information Request, 21(c), 2016 Commodity and Delivery Service Rate Application.

Table 7-2: Actual Average Number of Customers Compared to Forecast[312]

	Calendar Year [Jan 1 to Dec 31]															Fiscal Year [Apr 1 to March 31]					
	2011			2012			2013			2014			2015			2015/16			2016/17		
	Actual	Forecast	% Var.	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	S	T	U=S/T
Residential	315,201	314,248	0.3%	321,357	318,395	0.9%	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%
Commercial Small	36,701	36,714	0.0%	37,164	36,953	0.6%	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%
Commercial Large	1,396	1,406	-0.7%	1,341	1,393	-3.7%	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%
Small Industrial	27	23	17.4%	18	27	-33.3%	18	18	0.0%	18	18	0.0%	27	18	50.0%	27	18	50.0%	29	27	7.4%
Total	**353,325**	**352,391**	**0.3%**	**359,880**	**356,768**	**0.9%**	**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%**

Table 7-3: Average Actual Number of Customers for 2011 through 2016/17, and Forecast for 2017/18 and 2018/19[313]

		Calendar Year [Jan 1 to Dec 31]								Fiscal Year [Apr 1 to March 31]							
	2011 Actual	2012		2013		2014		2015		2015/16		2016/17		2017/18		2018/19	
		Actual	Annual Change	Actual	Annual Change	Actual	Annual Change	Actual	Annual Change	Actual	Annual Change	Actual	Annual Change	Forecast	Annual Change	Forecast	Annual Change
	A	B	C=B/A	D	E=D/B	F	G=F/D	H	I=H/F	J	K	L	M=L/J	N	O=N/L	P	Q=P/N
Residential	315,201	321,357	2.0%	328,330	2.2%	336,305	2.4%	341,421	1.5%	342,508	n/a	346,218	1.1%	350,507	1.2%	354,568	1.2%
Commercial Small	36,701	37,164	1.3%	37,814	1.7%	38,469	1.7%	38,838	1.0%	38,940	n/a	39,380	1.1%	39,689	0.8%	40,125	1.1%
Commercial Large	1,396	1,341	-3.9%	1,417	5.7%	1,390	-1.9%	1,430	2.9%	1,440	n/a	1,437	-0.2%	1,435	-0.1%	1,438	0.2%
Small Industrial	27	18	-33.3%	18	0.0%	18	0.0%	27	50.0%	27	n/a	29	7.4%	27	-6.9%	27	0.0%
Total	**353,325**	**359,880**	**1.9%**	**367,579**	**2.1%**	**376,182**	**2.3%**	**381,716**	**1.5%**	**382,915**	**n/a**	**387,064**	**1.1%**	**391,658**	**1.2%**	**396,158**	**1.1%**

[312] 1st Round Information Request, 24(b). The numbers for 2011 and 2012 are from 1st Round Information Request, 21(b) of 2016 Commodity and Delivery Service Rate Application.
[313] The numbers for 2011 and 2012 are from 1st Round Information Request, 21(b) of 2016 Commodity and Delivery Service Rate Application. The numbers for 2012 through 2016/17 are from 1st Round Information Request, 24(b), 2017/18 and 2018/19 forecasts are from Tab 18 of the 2017 Delivery Service Rate Application. The numbers for 2011 through 2015 represent calendar year, and 2015/16 through 2018/19 fiscal year April 1 to March 31 of the following year.

The average annual growth of total customers was approximately 1.8% over the period that includes the 2011 to 2015 calendar years and the 2015/16 and 2016/17 fiscal years. From 2012-2015, there was a higher average increase of 2.0%; and between 2015/16 and 2016/17 there was a 1.1% annual change. The 2017/18 and 2018/19 forecast years assume the following annual changes in number of customers compared to the 2016/17 actual level:

- For Residential, a 1.2% increase in 2017/18 over 2016/17 actuals, and a further increase of 1.2% in 2018/19;
- For Commercial Small, a 0.8% increase in 2017/18 over 2016/17 actuals, and a further increase of 1.1% in 2018/19;
- No notable change assumed for Commercial Large which is forecast to stay at the 2016/17 level; and
- Small Industrial customers are forecast to decline by 6.9% (from 29 customers in 2016/17 to 27 in 2017/18).[314]

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.[315]

Table 7-4 provides a comparison of the weather normalized actual load by customer class and the forecast for 2011 to 2016/17. The table shows that the weather normalized actuals for the Residential customer class were within -0.9% and 1.6% of forecast. There were slightly larger variations in the load forecasts for Commercial Small [ranging between 0.4% and 4%]; as well as notable variations in Commercial Large [ranging between -9.2% and 6.3%] and Small Industrial [ranging between -28.5% and 22.3%] classes.

[314] Tab 18 information shows the Small Industrial customer forecast for 2017/18 and 2018/19 at 29. However, in response to 1st Round Information Request 24 (g), SaskEnergy stated that the correct customer forecast is 27 as shown in Schedule 2.2.
[315] 1st Round Information Requests, 24(c).

Table 7-4: Actual and Forecast Sales for 2011-2015[316]

	Calendar Year [Jan 1 to Dec 31]															Fiscal Year [Apr 1 to March 31]					
	2011			2012			2013			2014			2015			2015/16			2016/17		
in 000s GJs	Actual	Forecast	% Var.	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	S	T	U=S/T
Residential	34,141	33,609	1.6%	33,863	34,009	-0.4%	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%
Commercial Small	17,821	17,754	0.4%	18,110	17,748	2.0%	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%
Commercial Large	9,253	9,846	-6.0%	9,229	9,681	-4.7%	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%
Small Industrial	1,016	831	22.3%	1,135	1,058	7.3%	1,193	1,016	17.4%	728	811	-10.2%	671	901	-25.5%	722	901	-19.9%	950	1,329	-28.5%
Total	**62,231**	**62,040**	**0.3%**	**62,337**	**62,496**	**-0.3%**	**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%**

[316] The information for the 2011 and 2012 years from 1st Round Information Request, 21(a) in the 2016 Commodity and Delivery Service Rate Application. Information for the all other years from 1st Round Information Requests, 24(b), 2017 Delivery Service Rate 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 2011 through 2016/17 and forecast weather normalized consumption for 2017/18 and 2018/19, as well as for the 2017/18 test year 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 to 2015 period was 0.9%, with a 3.6% increase in 2016/17 over 2015/16.
- Growth in Residential consumption over the 2013-2015 period averaged 1.6% annually, while growth in Commercial Small customer class consumption increased by an average of 2.4% annually. Residential consumption in 2016/17 increased by 1.4% over 2015/16 actuals, and the increase for Commercial Small in 2016/17 was at 2.0%.
- Annual consumption for the Commercial Large and Small Industrial classes declined slightly between 2013 and 2015. However, it increased significantly in 2016/17 with a 14% increase for Commercial Large in 2016/17 over 2015/16; and a 31.5% increase for Small Industrial in 2016/17 over 2015/16.[317] SaskEnergy highlighted both the increase in the number of customers and in UPC for the Commercial Large customer class as the basis for the load forecast increase.[318]

Table 7-5: Weather Normalized Consumption by Customer Class (000s of GJs)[319]

	Calendar Year [Jan 1 to Dec 31]			Fiscal Year [Apr 1 to March 31]				Nov 1- Oct 31
	2013 Actual	2014 Actual	2015 Actual	2015/16 Actual	2016/17 Actual	2017/18 Forecast	2018/19 Forecast	2017/18 Test Year
Customer Class								
Residential	34,391	35,816	35,474	35,241	35,745	35,867	36,028	35,911
Commercial Small	18,795	19,960	19,675	19,551	19,947	19,398	19,489	19,423
Commercial Large	9,165	9,571	8,827	8,684	9,899	10,128	10,122	10,126
Small Industrial	1,193	728	671	722	950	950	950	1,284
Total Deliveries	**63,544**	**66,075**	**64,647**	**64,198**	**66,541**	**66,343**	**66,589**	**66,744**

Overall, forecast sales for the 2017/18 test year (in GJ) are forecast to be about 0.3% higher than 2016/17 fiscal year actual weather normalized consumption. This is lower than the average increase over the last five years, from 2013 to 2016/17, as discussed below:

- **Residential customer class consumption** is forecast to be 0.5% higher for the 2017/18 test year compared to 2016/17 fiscal year weather normalized actuals; and is 0.4% higher when compared to the 2016/17 test year forecast from 2016 Commodity and Delivery Service Rate Application. This is lower compared to the average annual increase of 1.6% between 2013 and 2015, and an increase of 1.4% in 2016/17 fiscal year over the 2015/16 fiscal year.

[317] Part of the increase in the Small Industrial load in 2016/17 fiscal year over 2015/16 fiscal year is driven by increase in number of customers as illustrated in Table 7-3.
[318] Response to 1st Round Information Requests 24(d).
[319] Prepared based on information provided in Tab 18 and 1st Round Information Requests 24(b); 2017/18 and 2018/19 forecasts are from Tab 18, 2017/18 test year is from Schedule 2.2 of the 2017 Delivery Service Rate Application.

- **Commercial Small customer class consumption** is forecast to be 2.6% lower for the 2017/18 test year compared to the 2016/17 fiscal year weather normalized actuals, and 0.9% higher compared to the 2016/17 test year forecast from 2016 Application. The load forecast for the test year is lower compared to the most recent actuals, specifically the average annual increase between 2013 and 2015 was at 2.4%, and there was an increase of 2.0% in the 2016/17 fiscal year over 2015/16 fiscal year.
- **Commercial Large customer class consumption** is forecast to be 2.3% higher for the 2017/18 test year compared to the 2016/17 fiscal year weather normalized actuals, and 8.8% higher compared to the 2016/17 test year forecast from 2016 Application. The high forecast for 2017/18 and 2018/19 compared to the actual years is due to higher sales experienced in the 2016/17 fiscal year (about 14% higher compared to 2015/16 actuals).
- The forecast for **Small Industrial class consumption** shows consumption of 1,284 thousand GJs for the 2017/18 test year in Schedule 2.2 of the Application, while the information provided in Tab 18 shows forecast consumption for 2017/18 and 2018/19 fiscal years is expected to be at 2016/17 actual levels, i.e., approximately 950 thousand GJs.[320] SaskEnergy has clarified that the information in Tab 18 had an error regarding the number of customers [Tab 18, page 8 shows 29 Small Industrial customers compared to 27 in Schedule 2.2] and that the same issue also affected sales numbers, and confirmed that Schedule 2.2 reflects the accurate load forecast for the Small Industrial customer class.[321] The cost of service study also uses the load forecast consistent with Schedule 2.2.

The Consultant reviewed the load forecast model for the Residential class which was provided confidentially during the information request process.[322] The review indicated that the trend analysis used by SaskEnergy did not include actual information for 2015 [or 2015/16 fiscal year] or 2016/17 fiscal year actual sales information.

The Consultant notes the following regarding the modelled load forecast for Residential customers:

- SaskEnergy notes that 2014 weather normalized residential Use Per Customer (UPC) was at 107.3 GJ, and that this was considered "an anomaly due to the extremely cold weather that year".[323] Consequently, for load forecast modeling purposes SaskEnergy adjusted 2014 residential weather adjusted UPC to 106.5 GJ/customer.
- The forecast is based on a trend of weather normalized use per customer. However, the trend analysis used in the load forecast did not consider the most recent 2015 [or 2015/16 fiscal year] or 2016/17 fiscal year actual sales information. It is understood that 2016/17 data could not be

[320] Page 8 of Tab 18 shows 29 customers and 949,665 GJ sales for both 2017/18 and 2018/19, while Schedule 2.2 shows 27 customers and 1,284,000 GJ sales.
[321] 1st Round Information Requests 24(g). SaskEnergy clarifications regarding 2nd Round Information Request responses on August 29, 2017.
[322] 1st Round Information Requests, 24(a).
[323] Page 1 of Tab 18.

included due to the timing for preparation of the application.[324] However, with regard to the 2015 [or 2015/16 fiscal year] actual information a formula was inadvertently not updated.[325] This resulted in inconsistencies in the trend analysis used in the modelled forecast which may impact the accuracy of the load forecast.[326]

Observations

Using the most recent actual trends is reasonable and consistent with normal utility practice. As illustrated in Table 7-5, the Residential actual weather-normalized loads were within a reasonable range compared to forecast, and Commercial Small actual weather-normalized loads were higher compared to the forecasts for the most recent years. Larger fluctuations occur specifically for the Commercial Large and Small Industrial classes; however, this represents a small proportion of total sales.

- The Consultant notes inconsistencies in the trend analysis used year-to-year for determining the sales forecast. As the sales forecast is an important factor for determining both the revenue shortfall and the calculation of rates for the test year, a consistent approach should be used in load forecast modelling, and any year-to-year changes in approach should be highlighted and explained.
- For the current test year, Residential sales may be underestimated due to the identified inconsistency in the trend analysis undertaken. It is understood that this issue arose due to a formula inadvertently not being updated. SaskEnergy has noted that with the trend analysis updated there would be an increase in forecast revenues at existing rates in the range of $0.500 to $0.550 million.[327] This would reduce the forecast shortfall at existing rates by the same amount. The reduction in the revenue shortfall by about $0.5 million would reduce the required average rate increase requested by SaskEnergy from 3.6% to about 3.4%.

During the review of the 2016 Commodity and Delivery Rate Application, it was noted that monthly sales forecasts are traditionally important to utility decision making processes (e.g., hedging natural gas purchases). However, SaskEnergy has noted that the accuracy of monthly sales forecasts is less critical as it is able to manage monthly forecasts through use of storage.[328] 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

[324] In response to 2nd Round Information Requests 20(a) SaskEnergy notes that the load forecast is prepared as part of the annual budget process and was prepared in June 2016.
[325] In response to 2nd Round Information Requests 20(b) SaskEnergy notes that "the formula was inadvertently not updated to include 2015".
[326] The trend for 2015 actual and 2016/17 through 2018/19 forecasts are based on 2010-2014 weather normalized actuals, while the trend for each year from 2011 to 2014 was prepared based on 2006-2010 weather normalized actuals. In response to 2nd Round Information Request 20(c) SaskEnergy notes that "upon review of the spreadsheet, a formula was not accurately updated for the trend and therefore the trend analysis utilized 2006 - 2010 actuals for the 2012, 2013 and 2014 years".
[327] Clarification to the response to 2nd Round Information Requests 20(c) provided by SaskEnergy on August 30, 2017.
[328] SaskEnergy is able to manage monthly forecasts through use of storage (i.e., SaskEnergy purchases relatively uniform amounts throughout the year and makes injections into (or withdrawals from) storage as required). Consequently, the accuracy of monthly sales forecasts may be less critical for SaskEnergy.

gas consumed in a specific month, and 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".[329]

With the implementation of AMI, SaskEnergy should consider preparing monthly load forecasts in addition to the annual load forecast in order to test the reasonableness of the annual load forecast outcomes.

- SaskEnergy has noted that "new customers tend to connect in the fall and early winter when gas is required" and "disconnects for non-payment occur in the spring with subsequent reconnects occurring in the fall" and "seasonal accounts will also cause variations (example: swimming pools and hockey rinks)".[330] This highlights the potential importance of understanding the monthly data in assessing the accuracy of the usage and load forecast.
- Other peer utilities also appear to use monthly data in forecasting.[331]

Recommendations

It is recommended that the Panel consider the impact that the inconsistency in the trend analysis undertaken for the 2017/18 test year will have on SaskEnergy revenues at existing rates; and the overall rate requirement for the 2017/18 test year.

For future filings it is recommended that SaskEnergy use the most up to date actual data available. It is noted that the load forecast for the current application as prepared in June 2016, while the application was filed in June 2017 (i.e., one year later). Due to the timing difference between preparing the application and filing it, 2016 actual results were not available.

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.

[329] 1st Round Information Request 24 (b).
[330] 1st Round Information Requests 21(c) from 2016 Commodity and Delivery Service Rate Application.
[331] Pages 8 and 10, Appendix A3. http://www.bcuc.com/Documents/Proceedings/2016/DOC_46873_B-2_FEI-Annual-Review-2017-Materials.pdf [accessed on August 31, 2017]. Fortis BC Energy Inc. in its application notes that it "develops its residential use rate forecast based on four years of monthly use rates by region and rate class" and also notes that "commercial use rate forecast is developed in the same manner as the residential use" and "the method is based on four years of monthly use rates by region and rate class."

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%.[332]

Table 8-1 summarizes the cost of service results and RCC ratios for the 2017/18 test year compared to the RCC ratios in 2016 Application for 2016/17 test year.

Table 8-1: Cost of Service Study Results for 2017/18 Test Year [November 1, 2017 to October 31, 2018] ($000s)[333]

	2017/18 Test Year			
	Total Cost of Service, $000	Total Revenues at Proposed Rates, $000	Revenue-to-Cost Ratio, %	2016/17 Test Year Revenue-to-Cost Ratio, %
Residential	186,649	184,409	98.8%	98.9%
Commercial Small	55,655	57,298	103.0%	102.5%
Commercial Large	19,514	20,070	102.9%	103.2%
Small Industrial	1,371	1,406	102.6%	103.3%
Total	**263,190**	**263,183**	100.0%	100.0%

Table 8-1 indicates that in the 2017/18 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%.

There is a slight change in RCC ratios, including the following:

- An increase in RCC ratios for the Commercial Small class from 102.5% in the 2016 Application to 103.0% in the current Application [in the 2015 Application it was at 103.0%]; and
- A slight decrease in RCC ratios for the both the Commercial Large and the Small Industrial customer classes.

[332] Page 1 of Tab12 of 2017 Delivery Service Rate Application.
[333] Pages 1 and 2 of Tab12 of 2017 Delivery Service Rate Application.

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 existing practices are consistent with generally accepted ratemaking practices, resulting in fair and reasonable rates,"[334] and provided seven recommendations to SaskEnergy on its cost allocation and rate design methods.[335] These recommendations and SaskEnergy's responses are summarized in Table 8-2.

SaskEnergy has confirmed that the 2017/18 cost-of-service study was prepared using the same methods reviewed by Chymko Consulting in 2013, and that changes in allocation factors in the 2017/18 test year cost of service study compared to the 2016/17 test year cost of service study are solely due to the changes in customer class peak and usage characteristics.[336]

Table 8-2: Summary of Chymko Report Recommendations and SaskEnergy Response

No.	Recommendation from Chymko Report	SaskEnergy Response
1	Complete full transition to usage-based rate class definitions.	The transition to usage based rates will be completed at a future date. During the 2016 Application SaskEnergy noted that an update on this recommendation would be provided to the Panel at the next Rate Application.[337] SaskEnergy notes that there is no update at this time, and that it will be reviewed at a future date.[338]
2	Review distribution infrastructure that serves industrial rate classes. If some industrial facilities require higher pressure or different distribution facilities to support an industrial process, it may be appropriate to create additional rate classes or make rate adjustments.	SaskEnergy is taking no further action on this recommendation for the following reasons: [339] • Implementing this recommendation would be a fundamental departure from the postage stamp rate philosophy integral to SaskEnergy's rate design; • Challenges related to fixed asset records may make it difficult to identify specific assets at some industrial sites; and • Implementing these changes would require TransGas to make rate design changes. As TransGas' current practice is to spread distribution toll costs over all customers, greater detail would not change the outcome unless TransGas changed its methodology.

[334] Page 4 of Tab 12. 2017 Delivery Service Rate Application.
[335] Pages 2-6 of the Chymko study provided in Tab 12 of 2017 Delivery Service Rate Application.
[336] 1st Round Information Request 21 (b) and (c).
[337] Tab 24, Attachment 2, page 1. 2016 Commodity and Delivery Service Rate Application.
[338] The review and clarifications to 2nd Round responses with SaskEnergy on August 29, 2017.
[339] Tab 24, Attachment 2, page 2. 2016 Commodity and Delivery Service Rate Application.

No.	Recommendation from Chymko Report	SaskEnergy Response
3	Review ongoing relevance of industrial summer use rate. Recommendation for further analysis to understand whether this customer class is unduly benefiting from unused capacity. However, as this would likely have a negligible impact on other rate classes, administrative costs associated with this recommendation should be considered.	SaskEnergy is taking no further action on this recommendation,[340] and has noted that it allocates a larger portion of costs to summer use customers than its cost allocation model suggests, and TransGas has no near term plans to terminate the summer use customer class.
4	Review impact of allocations based on volume versus energy.	During 2016 Application SaskEnergy noted that "Should SaskEnergy decide to proceed to billing in gigajoules from cubic metres, an analysis of the impact on cost of service using energy instead of volume may be performed at that time, depending on resources."[341] In the current application SaskEnergy states that due to "current economic environment and fiscal restraints, SaskEnergy will postpone the consideration of transitioning to billing in energy."[342]
5	Incorporate supplementary rate impact analysis.	SaskEnergy has incorporated supplementary rate impact information as a minimum filing requirement.[343]
6	Consider multi-year rate planning.	SaskEnergy stated that although it agrees with Chymko on this recommendation and that "it would be nice to be more certain on specific customer class rate changes, SaskEnergy does not have the available resources to perform additional cost of service analysis each year."[344]
7	Further research into the load profiles of individual General Service II and III customers should be undertaken to calculate individual load factors (i.e., ratio between demand and volume) to confirm if they are reasonably consistent.	SaskEnergy agrees with the Chymko recommendation; and will analyze the load factor in each rate class as soon as sufficient history on daily load is accumulated after the full implementation of AMI.[345] At this time SaskEnergy notes that AMI has been implemented 87% at the end of March 2017.[346]

Observations

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

[340] Tab 24, Attachment 2, page 3. 2016 Commodity and Delivery Service Rate Application.
[341] Tab 24, Attachment 2, pages 2-4. 2016 Commodity and Delivery Service Rate Application.
[342] Tab 22, pages 2. 2017 Delivery Service Rate Application.
[343] Tab 24, Attachment 2, page 4. 2016 Commodity and Delivery Service Rate Application.
[344] Tab 24, Attachment 2, page 4. 2016 Commodity and Delivery Service Rate Application.
[345] Tab 24, Attachment 2, page 5. 2016 Commodity and Delivery Service Rate Application.
[346] Page 10. 2017 Delivery Service Rate Application.

proposal. 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. SaskEnergy confirmed that it has used the same methodology reviewed by Chymko Consulting in 2013.[347]

During the review of the 2016 Commodity and Delivery Service Rate Application SaskEnergy noted that it is not taking any further actions regarding recommendations #2 and #3 for the reasons outlined Table 8-2.

Recommendation #4, relates to reviewing the implications of billing in volume versus billing in energy on SaskEnergy's cost allocations.[348] This recommendation continues to be relevant in the context of ongoing issues related to heat value variance. However, SaskEnergy notes that it is postponing consideration of transition to billing in energy at this time due to the current economic environment and fiscal constraints.[349]

With regard to Recommendation #7, the Chymko Report noted that the weighting factors in the cost of service model should be reviewed again after completion of SaskEnergy's AMI project.[350] In the current Application, SaskEnergy notes that the AMI project is now 87% implemented.[351] The Consultant Report regarding the 2016 Commodity and Delivery Service Rate Application highlighted the following concern regarding weighting factors which continues to be relevant.

> "If the weighting factors in the cost of service model are expected to be reviewed in the near future (based on the recommendation made in the Chymko report), then this review also should consider the reasonableness of using a weighting factor for other costs classified to customer classes (e.g., customer accounting, marketing and customer classified costs related to Feeder Mains). Specifically, the following considerations are noted:
>
> - Some of the costs classified as customer-related are allocated to customer classes based on weighted number of customers (e.g., service line and customer metering),[352] while some customer-related costs are allocated using the number of customers without giving a weighting to larger customers (e.g., customer accounting, marketing).
> - Some utilities allocate all customer servicing related costs based on the weighted number of customers."[353]

[347] During the review of 2016 Commodity and Delivery Service Rate Application [2nd Round Information Request, 13 (a) and (b)] SaskEnergy noted that subsequent to the Chymko Report, the allocation factor for Feeder Mains for medium and large industrial customer classes used in the cost of service model was changed based upon completion of a mains analysis by SaskEnergy.
[348] 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."
[349] Tab 22, pages 2. 2017 Delivery Service Rate Application.
[350] Chymko Report, page 33 [provided in Tab 12 of 2017 Delivery Service Rate Application].
[351] Page 10. 2017 Delivery Service Rate Application
[352] Meter reading costs are also weighted but are based on contract cost by read and not by weighted customers.
[353] For example, FortisBC Energy Utilities Common Rates, Amalgamation and Rate Design Application noted that it conducted a Customer Weighting Factor Study which aids in the allocation of customer-related costs associated with meters, services, customer administration and billing. It also notes that large customers generally require a greater level of administrative effort or customer service than the average residential customer, therefore customer weighting factors are required to properly allocate customer administration, marketing and billing related costs to the various rate classes.
http://www.bcuc.com/Documents/Proceedings/2012/DOC_30346_B-3_FEU-Common-Rates-Amalg-and-Rate-Design-Application.pdf and http://www.bcuc.com/Documents/Proceedings/2012/DOC_30347_B-3-1_FEU-Common-Rates-Amalg-and-Rate-Design-Application-APPENDICES.pdf [accessed on July 28, 2016].

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.

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 accounting and marketing costs as well as Feeder Mains costs in Schedule 3.3.

9.0 DELIVERY SERVICE RATE DESIGN

SaskEnergy is proposing a 3.6% average rate increase to delivery rates that will result in an incremental revenue increase of approximately $9.1 million.[354] SaskEnergy proposes to recover these additional revenues by increasing the Basic Monthly Charge for the Residential customer class and the Delivery Charge for Commercial Small, Commercial Large and Small Industrial customer classes. Table 9-1 summarizes current and proposed rates for the November 1, 2017 to October 31, 2018 test year.

Table 9-1: Current and Proposed Delivery Rates[355]

Rate Class & Components	Units	Current Rates ($)	Rate Increase	Recommended Rates Nov. 1, 2017
Residential				
Basic Monthly Charge	$/Mo.	22.45	1.65	**24.10**
Delivery Charge	$/m^3	0.0883	0.0000	0.0883
Commercial Small				
Basic Monthly Charge	$/Mo.	38.50	0.00	38.50
Delivery Charge	$/m^3	0.0743	0.0027	**0.0770**
Commercial Large				
Basic Monthly Charge	$/Mo.	137.40	0.00	137.40
Delivery Charge	$/m^3	0.0647	0.0026	**0.0673**
Small Industrial				
Basic Monthly Charge	$/Mo.	216.00	0.00	216.00
Delivery Charge				
- First 40,000 m^3/mo.	$/m^3	0.0430	0.0010	**0.0440**
- Balance	$/m^3	0.0369	0.0010	**0.0379**

Bold Figures identify changes from current rates

SaskEnergy identified six rate design principles that it considered in developing its recommended delivery service rates:[356]

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 natural gas usage, is recovering fixed costs related to the distribution system. While this is typical

[354] Page 1 of 2017 Delivery Service Rate Application.
[355] Page 22 and Schedule 2.0 of 2017 Delivery Service Rate Application.
[356] Summarized from pages 20 - 21, 2017 Delivery Service Rate Application.

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[357]

	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	95,061	130,320	- 35,259	73%	82,361	56,329	26,032	146%	177,422	186,649	- 9,227	95.1%
Rate Design Rates	102,047	130,320	- 28,273	78%	82,361	56,329	26,032	146%	184,409	186,649	- 2,240	98.8%
Current Revenue Mix	54%	70%			46%	30%			100%	100%		
Rate Design Revenue Mix	55%	70%			45%	30%			100%	100%		
Total Proposed Rate Increase				**7.35%**				**0.00%**				**3.94%**
Commercial Small												
Current Rates	18,453	25,189	- 6,736	73%	37,483	30,466	7,017	123%	55,936	55,655	281	100.5%
Rate Design Rates	18,453	25,189	- 6,736	73%	38,845	30,466	8,379	128%	57,298	55,655	1,643	103.0%
Current Revenue Mix	33%	45%			67%	55%			100%	100%		
Rate Design Revenue Mix	32%	45%			68%	55%			100%	100%		
Total Proposed Rate Increase				**0.00%**				**3.63%**				**2.44%**
Commercial Large												
Current Rates	2,369	3,630	- 1,261	65%	17,017	15,884	1,133	107%	19,386	19,514	- 128	99.3%
Rate Design Rates	2,369	3,630	- 1,261	65%	17,701	15,884	1,817	111%	20,070	19,514	556	102.9%
Current Revenue Mix	12%	19%			88%	81%			100%	100%		
Rate Design Revenue Mix	12%	19%			88%	81%			100%	100%		
Total Proposed Rate Increase				**0.00%**				**4.02%**				**3.53%**
Industrial - Small												
Current Rates	70	67	3	105%	1,303	1,304	- 1	100%	1,373	1,371	2	100.2%
Rate Design Rates	70	67	3	105%	1,336	1,304	32	102%	1,406	1,371	35	102.6%
Current Revenue Mix	5%	5%			95%	95%			100%	100%		
Rate Design Revenue Mix	5%	5%			95%	95%			100%	100%		
Total Proposed Rate Increase				**0.00%**				**2.56%**				**2.43%**
Overall Total												
Current Rates	115,952	159,205	- 43,253	73%	138,165	103,984	34,181	133%	254,118	263,189	- 9,071	96.6%
Rate Design Rates	122,939	159,205	- 36,266	77%	140,244	103,984	36,261	135%	263,183	263,189	- 5	100.0%
Current Revenue Mix	46%	60%			54%	40%			100%	100%		
Rate Design Revenue Mix	47%	60%			53%	40%			100%	100%		
Total Proposed Rate Increase				**6.03%**				**1.50%**				**3.57%**

[357] Tab 12, Summary of Revenues and Degree of Cost Recovery by Rate Class, 2017 Delivery Service Rate Application [the last schedule of Cost of Service study].

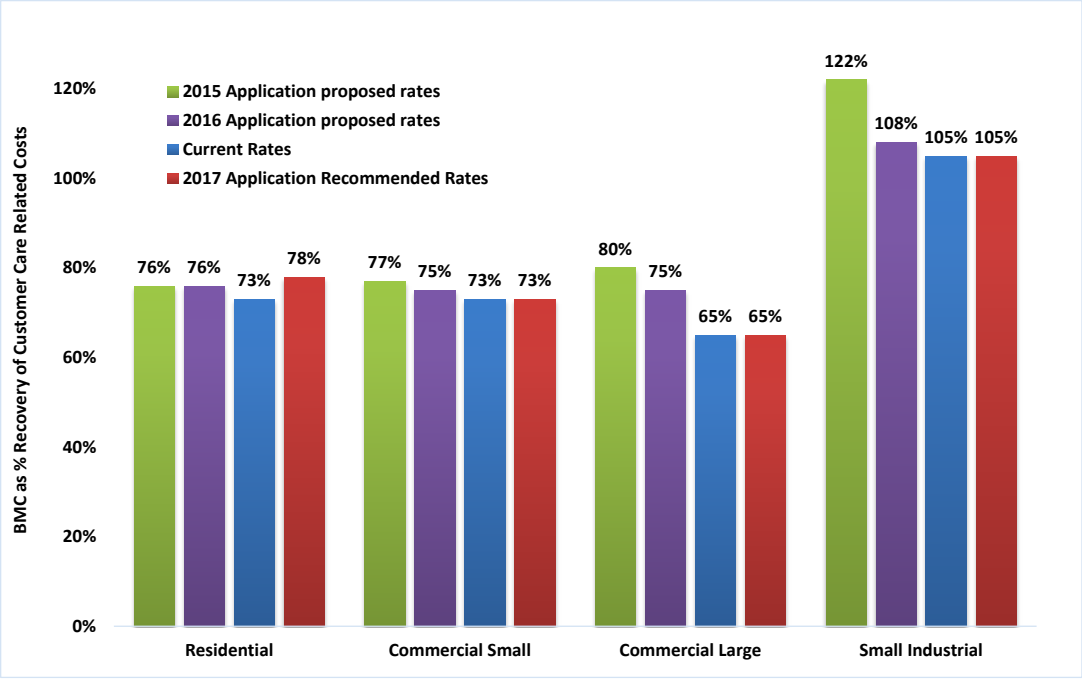
Table 9-2 shows that the proposed rate increases are different for each customer class.

- Higher than average rate increases are proposed for the Residential customer class (3.9% overall compared to 3.6% average for all customer classes). SaskEnergy notes that this is primarily due to declining revenues in the residential rate class.[358]
- Lower than average rate increases are proposed for the Commercial Small (2.4% rate increase), and Small Industrial customer classes (2.4% rate increase).
- The Commercial Large customer class rate increase is close to the system average (3.5% rate increase).

SaskEnergy is proposing to increase the Basic Monthly Charge for the Residential customer class and the volumetric charge for the other customer classes.

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. With the proposed increase in Basic Monthly Charge for the residential class, residential fixed charge revenues will recover 78% of customer related costs which is higher than the long-term objective.

Figure 9-1: SaskEnergy Basic Monthly Charges[359]



[358] 2nd Round Information Request 18 (a). 2017 Delivery Service Rate Application. SaskEnergy notes "A higher rate increase is required for residential customers compared to other rate classes while the Revenue-to-cost ratio for residential customers is forecast to be at 2016/17 cost of service study level due primarily to declining revenues within the residential rate class."

[359] Prepared based on figures provided on page 21 of 2015 2016 Commodity and Delivery Service Rate Application, page 27 of 2016 Commodity and Delivery Service Rate Application and page 21, 2017 Delivery Service Rate Application.

Figure 9-1 shows that at 2017 Application Recommended Rates, the Basic Monthly Charge for the Residential class and the Small Industrial class recover more than the long-term target of 75% [i.e., the Basic Monthly Charge recovers 78% and 105% respectively].

SaskEnergy notes that it "prepares and evaluates alternatives before recommending rates for each customer class, and that its long-term target to recover at least 75% of customer care related costs is an on-going effort and balances the overall 75% target with changes to the volumetric delivery charge", and "for this rate application, a change to the BMC for the Residential rate class and a change to the Delivery Charge for the commercial and industrial rate classes resulted in the best fit for achieving the 75% customer care related recovery target."[360]

- For the Residential customer class increase, SaskEnergy has noted that in order to keep public communication simple, it will typically choose to apply an increase to either the BMC or the volumetric Delivery Charge (unless a substantial rate increase is applied for). As such, the requirement for simplicity led it to apply 100% of the increase for the residential customer class to the Basic Monthly Charge.[361]
- For the Small Industrial Customer class, SaskEnergy has noted previously that the BMC represents only 5% of the total delivery bill for most industrial customers. Decreases to the Basic Monthly Charge for Small Industrial customers have not been proposed in prior reviews in order to maintain the monthly charge for Small Industrial customers in order to lower the RCC ratio percentage for this class over time.[362]

SaskEnergy indicates that the following change in rate design for the residential class would maintain the residential BMC at the 75% target[363]:

- An increase of $0.75 to the BMC [compared to the $1.65 increase in BMC with the current rate proposal]; and
- An increase of $0.0041 to the volumetric delivery service charge.

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 the BMC for the Residential customer would mute price signals for residential customers, as all residential customers

[360] 1st Round Information Request 25 (a), part ii). 2017 Delivery Service Rate Application.
[361] 1st Round Information Request 25 (a), part ii). 2017 Delivery Service Rate Application.
[362] 2015 Commodity and Delivery Service Rate Application, 1st Round Information Request, 20(b). There has been no change in BMC for Small Industrial Customers. The RCC ratio for this class declined from 105.5% in the 2012 Application to 103.3% in the 2016 application, and is proposed to decline to 102.6% in the current Application.
[363] 1st Round Information Request 25 (b). 2017 Delivery Service Rate Application.

would see a bill increase of $20/year regardless their usage. For all other rate classes, the proposed rate increases will to be applied to the volumetric portion of the rate providing a stronger price signal for these customer classes.

- **SaskEnergy's Long-term Objective and Customer Acceptance:** In prior reviews, concerns have been raised that moving beyond 75% recovery of customer related costs through the fixed Basic Monthly Charge could be met with customer resistance.[364] Under SaskEnergy's proposed rates the Residential class would have a $1.65 increase in the BMC and no change in the volumetric charge which would result in the BMC for residential customers recovering 78% of costs [compared to 73% at existing rates]. An increase of $0.75 to the BMC and an increase of $0.0041 to the volumetric delivery service charge would recover 75% of BMC costs for the Residential class.
- **Fairness of Rates and Intra-class Impacts:** The information provided in Tab 19 shows that all Residential customers would see a bill increase of $20/year regardless their usage, with higher percentage bill increases for low usage customers and lower impacts for high usage customers [ranging between 7.3% for low usage customers and 0.8% for high usage customers].[365] The customers with lower usage would see the highest percentage bill increases (reducing fairness within the residential rate class). Further, not all customers would contribute equitably to the required increase in rates depending on their share of the demand on the system. The information provided by SaskEnergy shows that with an increase of $0.75 to the BMC and an increase of $0.0041 to the volumetric delivery service charge the bill impact would be between 2.0% and 3.3%[366] compared to the range between 0.8% and 7.3% when increase only in BMC.

Recommendations

With regard to the Residential rate increase – SaskEnergy's proposed rate design raises efficiency and fairness issues that can be addressed through applying the rate increase to both the BMC and the volumetric delivery rate. SaskEnergy notes that applying the increase as follows would be consistent with its long-term objective to recover 75% of costs through the BMC:

- $0.75 increase to the BMC; and
- $0.0041 increase to the volumetric delivery service charge.

The above-noted alternate rate design would provide for greater fairness within the residential rate class (i.e., would provide for bill impacts between 2.0% and 3.3%, compared to the 0.8% and 7.3% range with the increase to the BMC-only); and more effective price signals related to consumption. As such, in the Consultant's view this alternate rate proposal should be considered by the Panel.

It is recommended that the rate design for all other customer classes be accepted as proposed.

[364] 1st Round Information Request 23(c), 2013 Natural Gas Delivery Service Rate Application.
[365] 1st Round Information Request 22 (b) and Tab 19. 2017 Delivery Service Rate Application. The information in Tab 19 shows that about 81% of the residential customers use less than 3,000 m^3/year and would be a bill increase of about 3% [total annual bill increase, including commodity and delivery portion of the bill], 18% use between 3,001 and 7,000 m^3/year and would see a bill increase of about 2% and 1% use more than 7,000 m3/year and would see a bill increase of about 1%.
[366] 2nd Round Information Request 19 (a).

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.[367] SaskEnergy indicates that the weighted average heat value for delivered gas experienced over the past five years has ranged from 36.69 MJ/m^3 to 43.26 MJ/m^3, depending on the location of the delivery point.[368]

Prior review processes have noted the material change in heat value of natural gas consumed in Saskatchewan over the past decade.[369]

- In effect, 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 the 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 in 2016 approximately half of the natural gas produced in the province was from associated gas which is typically hotter than conventional gas.
- With the decline in drilling activities in Saskatchewan, the province also became a net importer of natural gas. SaskEnergy noted as follows regarding import of natural gas from Alberta in 2016:
    - SaskEnergy becoming a net importer of natural gas contributed to greater variability in heat value in the province, as 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.
    - If energy markets, including natural gas, oil and liquids prices, remain at current levels the provincial heat value could become more stable. However, 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.
- SaskEnergy has noted that since Saskatchewan has become a net importer of natural gas, it has become more difficult to accurately predict future variations in heat value.

Table 10-1 provides the quantity of gas sourced from Alberta and Saskatchewan over the past five years, including a forecast for the 2016/17 test year. This indicates that purchases from Alberta have increased as a percentage of total gas volumes from 19% in 2011/12 to 59% in 2016/17.

Table 10-1 also provides the estimated heat values by year based on all gas produced from Saskatchewan or all gas imported into Saskatchewan from Alberta (i.e., the heat values provided are not limited to gas

[367] 2016 Delivery and Commodity Rate Application 1st Round Information Request, 27(a).
[368] 1st Round Information Request, 28(a).
[369] 2016 Delivery and Commodity Rate Application Tab 24, Attachment 1, page 1. The response to 2016 Delivery and Commodity Rate Application; 1st Round Information Request 27(n); and 2nd Round Information Request 20(e).

purchased by SaskEnergy). Until recently, the heat value of gas purchased from Alberta has tended to be higher than for Saskatchewan purchases. Further, while the heat value for Alberta purchases has increased from 38.1 MJ/m^3 over the period; the heat value for Saskatchewan purchases has increased more materially (from 37.1 MJ/m^3 to 38.5 MJ/m^3). For the last two years, the heat value for both Alberta purchases and Saskatchewan purchases has been in the same relative range.

Table 10-1: Summary of Volumes Purchased and Estimated Heat Value[370]

	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 - Forecast	31.3	59%	38.7	21.6	41%	38.5	52.9

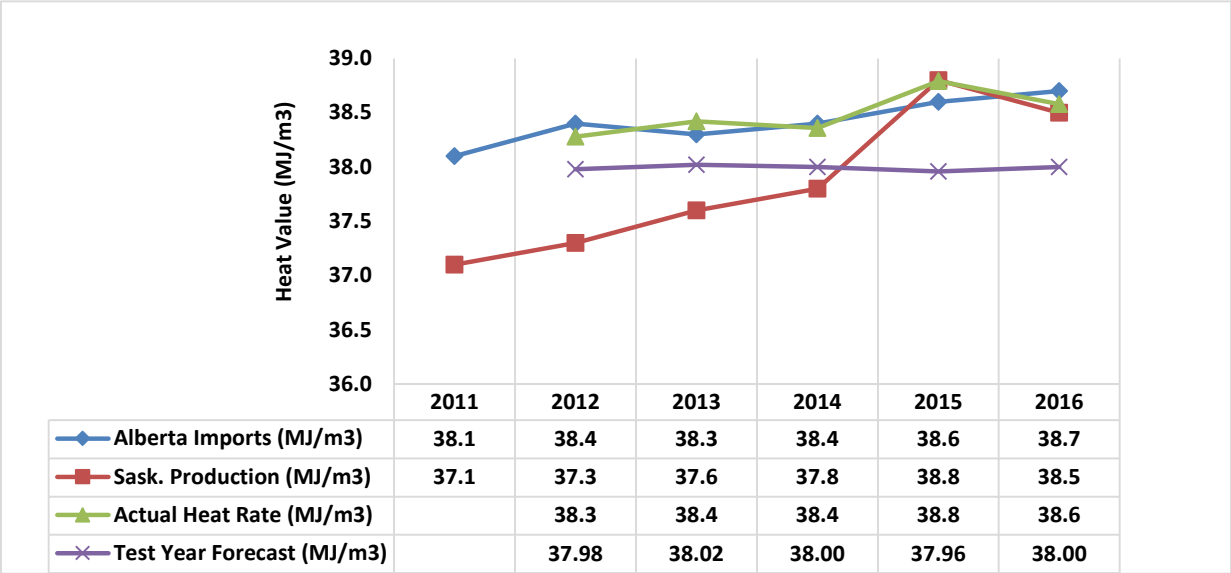
*Estimated heat values are based on all of the gas received into the TransGas transportation system for both Saskatchewan gas as well as the gas imported from Alberta.

Figure 10-1 provides a comparison of estimated heat value for Alberta Imports, Saskatchewan Production, Test Year Forecasts and Actual Heat Rate experienced between 2011 and 2016, and indicates as follows:

- Between 2012 to 2014, actual heat rates and heat rates for Alberta imports were within the same range [between 38.3 MJ/m^3 and 38.4 MJ/m^3] before increasing to the 38.6 MJ/m^3 range in 2015.
- Saskatchewan production heat rates have been lower but steadily increasing for the period between 2012 and 2014; before increasing materially to 38.8 MJ/m^3 in 2015 [in the same range as actual heat rates and Alberta import heat rates].
- By comparison, the heat rate used in test year forecasts has remained steady but lower than actual heat rates over the period between 2012 and 2016; with the gap materially increasing in 2015 and 2016.

[370] Response to 1st Round Information Request 28(e).

Figure 10-1: Estimated Heat Value: 2011 to 2016[371]



	2011	2012	2013	2014	2015	2016
Alberta Imports (MJ/m3)	38.1	38.4	38.3	38.4	38.6	38.7
Sask. Production (MJ/m3)	37.1	37.3	37.6	37.8	38.8	38.5
Actual Heat Rate (MJ/m3)		38.3	38.4	38.4	38.8	38.6
Test Year Forecast (MJ/m3)		37.98	38.02	38.00	37.96	38.00

Prior SaskEnergy applications have outlined the material issues that heat value variance may have for the corporation's net revenues; and prior Panel reports have outlined concerns regarding the impact that heat value variance may have for SaskEnergy ratepayers and other stakeholders. Given the acknowledged prior concerns related to heat value variance, the impact of heat value variance on each of these parties is reviewed in the sections that follow:

- Impacts of heat value variance on customer bills;
- Impacts of heat value variance on other stakeholders;
- Impact of heat value variance on SaskEnergy net revenues; and
- Impacts of heat value variance on the GCVA.

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.[372] For example, in 2016, the weighted average heat value ranged from

[371] Actual and Forecast Test Year heat rates from 2012 to 2016 from response to 1st Round Information Request 28(b). Estimated heat value for Saskatchewan and Alberta for 2012 to 2016 from response to 1st Round Information Request 28(e). 2011 data from 2016 Commodity and Delivery Rate Application 1st Round Information Request 27(l).
[372] 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.

37.33 MJ/m^3 (Moose Jaw, minimum) to 43.83 MJ/m^3 (Estevan, maximum), and the system weighted average heat value was 38.58 MJ/m^3 [373] (see Table 10-2).[374]

Bill impacts for residential customers in major centres across Saskatchewan due to variations in heating value in 2016 are summarized in Table 10-2 and Figure 10-2 that follow. These indicate as follows:

- **Heat Value Variance:** Customers with heat values **above** the system average ranged from 0.62% to 10.82%; while customers with heat values **below** the system average ranged from -1.18% to -2.85%. Estevan was 10.82% **above** the system average, while Moose Jaw was -2.85% **below** system average. Further, there is less variation from the system average in the most highly populated centers such as Saskatoon and Regina. Saskatoon was 1.18% **below** system average, while Regina was 0.82% **above** system average. Combined these centres comprise approximately 279,647 (or 73%) of estimated average customers.
- **Bill Impacts due to Heat Value Variance:** No average residential customers would have had a bill impact of 5% (or greater) due to variance in heat value in 2016; however, an average residential customer located in Estevan or Yorkton would have had 4.16 to 8.41% **lower** than average bill impact than the average residential customers in Saskatchewan. Average annual bills for customers in Estevan were $68.00 **lower** compared to the system average; average annual bills in Moose Jaw were $18.00 **higher** compared to the system average.

Table 10-2: Average Consumption & Average Bill Impacts for over 12 Month Period (2016)[375]

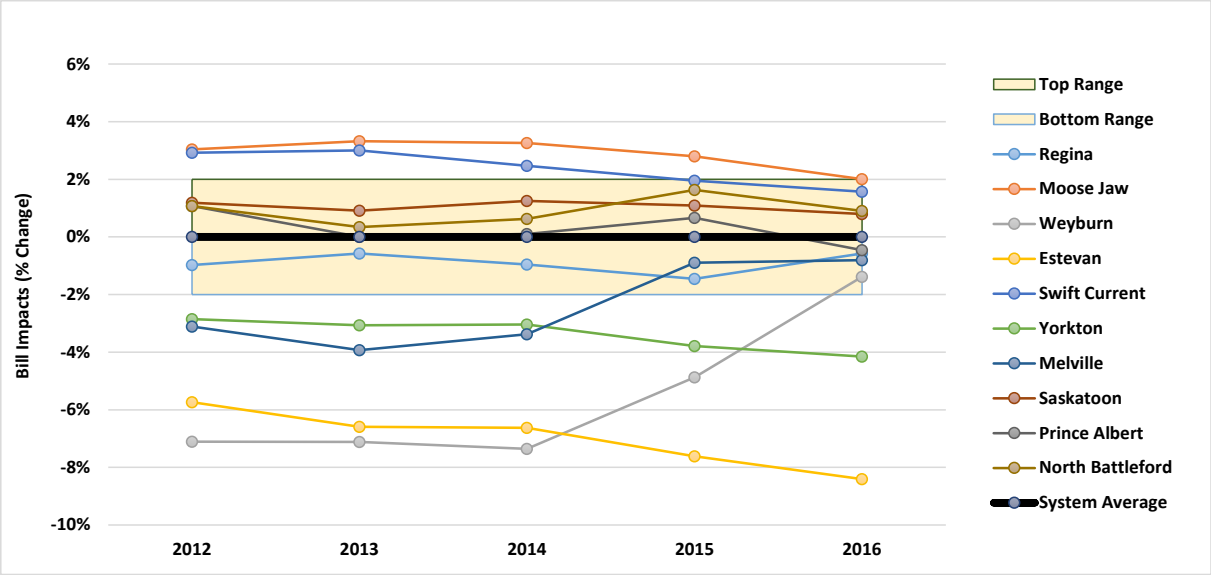
		Heat Value				Average 2016 Residential Average Bills					
	Estimated Average Number of Customers	Weighted Average HV (MJ/m^3)	Minimum Heat Value	Maximum Heat Value	Heat Value Variance	Annual Basic Monthly Charge ($)	Annual Delivery Charge ($)	Annual Commodity Charge ($)	Total Bill ($)	Total Bill Variance ($)	Total Bill Variance (%)
Regina	136,733	38.90	38.43	39.63	0.82%	251	218	403	872	- 5.00	-0.57%
Moose Jaw	**24,238**	**37.51**	**37.33**	**38.22**	**-2.85%**	**251**	**226**	**418**	**895**	**18.00**	**2.01%**
Weyburn	7,645	39.36	38.88	39.89	1.98%	251	215	398	865	- 12.00	-1.39%
Estevan	**8,461**	**43.26**	**43.02**	**43.83**	**10.82%**	**251**	**196**	**362**	**809**	**- 68.00**	**-8.41%**
Swift Current	11,881	37.74	37.43	38.40	-2.23%	251	225	415	891	14.00	1.57%
Yorkton	11,711	40.89	39.82	43.13	5.65%	251	207	383	842	- 35.00	-4.16%
Melville	3,943	38.98	37.96	41.67	1.03%	251	218	402	870	- 7.00	-0.80%
Saskatoon	142,914	38.13	37.90	38.25	-1.18%	251	222	411	884	7.00	0.79%
Prince Albert	21,929	38.82	38.68	39.45	0.62%	251	218	404	873	- 4.00	-0.46%
North Battleford	13,218	38.08	37.81	38.42	-1.31%	251	223	412	885	8.00	0.90%
System Average	**382,673**	**38.58**	**38.39**	**38.94**		**251**	**220**	**406**	**877**		

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

[373] 1st Round Information Request 28 (e).
[374] 1st Round Information Request 28(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.
[375] 1st Round Information Request 28(a).

heat value. SaskEnergy notes that over the last year the provincial heat value has not varied as much as in prior years and attributes this to the straddle plant in southeast Saskatchewan being fully operational and gas plants in Alberta operating at normal capacity.[376]

Figure 10-2: Residential Bill Impacts due to Heat Value Variance (% change)[377]



Overall, as indicated in Figure 10-1, over the period since 2012 the distribution of the weighted average heat value by region has declined, with bill impacts for most residential customers converging within a 2% (+/-) range of the system average heat value in 2016. The following is specifically noted in this regard:

- Bill impacts due to lower heat value are all within 2% of the system average heat value for the following regions: Moose Jaw; Swift Current; Saskatoon and North Battleford.
- The heat value in the Melville and Weyburn regions has declined material over the last number of years and has resulted in bill impacts in these regions falling within 2% of the system average heat value. Higher heat values are still being experienced in the Yorkton and Estevan regions and appear over time to be deviating further from the system average.

Average bill impacts for Small Commercial and Large Commercial customers are summarized in Table 10-3 that follows.

[376] 1st Round Information Request 28(b).
[377] 1st Round Information Request 28(a).

Table 10-3: Average Consumption & Average Bill Impacts for over 12 Month Period for Small Commercial and Large Commercial Customers (2016)[378]

	Average 2016 Small Commercial						Average 2016 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	439	872	1,927	3,238	- 24.00	-0.74%	1,609	11,052	27,932	40,592	- 322	-0.79%
Moose Jaw	**439**	**905**	**1,999**	**3,342**	**80.00**	**2.39%**	**1,609**	**11,461**	**28,967**	**42,037**	**1,123**	**2.67%**
Weyburn	439	862	**1,905**	**3,206**	- 56.00	-1.75%	1,609	**10,922**	**27,606**	**40,137**	- 777	-1.94%
Estevan	**439**	**784**	**1,733**	**2,956**	**- 306.00**	**-10.35%**	**1,609**	**9,938**	**25,118**	**36,665**	**- 4,249**	**-11.59%**
Swift Current	439	899	1,987	3,325	63.00	1.89%	1,609	11,392	28,793	41,794	880	2.11%
Yorkton	439	830	1,833	3,102	- 160.00	-5.16%	1,609	10,513	26,571	38,693	- 2,221	-5.74%
Melville	439	871	1,923	3,233	- 29.00	-0.90%	1,609	11,029	27,875	40,513	- 401	-0.99%
Saskatoon	439	890	1,966	3,295	33.00	1.00%	1,609	11,275	28,498	41,382	468	1.13%
Prince Albert	439	874	1,931	3,244	- 18.00	-0.55%	1,609	11,074	27,989	40,673	- 241	-0.59%
North Battleford	439	891	1,969	3,299	37.00	1.12%	1,609	11,291	28,536	41,436	522	1.26%
System Average	**439**	**880**	**1,943**	**3,262**			**1,609**	**11,143**	**28,163**	**40,914**		

10.2 OTHER STAKEHOLDERS

Connect Energy (a gas Retailer) has noted in prior reviews that it is of the opinion that SaskEnergy's volumetric billing method creates issues for competitive natural gas marketers that must settle with SaskEnergy on an energy basis (i.e., GJ received by SaskEnergy from the gas retailer into the distribution system must equal GJ delivered by SaskEnergy to the retailer's customer). Connect Energy notes that gas marketers are in a less competitive position relative to SaskEnergy in high heating value areas of the province.[379] Connect Energy did not provide any feedback during the current process.

10.3 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.

The actual impact that heat value variance has had on SaskEnergy revenues over the period from 2009 to 2016/17 is summarized in Table 10-4, along with the forecast impact for 2017/18.[380] This indicates that adverse impacts to SaskEnergy revenues have declined since 2015.

[378] 2nd Round Information Request 24(c).
[379] 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 provided by Connect Energy at the time. These concerns were also reiterated in a written submission by Connect Energy as part of the 2016 Commodity and Delivery Service Rate application process.
[380] 2016 Commodity and Delivery Rate Application Tab 24, Attachment 1, page 2; 1st Round Information Request 28(c).

Table 10-4: Heat Value Revenue Impacts: 2009-2016/17 (Actual) and 2017/18 Forecast[381]

Year	2009	2010	2011	2012	2013	2014	2015	2016/17 Fiscal Year	2017/18 Test Year Forecast
Forecast Heat Value (MJ/m^3)				37.98	38.02	38.00	37.96	38.00	38.50
Actual Heat Value (MJ/m^3)				38.28	38.42	38.36	38.79	38.58	
Variance on Income due to Higher than Forecast Heat Value ($ Millions)	-1.3	-1.9	-0.5	-0.9	-1.0	-1.4	-4.7	-2.1	

Overall, each year since 2009 there has been a negative impact to SaskEnergy's revenues due to using a lower heat value in its revenue forecast than has actually occurred each year. This has led to a negative impact to SaskEnergy ranging from $0.5 million (in 2011) to $4.7 million (in 2015); and an average annual variance of $1.7 million over the period between 2009 and 2015. However, 40% of the total net impact over the period relates to materially higher 2015 net revenue impacts attributed to the following factors:[382]

- Slow start up of the straddle plant in southeast Saskatchewan (start-up was delayed to August 1, 2015 and throughput did not reach expected levels until November 2015).
- Increase in heat value of natural gas being imported from Alberta (assumed to be due to many gas plants reducing throughput as a result of low natural gas liquids prices).

SaskEnergy notes that since the 2016 Application, the straddle plant in southeast Saskatchewan has been operational for a year, and supply declines in Saskatchewan have stabilized, and heat value from natural gas imported from Alberta has not been as variable (as gas plants along the border have been operating at normal capacity). This has resulted in the forecasted heat value being closer to actual heat value in recent months.[383]

SaskEnergy notes that in the forecast test year a 0.5 MJ/m^3 variance between forecast and actual heat value would have approximately a $1.7 million impact to net income.[384]

10.4 HEAT VALUE VARIANCE & COMMODITY RATES

Changes in heat value also affect the GCVA balance, i.e., when heat value increases, customers require smaller volumes to achieve the same heating value, decreasing commodity revenues (which are based on volume). With regard to commodity revenues, financial losses due to heat value variance are captured in

[381] Actual revenue impacts for 2009 to 2016 from 2016 Commodity and Delivery Rate Application Tab 24, Attachment 1, page 2. 2016/17 actual results from response to 2017 Delivery Service Application 1st Round Information Request 28(c). Forecast and Actual heat value for 2012 to 2015 from response to 1st Round Information Request 28(b). 2017/18 test year heat value forecast from response to 28(d).
[382] 1st Round Information Request 27(h) from the 2016 Commodity and Delivery Services Rate Application; 1st Round Information Request 28(c) from the 2017 Delivery Service Rate Application.
[383] 1st Round Information Request, 27(b).
[384] 1st Round Information Request 28(c).

the GCVA, with timing for collection (or refund) of related SaskEnergy revenues (or amounts owing to ratepayers) shifted to future periods. This mechanism mitigates financial risk to the corporation related to variances in commodity revenue due to heat value; 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.

SaskEnergy has noted the following impacts on the GCVA related to heat value variance over the last three years:

Table 10-5: Heat Value Revenue Impacts: 2014/15 to 2017/18[385]

Period	Heat Value Impact to GCVA (Amounts owing to SaskEnergy)
Nov. 2014 – Oct. 2015	$2.485 million
Nov. 2015 – Oct. 2016	$5.602 million
Nov. 2016 – May 2017	$0.777 million

SaskEnergy notes that for the test year a 0.5 MJ/m^3 variance between forecast and actual heat value will have a $2.7 million impact to the GCVA.[386]

Observations

SaskEnergy's Application does not highlight impacts related to heat value variance as a concern for the current test year. However, material concerns related to heat value variance impacts on customer bills and on net revenues and the GCVA have been noted by both 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. In the Consultants' view, given the concerns identified in prior years it is important to continue to review issues related to heat value variance and potential adverse effects that it may have on ratepayers, SaskEnergy and other stakeholders going forward.

SaskEnergy indicates that the transition to billing in energy has been postponed at this time due to the "current economic environment and fiscal restraints", and "a transition to billing in energy would require conditions conducive to adding additional financial and staffing resources as well as the support of SaskEnergy's owner". Specifically, the following factors are identified as impediments to transitioning to billing in energy at this time[387]:

- **Fiscal Restraint Measures:** SaskEnergy notes that over the next 18 months, key staff from the Customer Information System (CIS) Support group are committed to a major system upgrade to the CIS; and these are the same resources that would be required to work on a Billing in Energy project.

[385] 1st Round Information Request 28(c).
[386] 1st Round Information Request 28(c).
[387] 1st Round Information Request 27(c).

- **Economic Environment:** SaskEnergy notes that Saskatchewan's growth has been muted by the slowdown in the energy sector; and this has particularly impacted the southeast region of the province. Further, SaskEnergy notes that a change to billing in energy could result in a large bill increase for customers in this particular area of the province.

SaskEnergy in the 2016 Application outlined in detail a number of external factors that impact heat value and that can make heat value difficult to accurately forecast. These include: 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. SaskEnergy has previously noted that these factors are often in a state of flux and beyond SaskEnergy's control. However, SaskEnergy is capable of making changes to its billing system that would protect both the corporation and its customers from these concerns.[388]

Billing in energy would eliminate the need for forecasting heat value and the associated risks related to heat value variance. 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 is capable of converting to billing in energy and this would resolve both revenue forecast and customer fairness issues related to heat value variance.[389]

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.

[388] See 2016 Consultant's report, page 10-8.
[389] See 2016 Consultant's report, Section 10-1.

11.0 CUSTOMER IMPACTS

Customer bills include a Commodity Rate, a Delivery Rate and a Basic Monthly charge. Bill impacts will vary depending on customer class and usage levels. SaskEnergy is proposing the following rate increases that will impact customer bills:

- An increase to Basic Monthly Charge for Residential customers; and
- An increase to the volumetric Delivery Charge for Commercial Small, Commercial Large and Small Industrial customers.

No change in the Commodity Rate is being proposed as part of this Application.

Table 11-1 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 increases.

Table 11-1: Proposed Customer Bill Impact from Delivery Rate Changes[390]

	Delivery Service Rate Increase		Total Bill Impact	
	$/Month	Annual Bill % Increase	$/Year	Annual Bill change %
Residential	$1.65	3.9%	$19.8	2.3%
Commercial Small	$2.84	2.4%	$34.1	1.1%
Commercial Large	$40.0	3.5%	$476.0	1.2%
Small Industrial	$103.0	2.4%	$1,235.0	0.2%
Average		3.6%		1.8%

SaskEnergy provided information on the distribution of customer bill impacts at different consumption levels for each customer class, and information regarding the distribution of bill impacts for the Residential, Commercial Small and Commercial Large customer classes. This information is summarized in the following Figures and Table.

- Table 11-2 summarizes the average bill impact for each rate class assuming the proposed rates are implemented effective November 1, 2017.
- Figures 11-1, 11-2 and 11-3 illustrate the distribution of annual use for Residential customers, Commercial Small customers and Commercial Large customers respectively.
- Figure 11-4 illustrates the range of potential rate impacts in dollars for each Residential and Commercial customer class based on SaskEnergy's proposed rates.

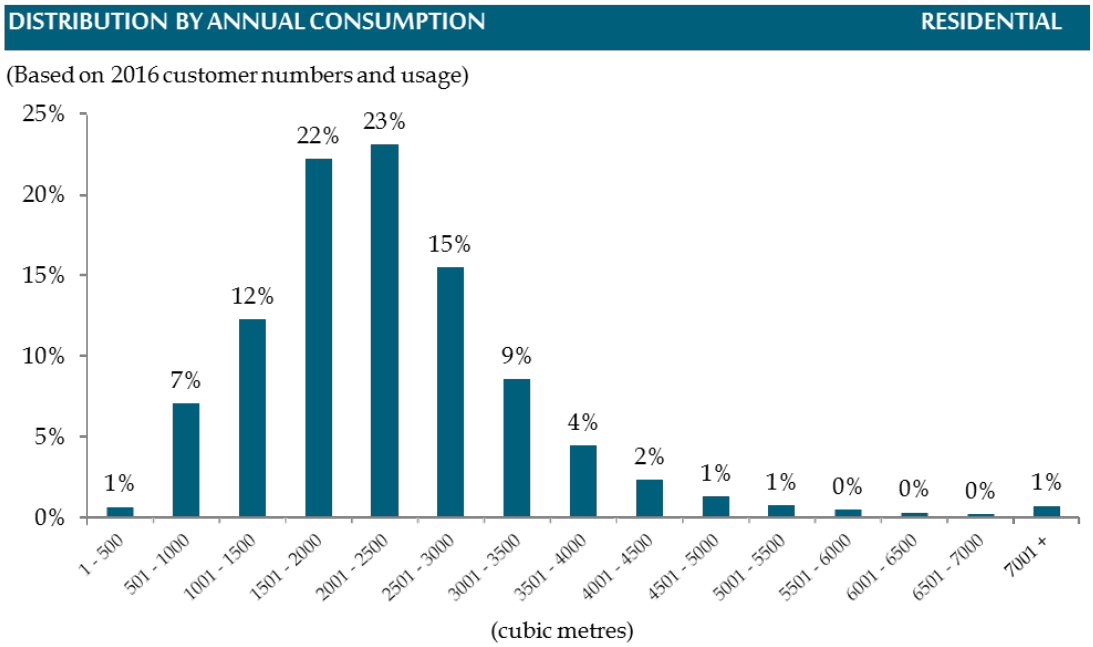
[390] Cover letter and page 1, 2017 Delivery Service Rate Application.

- Figure 11-5 illustrates the range of potential percentage bill impacts to Residential class customers based on usage under the SaskEnergy's proposed rates.

Table 11-2: Monthly Bill Impact by Customer Consumption (Based on 2016 Customer Numbers and Use)[391]

	Percentage of Customers within Class	Annual Usage Interval (m^3)	Average Annual Use (m3)	Current Average Bill	Proposed 2017/18 Average Bill	Bill Impact ($ Change)	Percentage Change Total Bill
Residential	81%	0-3000	1,914	$704	$724	$20	2.8%
	18%	3,001-7,000	3,824	$1,137	$1,157	$20	1.8%
	1%	Over 7,000	9,964	$2,531	$2,551	$20	0.8%
Commercial Small	70%	0-10,000	4,001	$1,314	$1,325	$11	0.8%
	27%	10,001-50,000	21,596	$5,062	$5,120	$58	1.2%
	3%	Over 50,000	65,714	$14,459	$14,637	$178	1.2%
Commercial Large	78%	0-200,000	103,345	$22,669	$22,938	$269	1.2%
	20%	200,001-400,000	276,005	$57,788	$58,506	$718	1.2%
	3%	Over 400,000	475,129	$98,290	$99,525	$1,235	1.3%

Figure 11-1: Distribution of Residential Customers by Annual Use (% of Customers by Use in Cubic Meters)[392]



[391] Tab 19 of 2017 Delivery Service Rate Application. Commercial Small proposed bill for medium usage is corrected from $5,102 to $5,120 [$38.5 BMC *12=$429.6+(21,596*$0.0770)+(21,596*$0.1387)=$5,120]. Bill impact and percentage changes are the same as Tab 19.
[392] Page 2 of Tab 19 of 2017 Delivery Service Rate Application.

Figure 11-2: Distribution of Commercial Small Customers by Annual Use[393]

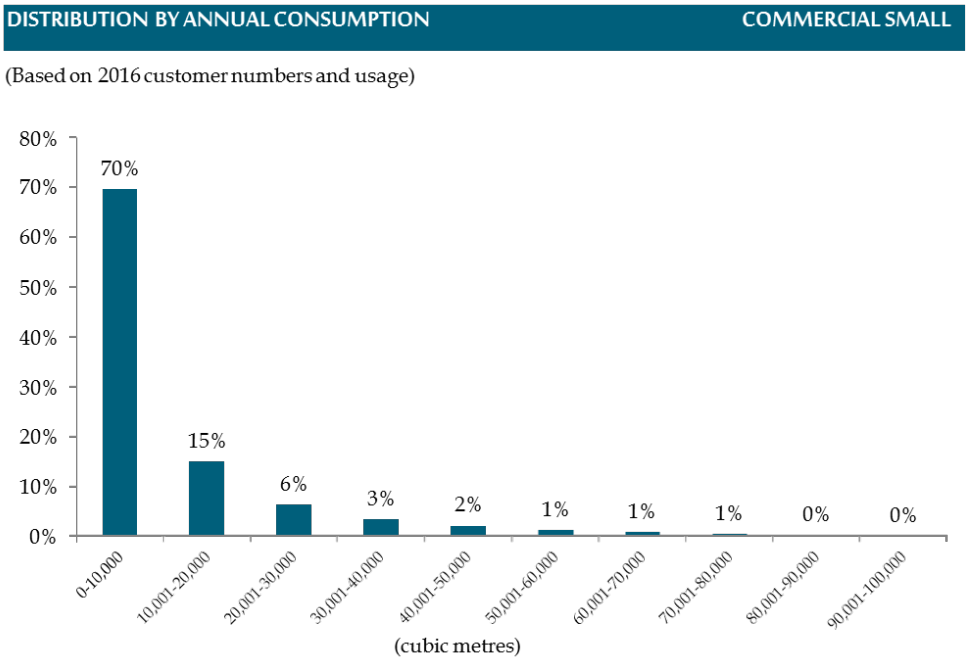
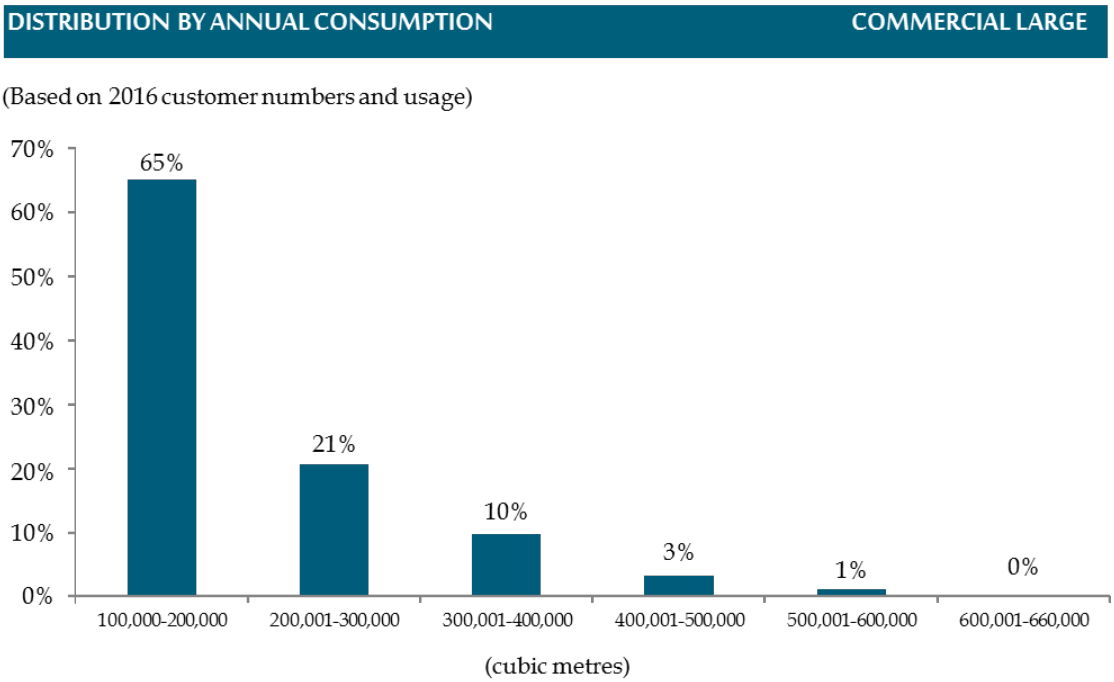
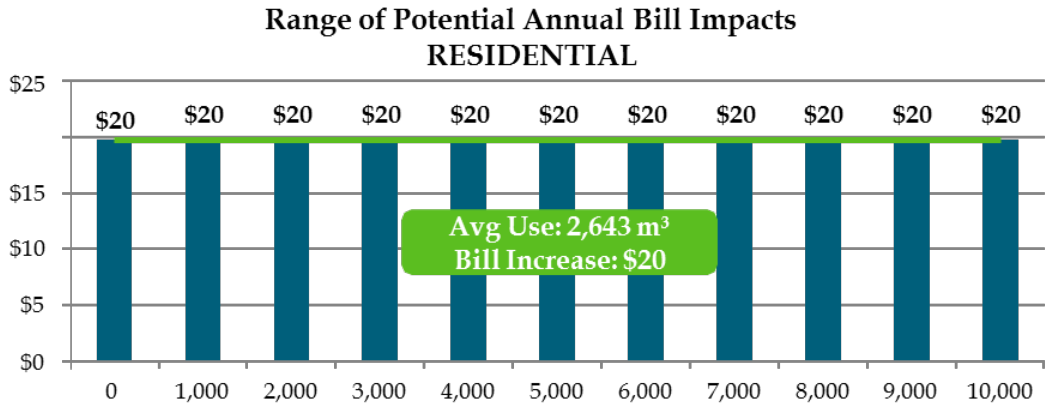


Figure 11-3: Distribution of Commercial Large Customers by Annual Use[394]

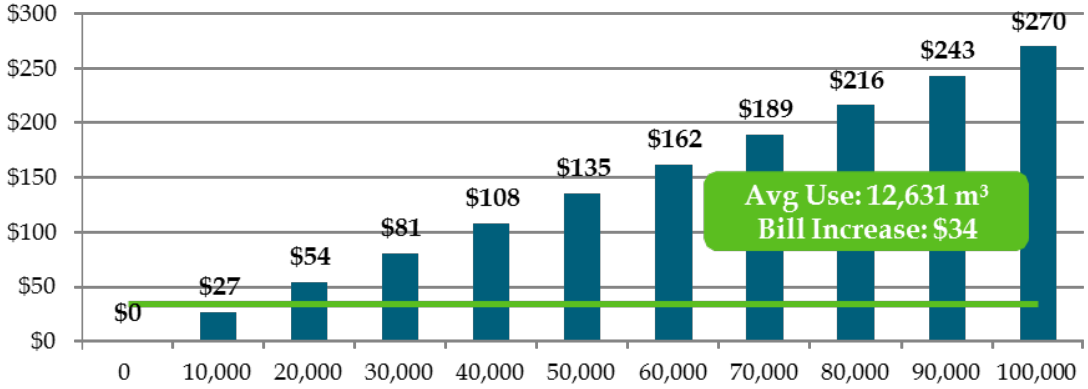


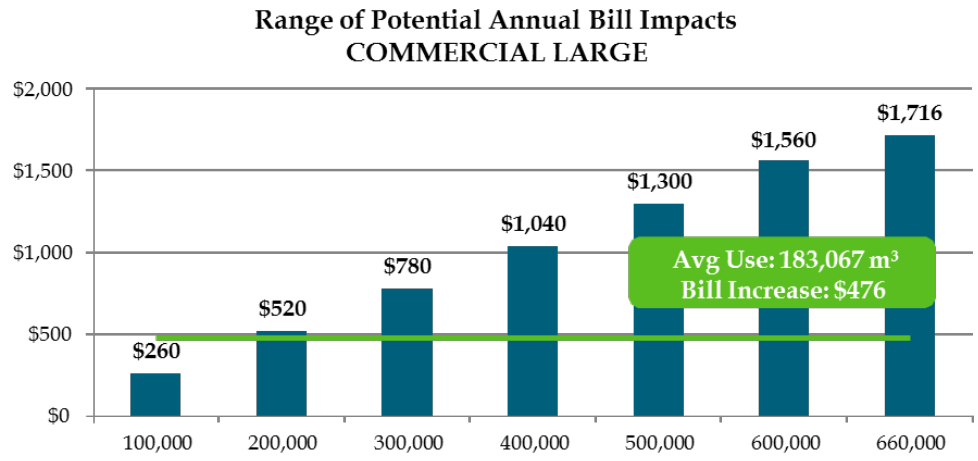
[393] Page 2 of Tab 19 of 2017 Delivery Service Rate Application.
[394] Page 3 of Tab 19 of 2017 Delivery Service Rate Application.

Figure 11-4: Range of Potential Bill Impacts in dollars[395]



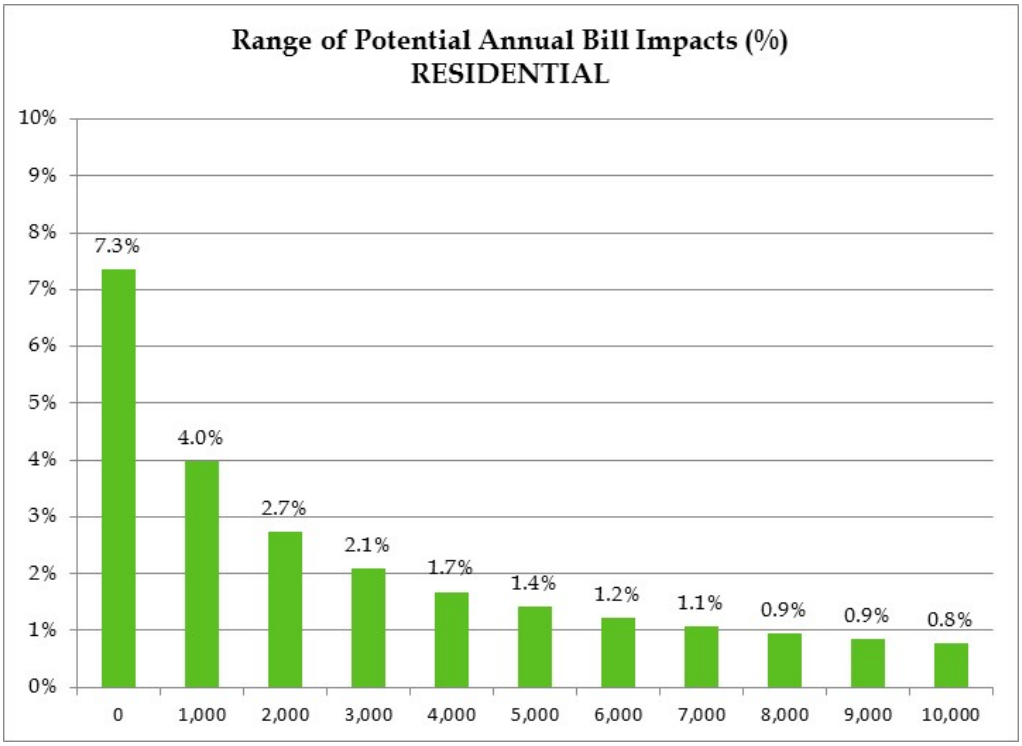
Range of Potential Annual Bill Impacts Commercial Small





[395] Page 4 of Tab 19 of 2017 Delivery Service Rate Application.

Figure 11-5: Range of Potential Rate Impacts for the Residential Customers based on usage under SaskEnergy Proposed Rate[396]



In summary, the following customer class bill impacts with SaskEnergy proposed rates are noted:

- **Residential Customers:** With the proposed change in BMC-only, bills will increase by about $20/year (or about $1.65/ month) regardless of natural gas usage, and low usage customers will see higher percentage increases to their monthly/annual bills:[397]
    - Customers with consumption lower than 1,000 m^3/year [about 8% of total customers] would see bill impacts ranging between from 4.0% to 7.3%;
    - Customers with consumption between 1,000 m^3/year and 2,000 m^3/year [about 34% of total customers] would see bill impacts in the 2.7% range[398];
    - Customers with consumption between 2,000 m^3/year and 3,000 m^3/year [about 38% of total customers] would see bill impacts in the 2.1% range; and
    - Customers with consumption of more than 3,000 m^3/year [about 20% of total customers] would see bill impacts ranging between 0.8% and 1.7%.

[396] 1st Round Information Request 22(b).
[397] Based on information from Tab 19, as well as 1st Round Information Request 22 (b).
[398] 2nd Round Information Request 19(b). SaskEnergy notes that the most common type of residential customer that uses less than 2,000 m3/year primarily includes resorts and apartment-style condominiums that have common walls.

- **Commercial Small:** Bills will increase by about $34/year or $2.83/month for average Commercial Small customers:[399]
    - Customers with lower than 10,000 m^3/year consumption [about 70% of total customers] would see bill impacts of about $11/year (or about 1%);
    - Customers with consumption between 10,000 m^3/year and 50,000 m^3/year [about 27% of total customers] would see bill impacts of about $58/year (or about 1%); and
    - Customers with consumption more than 50,000 m^3/year [about 3% of total customers] would see bill impacts of about $177/year (or about 1%).
- **Commercial Large:** Bills will increase by about $476/year (or $39.67/month) for average Commercial Large customers: [400]
    - Customers with consumption lower than 200,000 m^3/year [about 78% of total customers] would see bill impacts of about $269/year (or about 1%);
    - Customers with consumption between 200,000 m^3/year and 400,000 m^3/year [about 20% of total customers] would see bill impacts of about $718/year (or about 1%); and
    - Customers with consumption more than 400,000 m^3/year [about 3% of total customers] would see bill impacts of about $1,235/year (or about 1%).
- **Industrial Small:** Bills will increase by about $1,235/year (or $103/month) for average Industrial Small customers. This is about a 0.2% total bill impact.[401]

Observations

As discussed in Section 9, SaskEnergy's proposal to increase only the Basic Monthly Charge for the Residential customer class would increase bills for all residential customers by $20/year regardless of usage. This would lead to a higher percentage bill increase for low usage customers compared to average or higher usage customers [the bill impact within the class ranges between 0.8% and 7.3% compared to average bill impact of 2.3% for the class]. This proposal results in the BMC recovering 78% of residential customer costs [compared to the long-term target to recover at least 75%], and creates concerns related to intraclass fairness and would also mute any price signals for residential customers.

SaskEnergy notes that an increase to the BMC of $0.75 [compared to $1.65 increase to the BMC with the current rate proposal] and an increase of $0.0041 to the volumetric delivery charge would maintain the residential BMC at the 75% target.

- Figure 11-6 illustrates the range of potential bill impacts for Residential class customers with an increase to both the BMC and volumetric charge. As illustrated in Figure 11-6, this approach would result in bill impacts ranging between 2.0% and 3.3% [compared to 0.8% and 7.3% as with the proposed rate design].

[399] Based on information from Tab 19.
[400] Based on information from Tab 19.
[401] See Table 11-1.

- Figure 11-7 shows the range of bill increases based on usage – similar to the commercial small and commercial large class proposed rates, this shows residential customer bills increasing with usage (rather than remaining flat as with the proposed rate design).

Figure 11-6: Range of Potential Bill Impacts for the Residential Customers based on usage under rate option with increase in both BMC and Volumetric Charge[402]

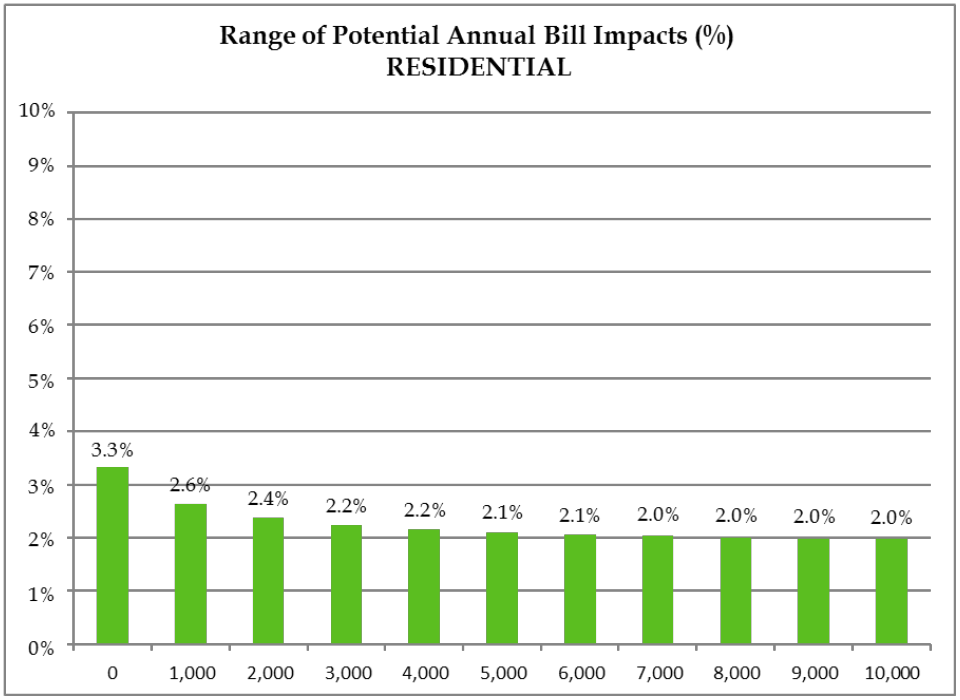
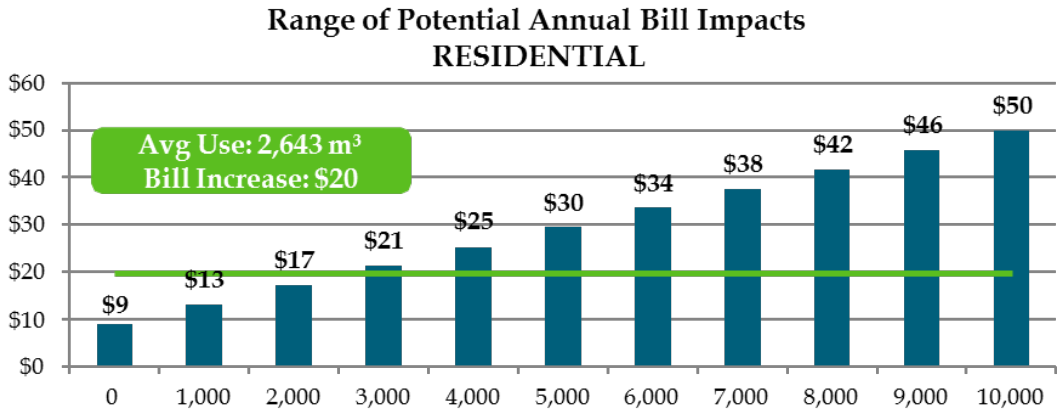


Figure 11-7: Range of Potential Annual Bill Impacts based on usage under rate option with increase in both BMC and Volumetric Charge[403]



[402] 2nd Round Information Request 19 (a).
[403] 2nd Round Information Request 21 (a).

For the commercial small and commercial large rate classes SaskEnergy is proposing that rate increases be applied to the volumetric portion of the rate providing a stronger price signal related to increased consumption for these classes and customers.

12.0 COMPETITIVENESS

The terms of reference for the Panel's review request an opinion of the fairness and reasonableness of SaskEnergy's proposed 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.

12.1 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.

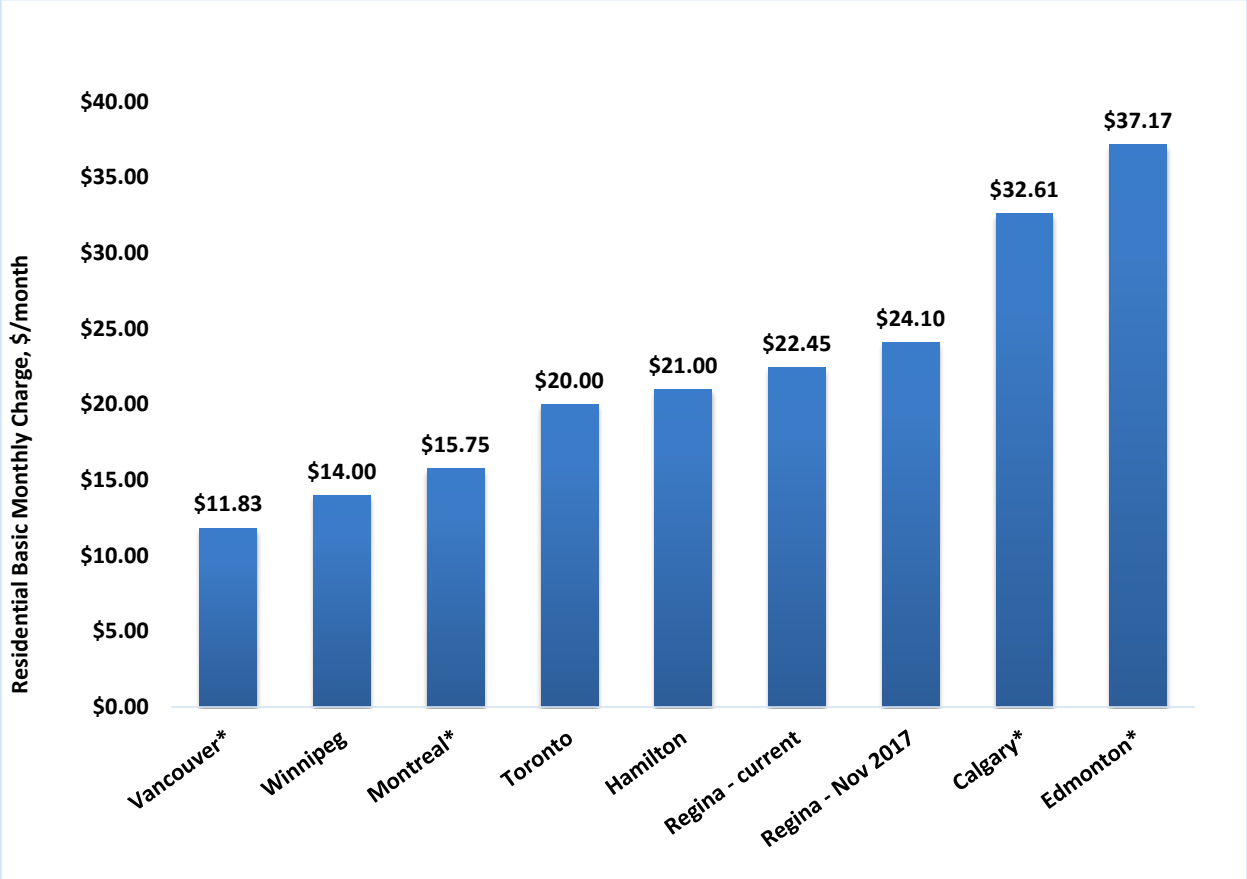
12.1.1 Residential Customer Bill Comparison

Residential bills include a Basic Monthly Charge, a volumetric Delivery charge, and the Commodity charge.

- Figure 12-1 compares the Basic Monthly Charges for residential customers. This indicates that the proposed Basic Monthly Charge for SaskEnergy residential customers is slightly higher than the average for major Canadian centres [SaskEnergy proposed is $24.10 compared to $22.10 which is the average for other jurisdictions];
- Figure 12-2 shows the actual annual residential delivery and commodity costs for May 2016 through April 2017; and
- Figure 12-3 compares bills at 2017 rates, including rates proposed by SaskEnergy effective November 1, 2017.

Figures 12-2 and 12-3 show that, of the jurisdictions surveyed, SaskEnergy had the third highest bills for residential customers at the assumed average consumption level and based on May 2016 to April 2017 rates. SaskEnergy would be at the mid-point with 2017 rates (before an increase) and would be third highest (after the rate increase).

Figure 12-1: Residential Basic Monthly Charge Comparison ($/Month)[404]



Notes: * where indicated, rates were converted from daily to monthly charge. Regina – Nov 2017 reflects proposed rate effective November 1, 2017.

[404] Regina proposed rate from Schedule 2 of 2017 Delivery Service Rate Application. Vancouver charge from FortisBC, as of January 1, 2017: http://www.fortisbc.com/NaturalGas/Homes/Rates/Mainland/Pages/default.aspx, fixed charges for Calgary and Edmonton are from SaskEnergy's June 26, 2017 presentation and reflect fixed charges from ATCO Gas North and ATCO Gas South rate schedules plus a Direct Energy Regulated customer charge, current rates available at: http://www.atcogas.com/Rates/Current_Rates/ and Direct Energy Regulated at https://www.directenergyregulatedservices.com/images/docs/170825-DERS-Sep-2017-Interim-South-DRT-Rate-Schedules.pdf, Winnipeg charge from Centra Gas, current rates as of August 1, 2017: https://www.hydro.mb.ca/regulatory_affairs/energy_rates/natural_gas/current_rates.shtml, Toronto charge from Enbridge gas, current rate as of July 1, 2017: https://www.enbridgegas.com/homes/accounts-billing/residential-gas-rates/purchasing-gas-from-enbridge.aspx, Hamilton charge from Union Gas, Southwestern Ontario, rates as of July 1, 2017: https://www.uniongas.com/~/media/aboutus/rates/residential/m1.pdf?la=en, Montreal rate from GazMetro, rate as of March 1, 2017: https://www.gazmetro.com/en/residential/customer-centre/billing-and-pricing/pricing/ [all web sites are accessed on August 22, 2017].

Figure 12-2: Annual Average Residential Delivery and Commodity Costs May 2016 – April 2017 (based on average consumption of 2,800 m³/year)[405]

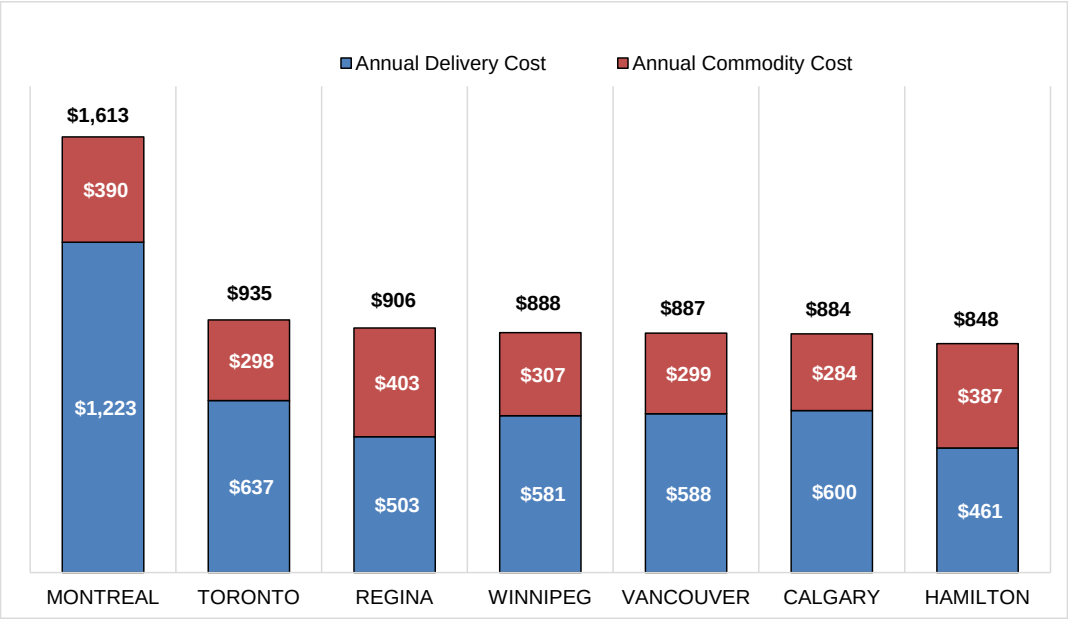
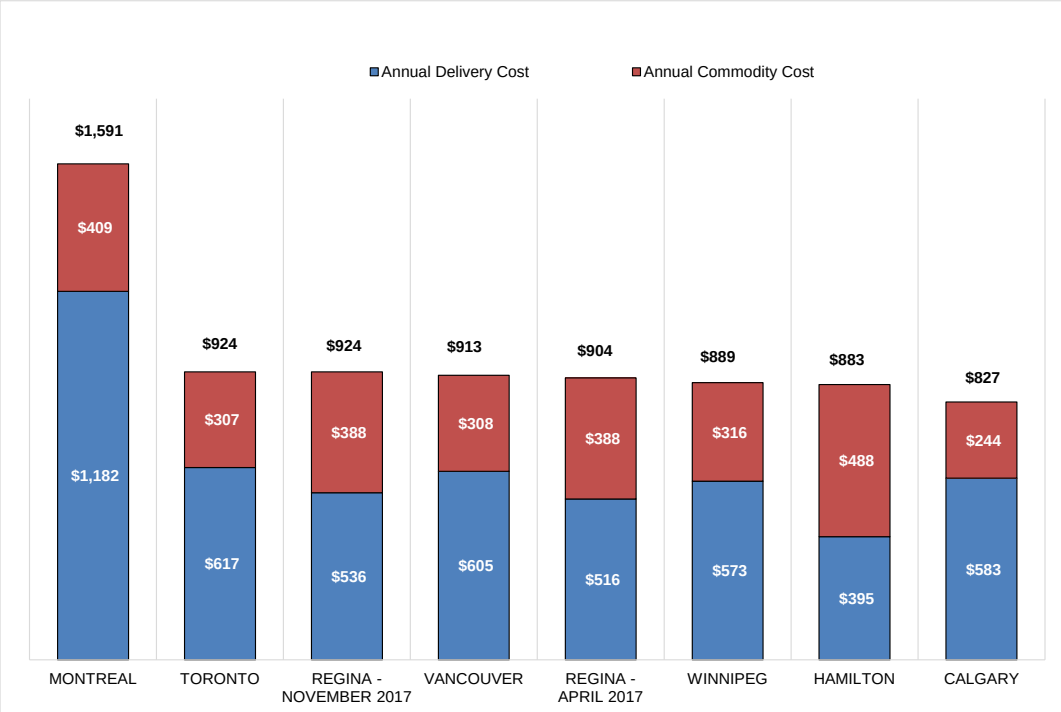


Figure 12-3: Annual Average Residential Delivery and Commodity Costs based on 2017 Rates (based on average consumption of 2,800 m³/year)[406]

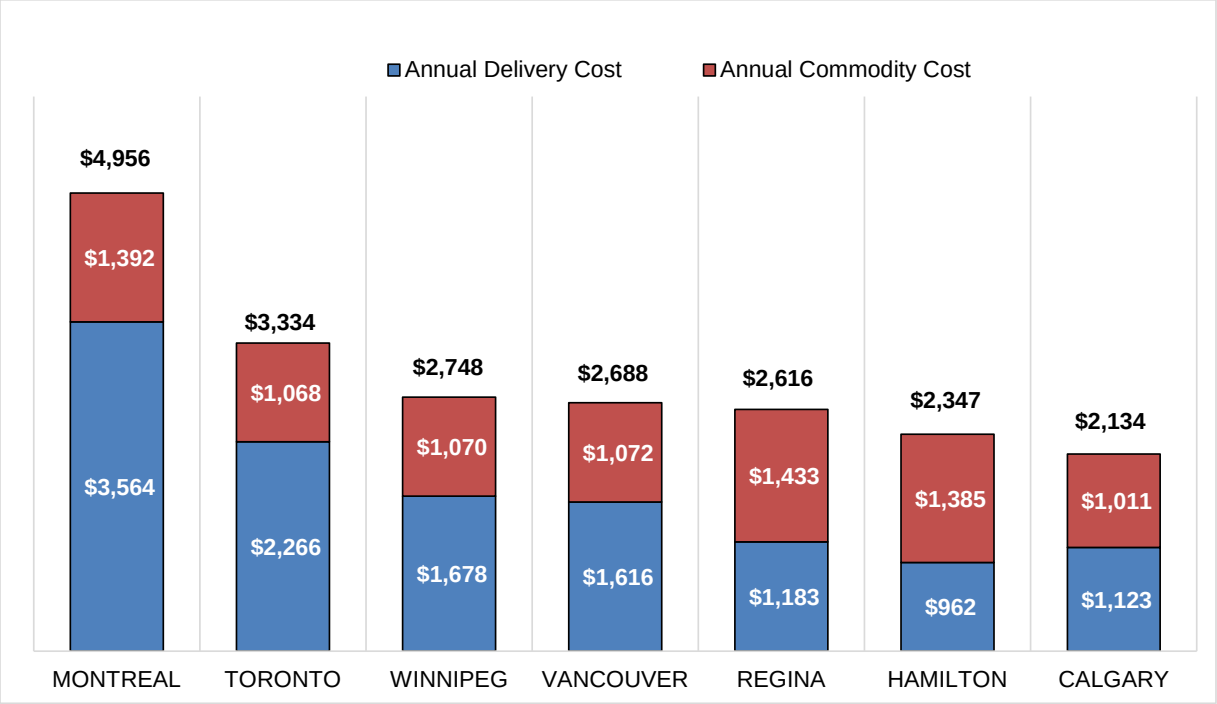


[405] 1st Round Information Request 23 (a).
[406] 1st Round Information Request 23 (a). Regina bill for November 2017 includes proposed increase of $20/year for BMC.

12.1.2 Commercial Small Bill Comparison

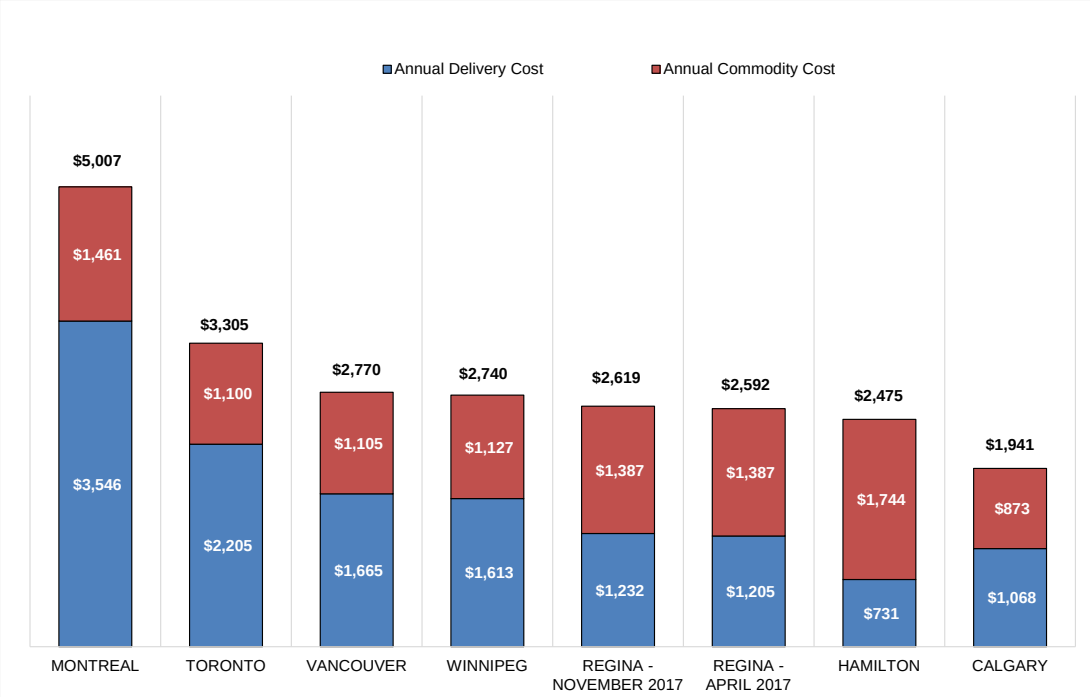
Figure 12-4 provides a comparison of average annual bills for Commercial Small customers for rates from May 2016 to April 2017. Figure 12-5 provides a comparison of bills for 2017 rates which includes both the current and proposed bills for SaskEnergy. Commercial Small bills in Regina are expected to be the third lowest of the nine jurisdictions surveyed under both current and proposed rates.

Figure 12-4: Commercial Small Delivery and Commodity Costs May 2016 – April 2017 (based on consumption of 10,000 m³/year[407]



[407] 1st Round Information Request 23 (a).

Figure 12-5: Commercial Small Delivery and Commodity Costs for 2017 Rates (based on consumption of 10,000 m³/year[408]



12.1.3 Commercial Large Bill Comparison

Figure 12-6 provides a comparison of average annual bills for Commercial Large customers for rates from May 2016 to April 2017.

Figure 12-7 provides a comparison of bills for 2017 rates and includes both the current and proposed bill for SaskEnergy. Commercial Large bills in Regina are expected to be the third lowest of the nine jurisdictions surveyed under both current and proposed rates.

[408] 1st Round Information Request 23 (a). Regina bill for November 2017 includes proposed increase of about $27/year.

Figure 12-6: Commercial Large Delivery and Commodity Costs for May 2016 – April 2017 (based on consumption of 100,000 m³/year)[409]

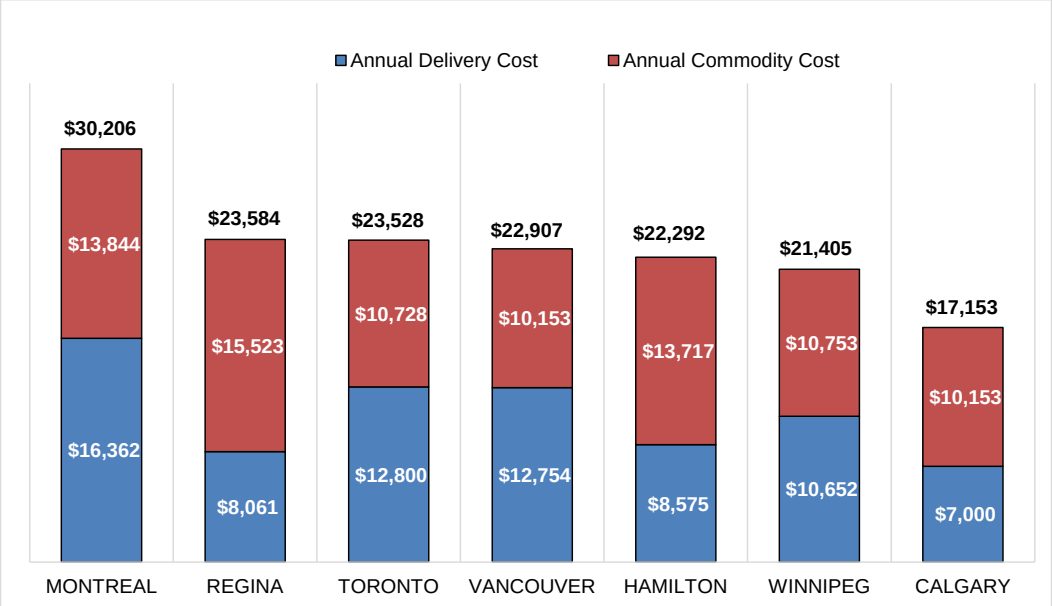
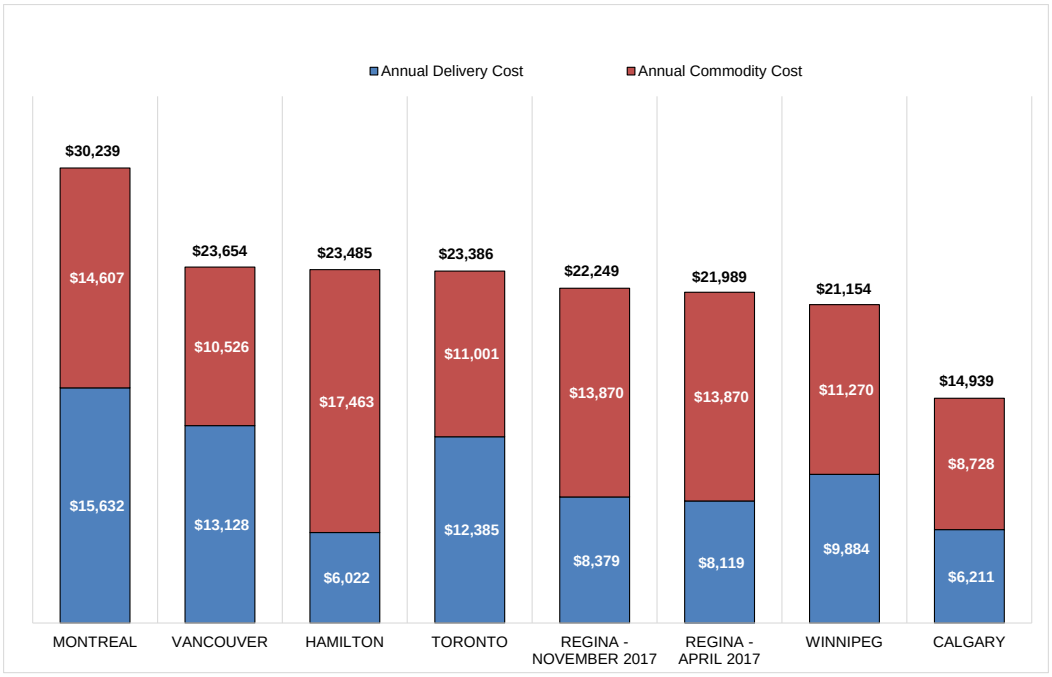


Figure 12-7: Commercial Large Delivery and Commodity Costs for 2017 Rates (based on consumption of 100,000 m³/year)[410]



[409] 1st Round Information Request 23 (a).
[410] 1st Round Information Request 23 (a). Regina bill for November 2017 includes proposed increase of about $260/year.

Observations

The Consultant notes that SaskEnergy's delivery service rates will remain among the lowest for major metropolitan centres in Canada for all customer classes. However, total bills that include commodity rate charges show that the bill for residential customers would be the third largest, while commercial customer bills would be third lowest among the jurisdictions surveyed. Based on these observations, the Consultant concludes that SaskEnergy's rates will remain competitive with other jurisdictions if the requested rates were implemented. However, it is noted that the residential basic monthly charge remains one of the highest among the jurisdictions surveyed.

Section 3.6.2 reviews SaskEnergy's capital structure and common equity ratio and provides comment on its competitiveness relative to peer utilities.

13.0 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 August 15, 2017:**[411] The Panel hosted a public meeting in Regina on August 15, 2017, where SaskEnergy was invited to make a presentation. The purpose of the meeting was to inform the public of the 2017 Delivery Service Rate Application and to receive public feedback regarding the Application. The meeting was also streamed live on facebook 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:**[412] Public comments were received over a period from July 11, 2017 to August 28, 2017. This included emails, written feedback forms and voicemails. Comments received indicate as follows:
    - Comments received indicated that some consumers "have had enough" and are concerned that they can no longer afford the continuous year over year rate increases being implemented by all Crown Corporations; it was noted that the SaskPower increase earlier in the year had already had a "major impact" on finances for fixed income earners.
    - Concern was noted that utility rates and other costs are rising and wages and pensions are not keeping pace. This places strain on finances for seniors, low income earners and students; one comment noted concern that it is "going to be unaffordable to heat my home or pay for any utilities if these rates keep getting approved". Another comment noted that "it seems like everything is continually going up" and "it's making it so hard".
    - Comments were provided that "rate increases are a form of back door taxation" and that the government "needs to stop draining the crowns of money they would otherwise use for the purposes they state are the reasons for the requested increases."
    - Concern was noted that annual rate increases should be tied to the cost of living for Saskatchewan, and that prior to seeking rate increases from consumers Crown corporations should first look at reducing costs internally (including looking at wages and benefits and eliminating bonuses).

Observations

All of the above matters were considered in the preparation of the Consultant's report and the recommendations.

[411] Available on the Panel website at the following link: http://www.saskratereview.ca/secuap.php?apn=jul_11_17_se [accessed August 21, 2017].
[412] See submissions summarized on Saskatchewan Rate Review Panel website at the following link: http://www.saskratereview.ca/srr_energy.php?sdate=1499327497&edate=1598729599.

14.0 PAST PANEL RECOMMENDATIONS

The Panel provided the following recommendations in its report to the Minister regarding SaskEnergy's 2016 Commodity and Delivery Service Application (dated September 14, 2016)[413]:

- **Recommendation #1:** That the proposed Commodity Rate decrease be revised from 14% to 13% (or 13.87 cents/M^3) at the forecast heat value of 38 Megajoules (MJ) per M^3 (rather than the 13.69 cents/M^3 at the forecast heat value of 37.5 MJ/m^3 in the application).
- **Recommendation #2**: That the proposed Delivery Service Rate increase by an average of 8.6% be approved, subject to the same forecast heat value factor of 38 MJ/m^3 to be used in calculation of the Volumetric Delivery Charge.
- **Recommendation #3:** That the proposed Heat Value Variance Account not be approved.

The recommendations to the Minister were all implemented or addressed by SaskEnergy.

The Panel also made further specific recommendations to SaskEnergy, and additional responses were provided by SaskEnergy in Tab 22 of the 2017 Application. The recommendations along with SaskEnergy's responses are summarized below. Further comment is provided regarding where these specific issues are addressed or commented on in the Consultant's report:

- **Recommendation #1:** Since SaskEnergy has indicated it will be capable of billing in energy (GJ), that it commit funding and resources to do so by November 1, 2018.

  SaskEnergy indicates that it has postponed the consideration of transition to billing energy due to the current economic environment and fiscal restraints. Issues related to heat value variance are addressed in Section 10 (Heating Values) of the Consultant's Report.

- **Recommendation #2:** That SaskEnergy monitor its annual infrastructure renewal investments in capital projects to meet Canadian Industrial Standards required for safe and reliable distribution service to its customer and that safety spending targets be adhered to.

  SaskEnergy indicates that it continues to monitor its investments in capital projects including its Major Infrastructure Renewal Program and the Distribution Integrity Program ensuring safety standards and spending targets are met. SaskEnergy's infrastructure renewal investments and safety and reliability spending programs are addressed further in Section 5 (Capital Expenditures) and Section 6 (Safety and Reliability) of the Consultant's Report.

- **Recommendation #3:** That SaskEnergy provide the Panel in future applications with access to the information that is provided to SaskEnergy and other larger customers through the TransGas Customer Dialogue Committee, including information on the competitiveness of TransGas rates.

  SaskEnergy indicates that TransGas Customer Dialogue information is not within the Terms of Reference for the rate application and will not be provided to the Panel; this decision was concurred by the TransGas Customers Dialogue Committee in November 2016. Transportation and Storage

[413] See Tab 22 of the Application.

costs are addressed further in Section 3.2 (Transportation and Storage Expense) of the Consultant's Report.

- **Recommendation #4:** That SaskEnergy pursue a governance structure that provides a framework for regular adjustments to the commodity rate when the balance in the Gas Cost Variance Account exceeds $20 million.

  SaskEnergy commodity rate process is governed by the Provincial Cabinet and as a result, SaskEnergy is not in a position to change the commodity rate adjustment governance structure. It does, however, initiate the governance process to submit a Commodity Rate Application to the Panel if the GCVA is forecast to grow beyond $20 million before the next scheduled commodity rate review (April 1 and November 1). An update regarding the GCVA balance was provided during the interrogatory process. Future commodity rate increases and potential impacts on customer bills are discussed in Section 2.0 (Application Overview) of the Consultant's report.

15.0 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 (2017/18) 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. 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.
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). 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).

Delivery Service Revenue Requirement

3. The net revenue requirement for the 2017/18 test year forecast increases by 3.39% over the 2016/17 test year forecast. The main driver relates to increased capital expenditures which increase depreciation expense, as well as the cost of debt and return on equity. The increase in operating and maintenance costs in the 2017/18 test year forecast also impacts the increase in revenue requirement.
4. After a period of restraint, the 2016/17 test year forecasts assumed that expenditures would return to "normal and sustainable" levels; however, 2016/17 test year actual results are expected to be approximately $5.8 million less than the test year forecast. SaskEnergy has confirmed that further restraint initiatives were implemented in 2016/17, but notes that expense categories previously subject to restraint in 2015/16 and 2016/17 will see "moderate cost increases" or return to normal levels of spending in 2017/18. The 2016 Consultant's report noted concern that the timing of the 2015/16 budget reductions create "material fairness concerns for ratepayers; especially if the implementation of such measures become regularized and occurs outside of test year forecast." Concern is noted regarding the potential for additional shareholder direction to be provided subsequent to the Panel's review of 2017/18 test year forecasts.

Operating and Maintenance Expense

5. Forecast total O&M expense for the 2017/18 test year is about 1.2% higher than the 2016/17 test year forecast. However, the 2017/18 test year O&M expense forecast is about 10.1% higher than the 2016/17 fiscal year actual results. This is due in part to the implementation of restraint measures in the 2016/17 fiscal year. SaskEnergy notes that while fiscal restraint was a priority for 2015/16 and 2016/17, it expects to return to more normal levels of expenditure in 2017/18.

Labour

6. SaskEnergy is forecasting 2017/18 test year FTEs to be at the same approximate level as the 2016/17 test year, as well as the actuals for the 2016/17 fiscal year. With FTEs maintained at the 2016/17 fiscal year level for both 2017/18 and 2018/19, the increase in base salaries for 2018/19 (at 2.5%) over 2017/18 is somewhat higher than standard inflation, but is in line with allowances for cost-of-living and merit increases. The forecast base labour costs for the test year also appear to be reasonable.

7. Actual salaries and wages for the period from November 1, 2016 to June 30, 2017 (i.e., first eight months of the 2016/17 test year), were about $3.1 million lower compared to the forecast included in the 2016/17 test year [about 3.5% of the total labour cost for the 2016/17 test year]. SaskEnergy notes that the lower than forecast labour costs are "attributable to overtime management as a result of business process changes and efficiency initiatives in addition to the restraint measures." Lower overtime amount for the 2016/17 fiscal year was impacted by a "warmer than normal winter and fewer emergency responses required during the year". It is understood that overtime and other non-base labour cost reductions in 2016/17, the lowest since 2009 actuals, were achieved without SaskEnergy compromising the safety of its system, its employees or the public." However, savings achieved during the restraint period appear to have negatively impacted customer service levels.

Communications, Public Relations, Fees, Dues and Community Contributions

8. The Consultant notes the substantial increase in Communication, Public Relations, Fees, Dues and Community related costs in the 2017/18 fiscal year compared to the 2016/17 fiscal year. However, this was the result of much lower costs in the 2016/17 fiscal year due to ongoing extreme restraint measures. Forecasts for the 2017/18 and 2018/19 fiscal years continue to remain below the level of pre-restraint measure actuals. In light of the expected requirement for ongoing delivery rate increases to address ongoing and material safety and integrity spending requirements, areas of discretionary spending such as sponsorship and donations should be subject to careful review and scrutiny going forward.

Intercompany Allocations

9. Changes to intercompany allocations since 2015/16 have increased the allocation of costs to the distribution company and consequently impacted the revenue requirement. Material differences in intercompany allocations between the distribution and transmission utilities relate to "elevated regulatory burden", and in many cases individual roles have been expanded to address both transmission and distribution work instead of adding incremental resources. SaskEnergy is proposing no change in FTE levels for 2017/18 and 2018/19 fiscal years from the 2016/17 level. Therefore, expanding the roles to address both transmission and distribution work appears to be a reasonable approach.

O&M Expenses Charged to Capital

10. The Consultant accepts that the mix of capital spending could impact the amount charged to capital. For future applications further disclosure regarding O&M expenses charged to capital,

including how this is impacted by the mix of capital spending, and any changes in policy or practices would further assist the review process.

Transportation and Storage Expense

11. SaskEnergy's design criterion appears to be prudent and consistent with normal utility practice.
12. Maintaining transportation and storage contracts at 2016/17 levels by using a slightly higher load factor resulted in greater efficiencies, and that related risks were managed through proactive purchasing of incremental winter gas requirements. However, potential cost reductions through using transportation and storage contracts at a higher load forecast must be balanced against the interests of reliability and public safety.
13. The Panel's Report on SaskEnergy's 2016 Commodity and Delivery Service Rate Application recommended that SaskEnergy provide the Panel with access to the information provided though the TransGas Customer Dialogue Committee, including information on the competitiveness of TransGas rates. SaskEnergy has indicated that information provided to the TransGas Customer Dialogue committee cannot be made available to the Panel to assist with better understanding of these matters. 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.

Depreciation Expense

14. Given the materiality of depreciation expense in the current test year and its expected materiality going forward, there is a need for greater transparency in order to provide assurance regarding how depreciation expense is calculated and how it will affect customer rates.
15. 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 help to mitigate related rate impacts. Considering expected material spending on capital going forward, it is prudent for a rigorous review of depreciation rates to be undertaken prior to the next rate application to ensure that current depreciation rates match the useful lives of new assets in service.

Tax Expense

16. Actual tax expenses were lower than forecast for the most recent years.
17. The increase in net book value of assets does not appear to support the large increase in tax amount for the forecast years; and for the actual year the percentage change in tax amount is much lower compared to the percentage change in net book value of assets, while for the forecast years the increase in tax amount is higher compared to the increase in net book value of assets. Outstanding debt included in the Application cannot be reconciled to the Loans and Advances included in the corporate tax calculations. SaskEnergy notes that this is due to the timing of the amounts provided and the complexity of the calculation.

18. Based on the review of available information, it is understood that customer contributions are not recognized in the calculation of paid up capital, i.e., SaskEnergy corporate capital tax payments include the portion calculated for the amount recovered from customers. If customer contributions are not recognized in the calculation of paid up capital it will increase SaskEnergy's taxable base that informs SaskEnergy's revenue requirement.

19. The Information Bulletin regarding allowable corporate capital tax deductions from the Government of Saskatchewan website shows that investment allowances are determined using a formula which includes total paid-up capital and total assets; and that additional exemptions will apply based upon the proportion of total salaries and wages paid in Saskatchewan. While there are annual changes in the salaries and wages, as well as cost of assets, the tax exemption amount used for SaskEnergy has not changed.

Interest Expense

20. If more up to date short-term debt and long-term debt forecasts were used in the application, the interest expense forecast [both short-term and long-term] would be approximately $1.3 million lower compared to the forecast included in the Application. However, SaskEnergy has also clarified that if the July 2017 total debt was used as the starting point, the revised interest rate assumption would result in a $0.8 million reduction to interest expense in the test period. Interest rate forecasts are trending upwards with speculation of a further increase in October 2017.

21. Compared to the actual average interest rates experienced in the 2015/16 and 2016/17 fiscal years (at 0.65%), SaskEnergy is forecasting higher interest rates for short-term debt for 2017/18 and 2018/19 (1.08% and 1.45% respectively). The actual three month average yield for Treasury bills has increased for the most recent months and shows a 0.74% average for July and August 2017 [compared to 0.55% in April, 0.53% in May and 0.68% in June 2017], however, this is still below SaskEnergy's forecast for the 2017/18 fiscal year (of 1.08%). Overall, SaskEnergy has tended to have higher short-term interest rate forecasts compared to actual results and has tended to benefit from these year-over-year costs savings. SaskEnergy has continued to forecast an increase in short-term interest rates for the test year.

22. SaskEnergy has forecast the average interest rate for long-term debt for 2017/18 at 4.82% and for 2018/19 at 4.72%. The 2017/18 test year average interest rate forecast is 4.74% compared to 4.77% for the 2016/17 test year. The test year average interest rate is also lower compared to the actual for 2015/16 (at 5.09%) and 2016/17 (at 5.0%). Since the last application SaskEnergy borrowed two long-term debt items: $50 million with an interest rate of 2.75% and maturity date in 2046; and $50 million with interest rate of 3.30% and maturity date in 2048, and forecasts borrowing of $75 million with an interest rate of 4.39%. SaskEnergy confirmed that the actual interest rates for the 2016 and 2017 new long-term debt issues were lower compared to the forecast included in the 2016 Commodity and Delivery Service Rate Application. The forecast interest rate also appears to be higher than the interest rate forecasts used by other utilities.

23. For the 2017/18 test year SaskEnergy's total short-term debt is about 28% of total debt. This is reasonable compared to the target used by other utilities.

24. SaskEnergy notes that the Ministry of Finance manages sinking fund investments. The forecast for the 2017/18 test year of 3.5% is slightly higher than the 2016/17 test year forecast of 3.4%. Based on a review of the most recent actuals, the forecast for the test year appears to be reasonable.

25. The forecast discount rate for accretion expense, as well as Present Value of Estimated Decommissioning Liabilities, are much higher compared to historical trends.

26. SaskEnergy has confirmed that "decommissioning assets" are capitalized as part of the tangible asset and depreciation expense includes depreciation of decommissioning assets; however, decommissioning assets are not included in rate base as these assets are non-cash assets and not subject to a return on investment. Based on available information the amount of removal from rate base and the impact of annual accretion expenses to that adjustment is not clear. Peer utilities reviewed do not include asset retirement obligations in rates, and note that there is a reasonable expectation that asset retirement costs would be recoverable through future rates.

Net Earnings

27. SaskEnergy's net earnings calculations are consistent with the forecasts of rate base, capital structure and ROE described in the Application.

Rate Base

28. Plant in service and accumulated amortization included in rate base is consistent with the continuity schedule provided by SaskEnergy.

29. No change is proposed in the lead/lag days for the calculation of the cash working capital requirement compared to the previous Application. However, there is a higher lag day for Distribution Toll revenues [82.90 days compared to 40 days for the other rate revenues]. The impact from this increased lag day to the revenue requirement could increase over time as Distribution Toll revenues increase.

30. The forecast increase in inventories appears to be reasonable compared to the actual year results as well as the expected increase in capital spending as discussed in Section 5. SaskEnergy also confirmed that inventories included in rate base as part of capital additions are not included in the calculation of working capital requirements.

31. SaskEnergy notes that the natural gas in storage value is based on an average for 13 months, from October 1, 2017 to October 31, 2018, while the test year is from November 1, 2017 to October 31, 2018. This approach appears to be consistent with practice for other peer utilities.

Capital Structure and ROE

32. 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.

Other Revenue

33. For all Other Revenue sources, except Distribution Toll revenues, SaskEnergy is forecasting a reduction from 2016/17 fiscal year actual levels. The revenues for those sources are also lower

compared to the average for the last five years, from 2012 calendar through 2016/17 fiscal year actuals. The Consultant understands that revenues related to Margins on Gas Marketing or other sources are difficult to forecast and highly variable from year to year. SaskEnergy bears the risk (or benefits) to its net income where there are variances between forecast and actual revenues. Some peer utilities use historical actuals for forecasting Other Revenues. It is also noted that Fortis BC defers variations in revenues for certain revenue components.

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.

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. The 2017 Application included initiatives that may be described more accurately as restraint measures in the description of productivity and efficiency measures. Restraint measures have affected actual results relative to the forecasts included in the 2015 and 2016 Applications and may potentially affect future applications. In the 2016 application and the 2017 application, SaskEnergy has clarified budget reductions related to restraint measures and characterized the specific measures and the quantum of costs associated with each measure. However, including descriptions of restraint measures in the Productivity and Efficiencies report may result in confusion regarding whether described savings are short term in nature or whether savings will be shared by ratepayers in future years.

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. As such, a review of SaskEnergy's capital program is necessary to understand the cost drivers behind the proposed revenue requirement and delivery service rates, and provides some context for future rate drivers going forward. SaskEnergy's net capital expenditures are forecast to average $121.83 million annually over the period between 2016/17 and 2021/22. SaskEnergy notes 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. Concern is noted regarding the sustained spending requirements that will continue to drive revenue requirement increases related to depreciation expense, capital tax and interest expense. These ongoing and sustained spending requirements will continue to place upward pressure on delivery service rates for the foreseeable future.

38. It is noted that while a significant portion of capital expense in the test year and going forward is focused on integrity and growth projects, material and increasing amounts are also being spent in

the following areas: Gas Measurement ($10.6 million in forecast 2017/18, with spending forecast to continue at this level over the period to 2021/22); Buildings and Furniture ($23.4 million forecast in 2017/18, and average annual spending of $10.58 million between 2018/19 and 2021/22); and Information Systems ($16.7 million forecast in 2017/18, and average annual spending of $15.38 million between 2018/19 and 2021/22).

39. SaskEnergy notes that it is making ongoing efforts to ensure that it has appropriate systems in place to identify and respond to infrastructure risks and prioritize capital spending. Going forward, SaskEnergy should be encouraged to provide detailed updates regarding the implementation of capital review and prioritization systems, and to explain how the results of ongoing assessments are impacting the capital program incorporated into test year revenue requirements.

Safety and Reliability

40. Spending on annual safety and infrastructure renewal investment is forecast to increase to $55 million in the 2016/17 fiscal year, $51.3 million in the 2017/18 fiscal year and $55.6 million in the 2018/19 fiscal year.

41. SaskEnergy has noted continuous improvement in a number of areas related to safety and reliability. The Sask 1st Call Safety Patrol Program has been effective in reducing line hits, with a 35% reduction in line hits between 2012 and 2016. Approximately 2,400 services per year are being upgraded under the Service Upgrade Program with this level of work expected to continue for the next 5-10 years. This program is credited with saving approximately 50 leaks since 2011, and has targeted 30 leak savings from 2015/16 to 2018/19. Total leaks in 2016 (370) were much lower than the 5-year average for total leaks (397 leaks); however, total leaks has tended to change materially year over year. Leaks between 2012 and 2016 also appear to be higher than for the period between 2005 and 2011.

Planned Maintenance Program

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

Load Forecast

43. The Consultant notes inconsistencies in the trend analysis used year-to-year for determining the sales forecast. For the current test year, Residential sales may be underestimated due to the identified inconsistency in the trend analysis undertaken. It is understood that this issue arose due to a formula inadvertently not being updated. SaskEnergy has noted that with the trend analysis updated there would be an increase in forecast revenues at existing rates in the range of $0.500 to $0.550 million. This would reduce the forecast shortfall at existing rates by the same amount.

44. During the review of the 2016 Commodity and Delivery Rate Application, it was noted that monthly sales forecasts are traditionally important to utility decision making processes (e.g., hedging natural gas purchases). SaskEnergy has noted that the accuracy of monthly sales forecasts is less critical as it is able to manage monthly forecasts through use of storage. With the implementation of Advanced Metering Infrastructure (AMI) SaskEnergy should have more reliable monthly data available to conduct monthly load forecast analysis. SaskEnergy should consider preparing monthly

load forecasts in addition to the annual load forecast in order to test the reasonableness of the annual load forecast outcomes.

Cost of Service

45. During the review of the 2016 Commodity and Delivery Service Rate Application SaskEnergy noted that it is not taking any further actions regarding Chymko Report recommendations #2 and #3. Recommendation #4, relates to reviewing the implications of billing in volume versus billing in energy on SaskEnergy's cost allocations. This recommendation continues to be relevant in the context of ongoing issues related to heat value variance. With regard to Recommendation #7, the Chymko Report noted that the weighting factors in the cost of service model should be reviewed again after completion of SaskEnergy's AMI project.

46. If the weighting factors in the cost of service model are expected to be reviewed in the near future (based on the recommendation made in the Chymko report), then this review should also consider the reasonableness of using a weighting factor for other costs classified to customer classes (e.g., customer accounting, marketing and customer classified costs related to Feeder Mains). Some of the costs classified as customer-related are allocated to customer classes based on weighted number of customers (e.g., service line and customer metering), while some customer-related costs are allocated using the number of customers without giving a weighting to larger customers (e.g., customer accounting, marketing). Some utilities allocate all customer servicing related costs based on the weighted number of customers.

Delivery Service Rate Design

47. SaskEnergy's proposal to increase only the BMC for the Residential customer would mute price signals for residential customers, as all residential customers would see a bill increase of $20/year regardless their usage. For all other rate classes, the proposed rate increases will to be applied to the volumetric portion of the rate providing a stronger price signal for these customer classes.

48. Under SaskEnergy's proposed rates the Residential class would have a $1.65 increase in the BMC and no change in the volumetric charge which would result in the BMC for residential customers recovering 78% of costs [compared to 73% at existing rates]. Residential customers would see a bill increase of $20/year regardless their usage, with higher percentage bill increases for low usage customers and lower impacts for high usage customers [ranging between 7.3% for low usage customers and 0.8% for high usage customers]. The customers with lower usage would see the highest percentage bill increases (reducing fairness within the residential rate class). Further, not all customers would contribute equitably to the required increase in rates depending on their share of the demand on the system.

49. An increase of $0.75 to the BMC and an increase of $0.0041 to the volumetric delivery service charge would recover 75% of BMC costs for the Residential class.

Heating Values

50. Material concerns related to heat value variance impacts on customer bills and on net revenues and the GCVA have been noted by both 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. Given the

concerns identified in prior years it is important to continue to review issues related to heat value variance and potential adverse effects that it may have on ratepayers, SaskEnergy and other stakeholders going forward. Billing in energy would eliminate the need for forecasting heat value and the associated risks related to heat value variance. SaskEnergy is capable of converting to billing in energy and this would resolve both revenue forecast and customer fairness issues related to heat value variance.

51. SaskEnergy indicates that the transition to billing in energy has been postponed at this time due to the "current economic environment and fiscal restraints", and "a transition to billing in energy would require conditions conducive to adding additional financial and staffing resources as well as the support of SaskEnergy's owner".

Customer Impacts

52. SaskEnergy's proposal to increase only the Basic Monthly Charge for the Residential customer class would increase bills for all residential customers by $20/year regardless of usage. This would lead to a higher percentage bill increase for low usage customers compared to average or higher usage customers [the bill impact within the class ranges between 0.8% and 7.3% compared to average bill impact of 2.3% for the class]. This proposal results in the BMC recovering 78% of residential customer costs [compared to the long-term target to recover at least 75%], and creates concerns related to intraclass fairness and would also mute any price signals for residential customers. SaskEnergy notes that an increase to the BMC of $0.75 [compared to $1.65 increase to the BMC with the current rate proposal] and an increase of $0.0041 to the volumetric delivery charge would maintain the residential BMC at the 75% target.

53. An increase to both the BMC and volumetric charge would result in bill impacts ranging between 2.0% and 3.3% [compared to 0.8% and 7.3% as with the proposed rate design].

54. For the commercial small and commercial large rate classes SaskEnergy is proposing that rate increases be applied to the volumetric portion of the rate providing a stronger price signal related to increased consumption for these classes and customers.

Competitiveness

55. SaskEnergy's delivery service rates will remain among the lowest for major metropolitan centres in Canada for all customer classes. However, total bills that include commodity rate charges show that the bill for residential customers would be the third largest, while commercial customer bills would be third lowest among the jurisdictions surveyed. SaskEnergy's rates will remain competitive with other jurisdictions if the requested rates were implemented. However, it is noted that the residential basic monthly charge remains one of the highest among the jurisdictions surveyed.

56. SaskEnergy's capital structure and common equity ratio and provides comment on its competitiveness relative to peer utilities.

Public Comments

57. All of the above matters were considered in the preparation of the Consultant's report and the recommendations.

16.0 SUMMARY OF CONSULTANT'S RECOMMENDATIONS

The Consultant recommends to the Panel that:

1. The Consultant recommends that the Panel accept SaskEnergy's labour costs for the 2017/18 test year as proposed by SaskEnergy.
2. In light of ongoing cost pressures to address material safety and integrity spending requirements, areas of discretionary spending should be subject to careful review and scrutiny going forward.
3. The changes in intercompany allocations appear to be appropriate and reasonable and should be accepted. However, 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.
4. The Consultant recommends that the Panel accept the forecast transportation and storage expense for the 2017/18 test year as proposed by SaskEnergy.
5. 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 the 2016 Report, 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.
6. In the Consultant's view, the depreciation expense for the test year appears to be reasonable and it is recommended that the Panel accept SaskEnergy's proposed depreciation expense for the 2017/18 test year. However, future reviews would benefit from more fulsome information regarding depreciation calculations, including providing the depreciable base that reconciles to the plant in service, depreciation rates and calculated depreciation expense by account included in the depreciation study. In the Consultant's view, this level of disclosure will provide a greater level of transparency regarding the calculation of this significant expense item and aid in understanding any year-over-year changes.
7. The Consultant recommends that the Panel accept SaskEnergy's forecast tax expense for the test year. However, it is recommended that in the future applications SaskEnergy provide more detailed information to support the calculation of corporate capital tax, including showing how paid up total capital and loans and advances are calculated, and how these amounts reconcile to the other information provided in the Application [net book value of assets, total debt, etc.]. The Consultant also recommends that SaskEnergy review and report on the impact that the accounting treatment for customer contributions has on corporate capital tax calculations.

8. Given the environment of increased spending on capital to support safety and integrity measures, the interest rate forecast should be subject to careful review and scrutiny.

    a. The current application raises concerns regarding impacts on ratepayers due to ongoing rate increases. Interest rates appear to be high compared to most recent actuals, as well as compared to peer utilities. SaskEnergy has noted that using more up to date information [short-term and long-term debt forecasts and total debt as of July 2017] would result in a $0.8 million reduction in interest expense for the test period. It is recommended that for future applications, the most up to date rates and borrowing amounts for both short and long-term debt be used.

    b. Prior Delivery Rate Application review processes have noted the possibility of eliminating the sinking fund, and raising this issue with the Provincial Government. Given the environment of increased spending on capital to support safety and integrity measures; SaskEnergy should continue to pursue elimination of sinking fund requirements in order to reduce the burden on ratepayers.

    c. Future applications would benefit from further and more detailed information regarding how decommissioning assets are removed from rate base, the calculation of accretion expenses and its impact to the rate base adjustment.

9. The Consultant recommends that the Panel accept the proposed net earnings for the 2017/18 test year based on the forecasts included in the Application.

10. The Consultant recommends that SaskEnergy review the issue regarding longer revenue lag days for Distribution Tolls with TransGas in order to determine whether actions can be taken to reduce the lag days, and provide an update to the Panel in the next Delivery Service Rate Application.

11. The Consultant also recommends that SaskEnergy review and clarify how decommissioning assets are reflected in rate base. In future applications it would be beneficial for SaskEnergy to include a separate schedule that includes the rate base computation showing the impact of decommissioning assets to rate base.

12. The Consultant recommends that the Panel accept SaskEnergy's forecast of other revenue for the test year. Future reviews may benefit from SaskEnergy providing a more detailed discussion regarding how it forecasts "Other Revenues", how this compares to peer utilities and whether using historical actuals to forecast revenues for late payments, customer connections and miscellaneous revenues may provide more accurate forecasts.

13. The Consultant recommends the Panel accept SaskEnergy's proposed productivity and efficiency measures and costs. However, it is recommended that for future rate applications SaskEnergy provide in the descriptions for each productivity and efficiency program a statement indicating how it meets the definition for productivity and efficiency initiatives provided by SaskEnergy during this review process. Further, restraint programs that have been, or that will be undertaken, should be clearly identified and described.

14. The Consultant recommends that the Panel accept SaskEnergy's planned maintenance program for the test year.

15. It is recommended that the Panel consider the impact that the inconsistency in the trend analysis undertaken for the 2017/18 test year will have on SaskEnergy revenues at existing rates; and the overall rate requirement for the 2017/18 test year. For future filings it is recommended that SaskEnergy use the most up to date actual data available.

16. 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.

17. 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.

18. 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 [page 1 of 5] of 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 accounting and marketing costs as well as Feeder Mains costs in Schedule 3.3.

19. SaskEnergy notes that applying the increase as follows would be consistent with its long-term objective to recover 75% of costs through the BMC:

    - $0.75 increase to the BMC; and
    - $0.0041 increase to the volumetric delivery service charge.

20. The above-noted alternate rate design would provide for greater fairness within the residential rate class (i.e., would provide for bill impacts between 2.0% and 3.3%, compared to the 0.8% and 7.3% range with the increase to the BMC-only); and more effective price signals related to consumption. As such, in the Consultant's view this alternate rate proposal should be considered by the Panel.

21. It is recommended that the rate design for all other customer classes be accepted as proposed.

22. The Consultant recommends that the Panel continue to urge SaskEnergy to pursue measures required to shift to billing in energy as soon as possible.

APPENDIX A
SASKENERGY NATURAL GAS DELIVERY RATE CHANGE PROPOSAL AMENDED TERMS OF REFERENCE

Government of Saskatchewan

Minister's Order

Saskatchewan Rate Review Panel
SaskEnergy Natural Gas Delivery Rate Change 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 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 C: SaskEnergy Natural Gas Delivery Rate Change and Terms of Reference"** to the said Minister's Order.

Dated at Regina, Saskatchewan this 11th day of July, 2017

Minister of Crown Investments

Schedule C:
SaskEnergy Natural Gas Delivery Rate Change

Terms of Reference

The Saskatchewan Rate Review Panel (the Panel) is requested to conduct a review of SaskEnergy's request for an increase in its delivery rates targeted to take effect on November 1, 2017.

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 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.

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 and finance 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 8.30%, as approved in the 2017-18 business plan, and the existing service levels;
   (iv) the revenue-to-cost ratio target range of 0.95 to 1.05;
   (v) 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 is no error 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 October 4, 2017.